THREE HUNDRED FORTY THIRD REPORT

DEMANDS FOR GRANTS (2021-2022) OF THE DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH (DEMAND NO. 90)

(Presented to the Rajya Sabha on 8th March, 2021)
(Laid on the Table of Lok Sabha on 8th March, 2021)
Website: http://rajyasabha.nic.in
Email: rsc-st@sansad.nic.in
PARLIAMENT OF INDIA
RAJYA SABHA

DEPARTMENT-RELATED PARLIAMENTARY STANDING COMMITTEE
ON SCIENCE AND TECHNOLOGY, ENVIRONMENT, FORESTS AND
CLIMATE CHANGE

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Rajya Sabha Secretariat, New Delhi
March, 2021/ Phalguna, 1942 (Saka)
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COMPOSITION OF THE COMMITTEE
(2020-21)
(Constituted w.e.f. 13th September, 2020)

1. Shri Jairam Ramesh – Chairman

RAJYA SABHA
2. Shri Anil Baluni
3. Shri R.S. Bharathi
4. Shrimati Vandana Chavan
5. Shri Hishey Lachungpa
6. Shri Parimal Nathwani
7. Shri Bhaskar Rao Nekkanti
8. Shri Ashwini Vaishnaw
9. Shri Binoy Viswam
10. *Shrimati Seema Dwivedi

LOK SABHA
11. Shri Guharam Ajgalley
12. Shri Pradan Baruah
13. Shri E.T. Mohammed Basheer
14. Shri Jashvantsinh Sumanbhai Bhabhor
15. Shri Sudarshan Bhagat
16. Shri Anantkumar Hegde
17. Shri S. Jagathrakshakan
18. Shri Mohammed Azam Khan
19. Shrimati Jyotsna Charandas Mahant
20. Dr. Swami Sakshiji Maharaj
21. Shri Asaduddin Owaisi
22. Dr. Ranjan Singh Rajkumar
23. Shri Kotha Prabhakar Reddy
24. Dr. Jayanta Kumar Roy
25. Shrimati Satabdi Roy (Banerjee)
26. Shri Mahesh Sahoo
27. Shri Francisco Sardinha
28. Shri Anurag Sharma
29. Shri Ram Shiromani
30. Shri Kirti Vardhan Singh
31. Dr. Ramapati Ram Tripathi

SECRETARIAT
Shri Pradeep Chaturvedi, Joint Secretary
Shri T. N. Pandey, Director
Shri Rakesh Anand, Additional Director
Shri Rajiv Saxena, Under Secretary
Shri Harish Kumar, Committee Officer
Shri Ankit Chansoria, Assistant Committee Officer

*Nomination w.e.f. 23rd December, 2020, in lieu of Shri Ravi Prakash Verma who ceased to be a member of the Committee on expiry of his term in Rajya Sabha on 25th November, 2020.

(i)
INTRODUCTION

I, the Chairman of the Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change, having been authorised by the Committee to present the Report on its behalf, present this Three Hundred Forty Third Report of the Committee. This Report deals with the detailed Demands for Grants (2021-2022) of the Department of Scientific and Industrial Research (Demand No. 90).

2. In the meeting of the Committee held on the 17th February, 2021, the Secretary and other officers of the Department of Scientific and Industrial Research gave an overview of the various activities of the Department and the Members sought clarifications on various aspects of the performance of the Department to enable it to scrutinise the Demands for Grants.

3. The Committee expresses its thanks to the officers of the Department of Scientific and Industrial Research for replying to the clarifications sought by the Members and placing before it the required material to enable it to scrutinise the Demands for Grants of the Department.

4. The Committee considered and adopted the draft Report in its meeting held on the 4th March, 2021.

(JAIRM RAMESH)
NEW DELHI;
March 4, 2021
Phalguna 13, 1942 (Saka)

Chairman,
Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change, Rajya Sabha.
<table>
<thead>
<tr>
<th>ACRONYMS</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE</td>
<td>Budget Estimates</td>
</tr>
<tr>
<td>CEL</td>
<td>Central Electronics Limited</td>
</tr>
<tr>
<td>COVID</td>
<td>Coronavirus Disease</td>
</tr>
<tr>
<td>CSIR-NAL</td>
<td>Council of Scientific and Industrial Research – National Aerospace Laboratories</td>
</tr>
<tr>
<td>DSIR</td>
<td>Department of Scientific and Industrial Research</td>
</tr>
<tr>
<td>FY</td>
<td>Financial Year</td>
</tr>
<tr>
<td>IAF</td>
<td>Indian Air Force</td>
</tr>
<tr>
<td>ICAR</td>
<td>Indian Council of Agricultural Research</td>
</tr>
<tr>
<td>IRD</td>
<td>Innovation Research and Development</td>
</tr>
<tr>
<td>MoU</td>
<td>Memorandum of Understanding</td>
</tr>
<tr>
<td>MSME</td>
<td>Micro, Small and Medium Enterprises</td>
</tr>
<tr>
<td>NRDC</td>
<td>National Research and Development Corporation</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>PSE</td>
<td>Public Sector Enterprises</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and Development</td>
</tr>
<tr>
<td>RE</td>
<td>Revised Estimates</td>
</tr>
<tr>
<td>SME</td>
<td>Small and Medium Enterprises</td>
</tr>
<tr>
<td>UDAN</td>
<td>Ude Desh ka Aam Naagrik</td>
</tr>
</tbody>
</table>

(iii)
REPORT

The Department-related Parliamentary Standing Committee on Science and Technology, Environment, Forests and Climate Change considered the Demands for Grants (2021-22) of the Department of Scientific and Industrial Research in its meeting held on 17th February, 2021.

2. **BUDGETARY DETAILS FOR THE FINANCIAL YEAR 2020-21 AND ALLOCATION FOR 2021-22**

2.1 The following table gives the details of the B.E., R.E. and actual expenditure of the Department in 2020-21 and budgetary allocations made to the Department for B.E. 2021-22:

(₹ in crore)

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>PARTICULARS</th>
<th>2020-21</th>
<th>Budget Estimates for FY 2021-22</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B.E.</td>
<td>R.E.</td>
</tr>
<tr>
<td>1</td>
<td>DSIR*</td>
<td>53.60</td>
<td>34.08</td>
</tr>
<tr>
<td>2</td>
<td>CSIR (Council of Scientific and Industrial Research)</td>
<td>5312.0</td>
<td>4208.4</td>
</tr>
<tr>
<td>3</td>
<td>CDC (Consultancy Development Centre)</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>4</td>
<td>PSEs (Public Sector Enterprises – CEL and NRDC)</td>
<td>19.40</td>
<td>9.38</td>
</tr>
<tr>
<td></td>
<td>Grand Total</td>
<td>5385.0</td>
<td>4251.8</td>
</tr>
</tbody>
</table>

*DSIR includes umbrella scheme on Industrial Research and Development, Secretariat Economic Services and Asia & Pacific Centre for Transfer of Technology (APCTT)

2.2 The Committee observed that there was a decrease of more than 20 percent in R.E.2020-21 allocation of ₹ 4251.86 crore as compared to B.E. 2020-21 allocation of ₹ 5385.00 crore. The Committee desired to know reasons and the impact of this substantial decrease in budgetary allocations on the implementation of the key programmes and initiatives of the Department. The Department informed the Committee that reduction in allocation in R.E. 2020-21 stage was, firstly, because of the impact of global slowdown due to COVID-19 pandemic leading to suppressed expenditure and revenue generation by the Department. Secondly, as per the notification issued by the Ministry of Finance,
the Department was placed under category ‘C’ under which the overall expenditure was restricted within 15 percent of B.E. 2020-21 for two quarters.

2.3 The Committee observes that the Department has been able to utilise over 90 percent of the funds allotted during R.E. 2020-21 upto 31.01.2021. The Committee is satisfied with the utilisation of funds and hopes that the Department would be able to ensure its full utilisation by the end of the financial year.

2.4 The following table highlights the reduction in R.E. 2020-21 allocation for the Two Umbrella Schemes of the Department:

<table>
<thead>
<tr>
<th>Budgetary Head</th>
<th>B.E. 2020-21</th>
<th>R.E. 2020-21</th>
<th>% reduction in allocation</th>
<th>Actual Utilisation (till 12.01.2021)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Umbrella Scheme 1 – Industrial Research and Development</td>
<td>30.60</td>
<td>12.50</td>
<td>59.14%</td>
<td>11.37</td>
</tr>
<tr>
<td>Umbrella Scheme 2 – Assistance to PSEs – NRDC + CEL</td>
<td>19.40</td>
<td>9.38</td>
<td>51.64%</td>
<td>7.16</td>
</tr>
</tbody>
</table>

*NRDC* – *National Research Development Corporation*; *CEL* – *Central Electronics Limited*

2.5 The Committee observed that there was a reduction of more than 56 percent in R.E. 2020-21 allocation across the two umbrella schemes of the Department. The Committee was informed that allocation for ‘Industrial Research and Development’ (IRD), was drastically reduced by more than 59 percent at R.E. 2020-21 stage. The Committee was further informed that under the umbrella scheme IRD, the Department runs four sub-schemes, namely, Promoting Innovation in Individuals, Start-ups and MSMEs (PRISM); Patent Acquisition and Collaborative Research and Technology Development (PACE); Building Industrial Research & Development – Common Research Facilities (BIRD-CRF) and Access to Knowledge for Technology Development and Dissemination (A2K+). The Committee was also informed that the B.E. allocation towards the two Public Sector Enterprises, i.e. National Research and Development Council (NRDC) and Central Electronics Limited (CEL) was drastically reduced by more than 51 percent in R.E. 2020-21. The Committee was also informed that due to the reduction in budgetary allocation at the R.E. stage, programmes/initiatives of the Department relating to conversion of waste to wealth and those relating to recycling of plastic waste, will be impacted.

2.6 The Committee notes with satisfaction the financial performance of the Department of Scientific and Industrial Research under the two Umbrella schemes inspite of substantial reduction in allocation at R.E. stage in 2020-21. However, it has come to the notice of the Committee, through a call for public representation, about the inordinate delay in payment to scientific staff including PhD students and postdocs supported by the Council for Scientific &
Industrial Research (CSIR). The plight of students receiving stipends was further exacerbated due to the COVID-19 related lockdown. While the Committee acknowledges the efforts of the CSIR team to clear the dues, shared in the public domain, it is a problem that requires further urgent attention.

2.7 The Committee urges the Department to ensure full utilisation of funds allocated at R.E. 2020-21, especially under research and development initiatives under IRD, develops a robust mechanism to achieve 100% coverage of timely disbursement of fellowships and finance projects undertaken by the two Public Sector Enterprises under the Department. The Committee also recommends the Department to raise internal budgetary resources and try to offset the reduction in budgetary allocation.

2.8 Municipal waste is a major challenge for all urban cities and, therefore, the projects relating to recycling of city waste are extremely crucial. The Committee is concerned about the menace that plastic waste brings to the environment and that the projects promoting 3Rs – recycle, reuse and reduction of plastic waste are absolutely essential.

2.9 The Committee, therefore, recommends that the Department should make arrangements for internal reallocation of budgetary resources so that the projects relating to conversion of waste to wealth and recycling of plastics are not adversely impacted.

2.10 The Department informed the Committee that against the demand of ₹ 6300.36 crore, the Department has been allocated ₹ 5224.27 crore in B.E. 2021-22. The Committee enquired from the Department about the impact of this difference on the scheme/programmes of the Department. The Department informed the Committee that due to the shortfall, the Department may not be able to raise the outputs/outcomes of its two umbrella schemes i.e. IRD and Assistance to PSEs – NRDC and CEL. Similarly, shortfall in B.E. 2021-22 allocations under CSIR, both, for National Laboratories as well as for Fellowships may be an impediment for CSIR to implement its new initiatives such as discovery of new drugs, vaccines, medical equipments, Development of the 19 seat light Transport Aircraft – SARAS as well as to increase the number of fellowships/scholarships awarded by the Department.

2.11 Given the importance of the intended objectives of the initiatives under the two umbrella schemes, the Committee expresses its concerns on the impact of the difference in B.E. demanded by the Department for FY 2021-22 and B.E. allocated, on the outcomes and physical targets of the two umbrella schemes. However, since the B.E. 2021-22 of ₹ 5224.27 crore of the Department is 22 percent more than R.E. 2020-21, the Committee hopes that the Department will be able to regain the momentum lost due to COVID-19 pandemic in the implementation of its schemes and new initiatives.

2.12 In response to the query regarding absolute bare minimum increase needed in the budgetary allocations for the year 2021-22 to sustain its key
programmes with the desired outcomes and efficiency, the Committee was informed that a bare minimum amount of ₹355.00 crore will be required by the Department, over and above the B.E. 2021-22 allocations, to sustain key programmes/initiatives of the Department for the year 2021-22. Further, out of this ₹355.00 crore, about ₹100 crore will be implemented towards Civil aircraft project -SARAS and ₹150 crore towards research in drug, vaccine, medical equipment and other COVID-19 mitigation strategies. ₹75.00 crore would be used to increase the number of fellowships awarded by the Department during the year 2021-22. The details of break-up are as under:-

<table>
<thead>
<tr>
<th>Budgetary Heads</th>
<th>B.E. allocated for 2021-22</th>
<th>Bare minimum increase needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Research and Development (IRD)</td>
<td>21.00</td>
<td>15.00</td>
</tr>
<tr>
<td>Assistance to PSEs (NRDC and CEL)</td>
<td>14.00</td>
<td>15.00</td>
</tr>
<tr>
<td>CSIR (National Laboratories)</td>
<td>4669.27</td>
<td>250.00</td>
</tr>
<tr>
<td>CSIR (Research Schemes, Scholarships &amp; Fellowships)</td>
<td>475.00</td>
<td>75.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5179.27</strong></td>
<td><strong>355.00</strong></td>
</tr>
</tbody>
</table>

2.13 The Committee recognises the need of an additional allocation of atleast ₹355 crore to the Department, in addition to the allocation made in B.E. 2021-22. The Committee underlines the importance of the timely completion of the projects and, therefore, strongly recommends that the Department should explore internal budgetary reallocations to ensure availability of funds for the project. The Committee also recommends that, if required, the Department should seek additional funds from the Ministry of Finance at the supplementary/R.E. stage so that the Department is able to sustain its key programmes; especially initiatives relating to research and development of new drugs, vaccines and medical equipments, Civil Aircraft -SARAS and increasing the number of fellowships.

2.14 The Committee also recommends that the Department should indicate and quantify the physical targets that the Department aspires to achieve against each of these key initiatives with this additional budgetary allocation of ₹355.00 crores.

2.15 The Committee observes that more than 98 percent of the budget allocation in B.E. 2021-22 is earmarked for the 37 laboratories under CSIR. The Committee further notes that despite the fact that a major share of the funds allocated to the Department goes to the CSIR National Laboratories, details of the Revenue and Capital expenditure under this budgetary head are not readily available in the documents furnished by the Department.

2.16 The Committee is constrained to note that details of the activities planned to be undertaken by the Department with the increased allocation for creation of Capital assets was not available in the documents furnished
by the Department, and the break-up of budgetary allocations for Revenue and Capital Expenditure, as well as funds allotted for Establishment Expenditure under various Budgetary Heads has not been made available. The Committee recommends that the Department should invariably furnish the above information to the Committee to facilitate analysis of Demands for Grants.

3. DEVELOPMENT OF CIVILIAN AIRCRAFT-'SARAS' BY CSIR-NAL

3.1 The Committee, in its 328th Report on Demands for Grants by the Department of Scientific and Industrial Research, had observed that the CSIR-NAL’s 19-seater SARAS turboprop civilian aircraft needs to be taken up as a National Mission to promote connectivity to small airports and underserved regions under the UDAN Scheme of the Ministry of Civil Aviation. The Committee, in its 328th Report recommended that the Government of India should place a development order to NAL and other manufacturers for about 50 to 60 SARAS aircrafts.

3.2 The Committee enquired the Department about the status of progress in the Development of Civilian Aircraft ‘SARAS’ and impact of the shortfall in B.E. 2021-22 allocations on the timely realisation of the project. The Department informed the Committee that CSIR-NAL has already started design realisation, life testing and certification of SARAS Mk2-19 seater aircraft and the project is now heading towards detailed engineering and design. The Department further informed the Committee that an MoU has been signed with Hindustan Aeronautics Limited (HAL) to onboard it as a production partner. Further, IAF has also given commitment for initial induction of 15 nos. of SARAS aircrafts. Highlighting the impact of the shortfall in B.E. 2021-22 allocations, the Department submitted before the Committee that it will require an additional allocation of atleast ₹100 crore, over and above the B.E. 2021-22 allocations for the Department, to ensure timely completion of the 19-Seat Light Transport Aircraft – SARAS.

3.3 The Committee reiterates that SARAS is a crucial project in promoting connectivity to small airports and underserved regions along with a variety of military uses. The Committee, therefore, strongly recommends that the Department should look for internal budgetary reallocations to ensure availability of funds for the project and if need be, seek additional allocations at the R.E. stage, so that the Department is able to sustain the National Mission on Development and Certification of 19-Seat Light Transport Aircraft –‘SARAS’ and ensure its timely completion.

DSIR UMBRELLA SCHEMES

4 UMBRELLA SCHEME 1 – INDUSTRIAL RESEARCH AND DEVELOPMENT

4.1 The Committee desired to know from the Department the various initiatives/sub-schemes under the umbrella scheme Industrial Research and Development (IR&D) and the budgetary allocations made during the
year 2021-22. In response, the Department furnished the following information:

<table>
<thead>
<tr>
<th>Sub-schemes under IR&amp;D</th>
<th>B.E. allocated for 2021-22</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRISM (Promoting Innovation in Individuals, Start-ups and MSMEs)</td>
<td>2.50</td>
</tr>
<tr>
<td>PACE (Patent Acquisition and Collaborative Research and Technology Development)</td>
<td>2.50</td>
</tr>
<tr>
<td>BIRD-CRTDH (Building Industrial Research &amp; Development)</td>
<td>11.00</td>
</tr>
<tr>
<td>A2K+ (Access to Knowledge for Technology Development and Dissemination)</td>
<td>5.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>21.00</strong></td>
</tr>
</tbody>
</table>

4.2 The Committee was informed by the Department, that they required a bare minimum allocation of ₹ 15.00 crore over and above the B.E. 2021-22 allocation for the Department to sustain the key initiatives under the umbrella scheme. The Committee notes that the four sub-schemes under the umbrella scheme are approved upto 31.03.2021 and the Department has already sent proposals for the extension of these sub-schemes beyond 31.03.2021, to the Department of Expenditure.

4.3 The Committee acknowledges the achievements of the Department of Scientific and Industrial Research under these sub-schemes in supporting independent innovators, promoting collaborative research between Industry and R&D organisations, and supporting industrial R&D through creation of common research. The Committee hopes that the sub-schemes would be extended at the earliest. On its part, the Department should also look for extra budgetary resources to fund the shortfall in budgetary allocation under the scheme.

5. UMBRLLA SCHEME 2 – ASSISTANCE TO PSEs (National Research Development Corporation – NRDC and Central Electronics Limited –CEL)

5.1 The Committee was informed that two Public Sector Enterprises – NRDC and CEL are under the administrative control of the Department and a total allocation of ₹ 14.00 crore has been made in B.E. 2021-22 for the Assistance of the two PSEs. The Committee was informed by the Department that the main objective of NRDC is to promote, develop and commercialise technology and offer services throughout the country to entrepreneurs, SMEs and industries with the aim of improving the Nation’s manufacturing base. The Committee was further informed that NRDC has played a significant role in the fight against COVID-19 by facilitating transfer of COVID-19 relevant technologies to MSMEs in order to help scale up efforts towards fight against COVID-19.

5.2 The Committee appreciates the role of NRDC in acting as a bridge between lab research and its translation into products by MSMEs. The Committee recommends that more aggressive steps be taken by the
Department towards integration of entrepreneurs, SMEs and other private entities with the objective of translating R&D results into marketable products.

6. COUNCIL OF SCIENTIFIC AND INDUSTRIAL RESEARCH (CSIR)

6.1 The Committee sought to know from the Department the details of the financial allocations made in B.E. 2021-22 under the budgetary head CSIR. The following information was furnished by the Department:

<table>
<thead>
<tr>
<th>Budgetary Head</th>
<th>B.E. allocated for 2021-22</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. NATIONAL LABORATORIES</strong></td>
<td></td>
</tr>
<tr>
<td>Grant-in-aid General</td>
<td>2544.77</td>
</tr>
<tr>
<td>Grant for Creation of Capital Assets</td>
<td>425.00</td>
</tr>
<tr>
<td>Grant-in-aid for Salaries</td>
<td>1699.50</td>
</tr>
<tr>
<td><strong>2. CAPACITY BUILDING &amp; HUMAN RESOURCE DEVELOPMENT (also known as Research Schemes, Scholarship and Fellowship)</strong></td>
<td></td>
</tr>
<tr>
<td>Grant-in-Aid General</td>
<td>475.00</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td><strong>5144.27</strong></td>
</tr>
</tbody>
</table>

6.2 The Committee noted that a sum of ₹ 5144.27 crore has been allotted for 37 CSIR laboratories, against the total B.E. 2021-22 allocation of ₹ 5224.27, which is more than 98 percent of the total allocation made to the Department. The Committee further noted that a sum of ₹ 425.00 crore has been allotted for creation of Capital Assets in these institutions. The Committee also observed that while some of the CSIR laboratories are doing credible work in the field of industrial science and research, there still remains a gap between the requirements of the industries and the research output of these labs.

6.3 The Committee recommends that the Department should also explore raising extra budgetary resources to finance the establishment expenditure.

6.4 The Committee is of the considered view that the avenues for translation of technology and commercialisation of research needs to be further augmented. The Committee recommends that CSIR should take into account the requirements of the industries and work towards bridging the gap between what is required by the industry and what the institutes provide. For this purpose, the Department should impress upon all the CSIR laboratories to enlist 10 goals/objectives that each of these laboratories propose to pursue in the medium to long term plan. The CSIR laboratories should further indicate the goals/objectives that will be pursued during the year 2021-22 along with the steps that the Department plans to undertake to achieve these goals during the year. On its part,
Department of Scientific and Industrial Research should also develop a mechanism to periodically monitor the progress of the goals/objectives of each of these laboratories.

6.5 The Committee enquired the Department about the contribution of the laboratories/institutions under the Department towards finding solutions for COVID-19 pandemic. The Department informed the Committee that its various laboratories/institutions have contributed in a substantial manner across verticals including development and scaling up of technologies for rapid and economical testing; digital and molecular genomic surveillance for SARS-CoV-2 variants through multiple surveillance strategies such as serological survey and survey of sewage samples; R&D and transfer of technologies for discovery of new & repurposed drugs such as Favipiravir; Development of Hospital Assistive Devices, PPE kits and other medical equipments such as non-invasive ventilator, make shift hospitals and support to supply chain and logistics systems. During the meeting of the Committee held on 17th February, 2021, of the Committee expressed surprise that even though, the Department, through its laboratories, is making these critical products and technologies, such as the low cost ventilator, the beneficiaries, public representatives, Government functionaries, etc. have no information about these products/technologies/services given by the Department.

6.6 The Committee notes the contribution of the CSIR laboratories/institutes under the Department and extends its heartfelt appreciation to the scientists, researchers, etc. working in the Department of Scientific and Industrial Research for their invaluable effort and contribution towards strengthening the nation’s fight against COVID-19 pandemic.

6.7 The Committee observes that the Department, through its laboratories/institutes has developed many critical technologies and products which have been adopted by entities across multiple verticals such as industries, medical equipment manufacturers, pharmaceutical companies, etc. The Committee further observes that many more such technologies and products developed by the Department, such as the low-cost non-invasive ventilator have the potential to be implemented across private entities and public institutions such as Municipal Corporations, Government Hospitals, etc. However, due to the lack of promotion and outreach activities, many such technologies/products developed by the Department do not reach the intended beneficiaries.

6.8 The Committee, therefore, recommends that the Department should give thrust to its promotion and outreach activities and showcase the technologies/products developed by it on more platforms so as to reach out to possible industrial clients, public servants, public representatives, etc. This would also definitely lessen our dependency on imports of such products.
6.9 The Committee enquired about the initiative of the Department towards ‘Introduction, characterization and cultivation of Ferula assa-foetida (Hing) in cold desert regions of Indian Himalayas’. The Department informed the Committee that India imports about ₹ 900 crore worth of Hing every year. To explore the possibilities of cultivation of Hing on wasteland/sloppy land in the cold desert regions of the Indian Himalaya, a project on cultivation of Hing with a total budget outlay of ₹ 3.78 crore has been initiated by the CSIR- Institute of Himalayan Bioresource Technology, Palampur in collaboration with ICAR – National Bureau of Plant Genetic Resources (ICAR-NBPGR). The Committee was also informed that the target of the project is to cover 300 hectare area under cultivation of Hing in Himachal Pradesh during the next five years.

6.10 The Committee appreciates this novel initiative taken by the Department to cultivate Hing in the country. The Committee hopes that the initiative will benefit the Indian consumer.

7. EXPLORING OPPORTUNITIES FOR REVENUE GENERATION

7.1 The Committee enquired from the Department about the revenue generated by the Department through commercialisation of its services, products, research capacities and technologies developed. The Department gave the following information to the Committee:

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue earned (₹ in crores)</th>
<th>Revenue earned as % of R.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-19</td>
<td>1308.44</td>
<td>28.93 percent</td>
</tr>
<tr>
<td>2019-20</td>
<td>1820.05</td>
<td>37.67 percent</td>
</tr>
<tr>
<td>2020-21 (upto 31.12.2020)</td>
<td>999.47</td>
<td>23.75 percent</td>
</tr>
</tbody>
</table>

7.2 The Department informed the Committee that major source of revenue earned by the CSIR laboratories comes from the Central Ministries/Departments like Departments of Space, Science & Technology, Ministries of Earth Sciences, Commerce & Industry and other line Ministries. The Committee observes that the revenue generated by the Department during 2018-19 and 2019-20 at 28.93 and 37.67 percent (of R.E. of the respective year) respectively, has been impressive. The revenue generated by the Department during 2020-21 has been low, at 23.75 percent of R.E. 2020-21 due to COVID-19 pandemic.

7.3 The Committee appreciates the efforts made by the Department for revenue generation and recommends that the Department should further explore avenues to augment revenue generation through technology transfer, consultancy services, patents, etc. The Committee recommends that the Department should actively reach out to the private sector and disseminate information about the technologies/products/services given by the Department. On its part the Department should also set targets for the same and actively monitor the progress.
RECOMMENDATIONS/OBSERVATIONS - AT A GLANCE

BUDGETARY DETAILS FOR THE FINANCIAL YEAR 2020-21 AND ALLOCATION FOR 2021-22

The Committee observes that the Department has been able to utilise over 90 percent of the funds allotted during R.E. 2020-21 upto 31.01.2021. The Committee is satisfied with the utilisation of funds and hopes that the Department would be able to ensure its full utilisation by the end of the financial year. (Para 2.3)

The Committee urges the Department to ensure full utilisation of funds allocated at R.E. 2020-21, especially under research and development initiatives under IRD, develops a robust mechanism to achieve 100% coverage of timely disbursement of fellowships and finance projects undertaken by the two Public Sector Enterprises under the Department. The Committee also recommends the Department to raise internal budgetary resources and try to offset the reduction in budgetary allocation. (Para 2.7)

The Committee, therefore, recommends that the Department should make arrangements for internal reallocation of budgetary resources so that the projects relating to conversion of waste to wealth and recycling of plastics are not adversely impacted. (Para 2.9)

Given the importance of the intended objectives of the initiatives under the two umbrella schemes, the Committee expresses its concerns on the impact of the difference in B.E. demanded by the Department for FY 2021-22 and B.E. allocated, on the outcomes and physical targets of the two umbrella schemes. However, since the B.E. 2021-22 of ₹ 5224.27 crore of the Department is 22 percent more than R.E. 2020-21, the Committee hopes that the Department will be able to regain the momentum lost due to COVID-19 pandemic in the implementation of its schemes and new initiatives. (Para 2.11)

The Committee recognises the need of an additional allocation of at least ₹ 355 crore to the Department, in addition to the allocation made in B.E. 2021-22. The Committee underlines the importance of the timely completion of the projects and, therefore, strongly recommends that the Department should explore internal budgetary reallocations to ensure availability of funds for the project. The Committee also recommends that, if required, the Department should seek additional funds from the Ministry of Finance at the supplementary/R.E. stage so that the Department is able to sustain its key programmes; especially initiatives relating to research and development of new drugs, vaccines and medical equipments, Civil Aircraft -SARAS and increasing the number of fellowships. (Para 2.13)

The Committee also recommends that the Department should indicate and quantify the physical targets that the Department aspires to
achieve against each of these key initiatives with this additional budgetary allocation of ₹355.00 crores.

(Para 2.14)

The Committee is constrained to note that details of the activities planned to be undertaken by the Department with the increased allocation for creation of Capital assets was not available in the documents furnished by the Department, and the break-up of budgetary allocations for Revenue and Capital Expenditure, as well as funds allotted for Establishment Expenditure under various Budgetary Heads has not been made available. The Committee recommends that the Department should invariably furnish the above information to the Committee to facilitate analysis of Demands for Grants.

(Para 2.16)

DEVELOPMENT OF CIVILIAN AIRCRAFT-'SARAS' BY CSIR – NAL

The Committee reiterates that SARAS is a crucial project in promoting connectivity to small airports and underserved regions along with a variety of military uses. The Committee, therefore, strongly recommends that the Department should look for internal budgetary reallocations to ensure availability of funds for the project and if need be, seek additional allocations at the R.E. stage, so that the Department is able to sustain the National Mission on Development and Certification of 19-Seat Light Transport Aircraft –‘SARAS’ and ensure its timely completion.

(Para 3.3)

UMBRLLA SCHEME 1 – INDUSTRIAL RESEARCH AND DEVELOPMENT

The Committee acknowledges the achievements of the Department of Scientific and Industrial Research under these sub-schemes in supporting independent innovators, promoting collaborative research between Industry and R&D organisations, and supporting industrial R&D through creation of common research. The Committee hopes that the sub-schemes would be extended at the earliest. On its part, the Department should also look for extra budgetary resources to fund the shortfall in budgetary allocation under the scheme.

(Para 4.3)

UMBRLLA SCHEME 2 – ASSISTANCE TO PSEs (National Research Development Corporation – NRDC and Central Electronics Limited – CEL)

The Committee appreciates the role of NRDC in acting as a bridge between lab research and its translation into products by MSMEs. The Committee recommends that more aggressive steps be taken by the Department towards integration of entrepreneurs, SMEs and other private entities with the objective of translating R&D results into marketable products.

(Para 5.2)
The Committee recommends that the Department should also explore raising extra budgetary resources to finance the establishment expenditure. (Para 6.3)

The Committee is of the considered view that the avenues for translation of technology and commercialisation of research needs to be further augmented. The Committee recommends that CSIR should take into account the requirements of the industries and work towards bridging the gap between what is required by the industry and what the institutes provide. For this purpose, the Department should impress upon all the CSIR laboratories to enlist 10 goals/objectives that each of these laboratories propose to pursue in the medium to long term plan. The CSIR laboratories should further indicate the goals/objectives that will be pursued during the year 2021-22 along with the steps that the Department plans to undertake to achieve these goals during the year. On its part, Department of Scientific and Industrial Research should also develop a mechanism to periodically monitor the progress of the goals/objectives of each of these laboratories. (Para 6.4)

The Committee notes the contribution of the CSIR laboratories/institutes under the Department and extends its heartfelt appreciation to the scientists, researchers, etc. working in the Department of Scientific and Industrial Research for their invaluable effort and contribution towards strengthening the nation’s fight against COVID-19 pandemic. (Para 6.6)

The Committee, therefore, recommends that the Department should give thrust to its promotion and outreach activities and showcase the technologies/products developed by it on more platforms so as to reach out to possible industrial clients, public servants, public representatives, etc. This would also definitely lessen our dependency on imports of such products. (Para 6.8)

The Committee appreciates this novel initiative taken by the Department to cultivate Hing in the country. The Committee hopes that the initiative will benefit the Indian consumer. (Para 6.10)

EXPLORING OPPORTUNITIES FOR REVENUE GENERATION

The Committee appreciates the efforts made by the Department for revenue generation and recommends that the Department should further explore avenues to augment revenue generation through technology transfer, consultancy services, patents, etc. The Committee recommends that the Department should actively reach out to the private sector and disseminate information about the technologies/products/services given by the Department. On its part the Department should also set targets for the same and actively monitor the progress. (Para 7.3)
MINUTES
IV

FOURTH MEETING

The Committee met at 11:00 A.M. on Wednesday, the 17th February, 2021 in Committee Room ‘A’, Ground Floor, PHA, New Delhi.

MEMBERS PRESENT

1. Shri Jairam Ramesh -- Chairman

RAJYA SABHA

2. Shri Ashwini Vaishnaw
3. Shrimati Seema Dwivedi

LOK SABHA

4. Shri Guharam Ajgalley
5. Dr. Swami Sakshiji Maharaj
6. Shri Asaduddin Owaisi
7. Dr. Ranjan Singh Rajkumar
8. Shri Anurag Sharma
9. Shri Ram Shiromani
10. Shri Kirti Vardhan Singh
11. Dr. Ramapati Ram Tripathi

SECRETARIAT

Shri Pradeep Chaturvedi, Joint Secretary
Shri Rakesh Anand, Additional Director
Shri Rajiv Saxena, Under Secretary
Shri Harish Kumar, Committee Officer

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7. Thereafter, the following representatives of the Department of Scientific and Industrial Research appeared before the Committee:

(i) Dr. Shekhar C. Mande, Secretary
(ii) Shri K.R. Vaidheeswaran, Joint Secretary (Admin.)
(iii) Shri Chetan Prakash Jain, Joint Secretary & Financial Advisor
(iv) Shri K. V. Subramanian, Chief Scientist
(v) Shri Baljit Singh, Deputy Financial Advisor
(vi) Shri B.N. Sarkar, Scientist ‘G’
(vii) Ms. Kamini Mishra, Scientist 'F'

****Relate to other matters.
8. The Chairman welcomed the Secretary and other representatives of Department of Scientific and Industrial Research (DSIR). He asked the Secretary to give a brief presentation on the Demands for Grants 2021-22 of the Department, the impact of reduction in allocation in R.E. 2020-21 and the strategy devised by the Department for dealing with situation arising out of reduced allocations. The Chairman also asked the Secretary to highlight the impact of COVID-19 on the budgetary allocation in R.E. 2020-21 and on achievement of physical targets.

9. Thereafter, the Secretary, Department of Scientific and Industrial Research made a power point presentation before the Committee wherein the Committee was informed that the Department had made a demand of ₹6300.36 crore in B.E. 2021-22 against which the Department has been allocated ₹5224.27 crore. The Committee was informed that due to the shortfall, the Department may not be able to raise the outputs/outcomes of its two umbrella schemes i.e. IRD and Assistance to PSEs –NRDC and CEL. Similarly, shortfall in B.E. 2021-22 allocation made to CSIR may be an impediment for CSIR to implement its new initiatives such as discovery of new drugs, vaccines, medical equipments, development of the 19 seater light Transport Aircraft –SARAS as well as to increase the number of fellowships/scholarships awarded by the Department. On a query, the Committee was informed that a bare minimum amount of ₹ 355.00 crore will be required by the Department, over and above the B.E. 2021-22 allocations, to sustain key programmes/initiatives of the Department for the year 2021-22. The Committee was further informed that R.E.2020-21 was reduced to ₹5000.00 crore as compared to B.E. 2020-21 allocation of ₹ 5385.00 crore. The Department apprised the Committee that reduction in allocation at R.E. 2020-21 stage was, firstly, because of the impact of global slowdown due to COVID-19 pandemic leading to suppressed expenditure and revenue generation by the Department. Secondly, as per the notification issued by the Ministry of Finance, the Department was placed under category ‘C’ under which the overall expenditure was restricted within 15 percent of B.E. 2020-21 for two quarters.

10. The Chairman and Members then raised various queries and concerns such as impact of reduction in budgetary allocation in R.E. 2020-21 on the initiatives of the Department; detailed break-up of allocation in B.E. 2021-22 under capital, revenue and establishment expenditure; measures that may be taken to enhance revenue generation; initiatives and interventions of the Department towards management and solution of COVID-19 pandemic; promotion of products such as low cost ventilators, drugs and other medical devices/equipments made by the Department; outcome and target based performance of autonomous institutions under the Department; steps taken by the Department to promote private sector engagement in research and translation of research outcomes in commercial products; initiatives taken by the Department towards recycling and management of plastic waste and conversion of waste to energy; status of the project on the commissioning of the 19-seater light aircraft SARAS, etc.
11. The representatives of the Department, while presenting their views, also responded to some of the queries raised by the Chairman and Members of the Committee. The Chairman directed the representatives of the Department to furnish detailed written replies to queries/points/issues raised by him and the Members of the Committee during the meeting, to the Secretariat, at the earliest.

12. The witnesses then withdrew.

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19. A verbatim record of the proceedings was kept.

20. The Committee adjourned at 2:00 p.m.
The Committee met at 2:30 P.M. on Thursday, the 4th March, 2021 in Committee Room No. 4, First Floor, PHAE, New Delhi.

MEMBERS PRESENT

1. Shri Jairam Ramesh -- Chairman

RAJYA SABHA

2. Shri Anil Baluni
3. Shri Ashwini Vaishnaw
4. Shrimati Seema Dwivedi

LOK SABHA

5. Shri Guharam Ajgalley
6. Shri Pradan Baruah
7. Dr. Swami Sakshiji Maharaj
8. Shri Asaduddin Owaisi
9. Shri Francisco Sardinha
10. Shri Ram Shiromani

SECRETARIAT

Shri Pradeep Chaturvedi, Joint Secretary
Shri T.N. Pandey, Director
Shri Rakesh Anand, Additional Director
Shri Rajiv Saxena, Under Secretary
Shri Harish Kumar, Committee Officer

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9. The Committee then considered the draft 341st, 342nd, 343rd, 344th, 345th, 346th and 347th reports on Demands for Grants 2021-22 of the Ministries/Departments of Atomic Energy, Biotechnology, Scientific & Industrial Research, Science & Technology, Space, Environment, Forest & Climate Change; and Earth Sciences, respectively, and adopted the same. The Committee also decided to present/lay the reports to both the Houses of Parliament on the 8th March, 2021.

****Relate to other matters.
10. The Committee also decided to nominate the Chairman and, in his absence, Shri Ashwini Vaishnaw, and in his absence, Shrimati Seema Dwivedi to present the reports in Rajya Sabha and Dr. Swami Sakshiji Maharaj and, in his absence, Shri Francisco Sardinha to lay the reports on the Table of Lok Sabha on the 8th March, 2021.

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13. The Committee adjourned at 4:30 p.m.

****Relate to other matters.