19	STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2020-21) SEVENTEENTH LOK SABHA

MINISTRY OF CHEMICALS AND FERTILIZERS
(DEPARTMENT OF CHEMICALS & PETROCHEMICALS)

DEMANDS FOR GRANTS

(2021-22)

NINETEENTH REPORT

LOK SABHA SECRETARIAT

NEW DELHI

March, 2021/ Phalguna, 1942 (Saka)

CC&F.No. 19

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Presented to Lok Sabha on 17 March 2021

Laid in Rajya Sabha on 17 March 2021

LOK SABHA SECRETARIAT

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COMPOSITION OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2020-21)

Smt. Kanimozhi Karunanidhi - Chairperson

MEMBERS

LOK SABHA

2	Shri Maulana Badruddin Ajmal
3	Shri Deepak Baij
4	Shri Ramakant Bhargava
5	Shri Prataprao Govindrao Patil Chikhalikar
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12	Dr. M.K.Vishnu Prasad
13	Shri Atul Kumar Singh alias Atul Rai
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15	Shri M. Selvaraj
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21	Dr. Sanjeev Kumar Singari#

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29	Shri A.D. Singh
30	Shri Vijay Pal Singh Tomar
31	Shri K. Vanlalvena

SECRETARIAT

1.	Shri Manoj K. Arora	-	OSD (LSS)
2.	Sh. N.K. Jha	-	Director
3.	Shri C. Kalyanasundaram	-	Additional Director
4.	Shri Gagan Kumar	-	Committee Officer

$Re-nominated to the Committee w.e.f. 23.12.2020.

#Nominated to the Committee w.e.f 28.12.2020 vice Shri Nandigam Suresh

INTRODUCTION

I, the Chairperson (Acting), Standing Committee on Chemicals and Fertilizers (2020-21) having been authorised by the Committee [as per Rule 277(3) of Procedure and Conduct of Business in Lok Sabha] to present the Report on their behalf, present this Nineteenth Report on Demands For Grants (2021-22) of the Ministry of Chemicals and Fertilizers (Department of Chemicals & Petrochemicals).

2. The Committee examined the Demands For Grants (2021-22) pertaining to the Ministry of Chemicals and Fertilizers (Department of Chemicals & Petrochemicals) which were laid in Lok Sabha and Rajya Sabha on 9 February, 2021.

3. The Committee took evidence of the representatives of the Ministry of Chemicals and Fertilizers (Department of Chemicals & Petrochemicals) at their sitting held on 19 February, 2021.

4. The Report was considered and adopted by the Committee at their sitting held on 15 March, 2021.

5. The Committee wish to express their thanks to the Officers of the Ministry of Chemicals and Fertilizers (Department of Chemicals & Petrochemicals) for their cooperation in furnishing the written replies and other material/information and for placing their views before the Committee.

6. The Committee also place on record their appreciation for the valuable assistance rendered to them by the officials of Lok Sabha Secretariat attached to the Committee.

7. For facility of reference and convenience, the Observations/ Recommendations of the Committee have been printed in bold letters at the end of the Report.

New Delhi;
15 March, 2021
24 *Phalguna, 1942 (Saka*

Uday Pratap Singh
Chairperson (Acting)
Standing Committee on
Chemicals and Fertilizers

CHAPTER – I

INTRODUCTORY

1.1 CHEMICAL INDUSTRY

The Chemical Industry is a knowledge intensive as well as capital intensive industry. It is an integral constituent of the growing Indian Industry. It includes basic chemicals and its products, petrochemicals, fertilizers, paints, varnishes, gases, soaps, perfumes and toiletry and pharmaceuticals. The diversification within the chemical industry is large and covers more than eighty thousand commercial products. This Industry occupies a pivotal position in meeting basic needs and improving quality of life. The industry is the main stay of industrial and agricultural development of the country and provides building blocks for several downstream industries, such as textiles, papers, paints, varnishes, soaps, detergents, pharmaceuticals, etc.

1.2 PETROCHEMICAL INDUSTRY

Petrochemicals, which comprise of plastic and a host of other chemicals, are downstream hydrocarbons derived from crude oil and natural gas. The value additions in the petrochemicals chain offer immense possibilities and cater to the need of textiles and clothing, agriculture, packaging, infrastructure, healthcare, furniture, automobiles, information technology, power, electronics and telecommunication, irrigation, drinking water, construction and a host of other articles of daily and specialized usage amidst other emerging areas.

Aims and Mandate of Department of Chemicals and Petrochemicals

1.3 Following are the aims of the Department of Chemicals and Petrochemicals (DCPC):-

i. To formulate and implement policy and programmes for achieving growth and development of the chemical and petrochemical sectors in the country; and

ii. To foster the spirit of public-private partnership for overall development of above-mentioned sectors of the industry.

1.4 The Department has the mandate to deal with the following broad subject matters:

i. Insecticides excluding the administration of 'The Insecticides Act, 1968' (46 of 1968);

ii. Dye-Stuffs and Dye-Intermediates;

iii. All organic and inorganic chemicals, not specifically allotted to any other Ministry or Department;

iv. Planning, development and assistance to all industries dealt with by the Department;
v. Bhopal Gas Leak Disaster-Special Laws relating thereto;
vi. Petrochemicals;
vii. Industries relating to production of non-cellulosic synthetic fibers (Nylon Polyesters, Acrylic etc.);
viii. Synthetic Rubber; and
ix. Plastics including fabrication of plastic and moulded goods.

1.5 **Public Sector Undertakings**

There are three Central Public Sector Undertakings (CPSUs) in the chemical sector under the Department namely Hindustan Organic Chemicals Ltd. (HOCL), HIL (India) Limited and Hindustan Fluorocarbons Limited (HFL), which is a subsidiary of HOCL.

1.6 Autonomous Institutes

The autonomous institutes under this Department are Central Institute of Petrochemicals Engineering & Technology (CIPET) and Institute of Pesticides Formulation Technology (IPFT).

The Department of Chemicals and Petrochemicals has five major divisions viz. Chemicals, Petrochemicals, Administration, Statistics & Monitoring (S&M) and Economic Division. The Integrated Finance Division is common to the three Departments in the Ministry of Chemicals and Fertilizers.

1.7 The detailed Demands for Grants (2021-22) of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals) were presented to the Lok Sabha on 9th February, 2021. Budget Estimate (BE) for the Demand No. 5 pertaining to the Department of Chemicals and Petrochemicals is RS. 233.14 crore. The Committee have examined in-depth the detailed Demands for Grants of the Department for the year 2021-22. The Observations/Recommendations of the Committee have been given in a separate chapter at the end of the Report. The Committee expect the Department to take all necessary steps for proper and timely utilization of funds ensuring completion of the various plans and projects in a time bound manner. The Committee also expect the Department to act on the recommendations of the Committee expeditiously and furnish action taken replies to the observations/recommendations made in the Report within three months from the date of presentation of this Report.

CHAPTER – II
AN OVERVIEW ON INDIAN CHEMICAL & PETROCHEMICAL INDUSTRY

2.1 Origin:

The Chemical and Petrochemical sector is one of the most vital and driving engines for the growth of the economy. Before independence, the sector was mainly concentrated in Eastern India but now expanded to Gujarat and Maharashtra also due to availability of better infrastructure and port facilities. The roots of chemical industry were initially in West Bengal and factories were installed for Jute packaging, Textiles, and steel industry. M/s Bengal Chemicals, Kolkata and FCI, Sindri were amongst the first factories of Independent India. Petrochemicals are essentially derived from petroleum-based hydrocarbons and natural gases during the course of refining of crude oil and subsequently cracking of naphtha and natural gases obtained from refining.

2.2 Growth and Development:

The Chemicals and Petrochemicals sector has grown multifold since independence of India. The sector has achieved self-reliance in respect of many chemical products. In chemical sector, dyestuffs and agrochemicals are net exporters and export their products to developed countries of the world. India being a populated country, the demand of chemical product is increasing every year. There are imports of some basic feed stocks to convert into value added products in the country, which gives rise to employment opportunities in the country. Today India is exporting chemicals and petrochemicals to those countries from where these were imported decades ago.

2.3 Liberalization of industrial policy:

(i) The Industrial Policy, 1991 delicenced, deregulated and decontrolled the sector. As per this policy, no industrial licence is required for setting-up of new capacities; only Industrial Entrepreneur Memorandum (IEM) from the Department of Industrial Policy and Promotion is required to establish any new capacity or expansion of the existing plant, except for the following chemicals/petrochemicals which are hazardous in nature:

- Hydrocyanic acid and its derivatives.
- Phosgene and its derivatives.
- Isocynate and Di-Isocyanates of hydrocarbon not elsewhere specified

(ii) 100% FDI is permissible in chemical sector.

2.4 The production of selected Major Chemicals and Petrochemicals during the years 2015-16 to 2020-21 (upto September 2020) is given in the Table given below:-

Production of selected Major Chemicals and Petrochemicals

Table 2.1: Production of selected Major Chemicals and Petrochemicals

(Figures in 000'MT)

Group	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR	2020-21 (April 2020 to Sep.2020) *
Alkali Chemicals	6802	7009	7631	8043	8457	**5.60**	3369
Inorganic Chemicals	1002	1053	1058	1064	1063	**1.50**	364
Organic Chemicals	1589	1638	1799	1884	1847	**3.83**	816
Pesticides	188	214	213	217	192	**0.61**	101
Dyes & Pigments	304	320	367	382	384	**6.01**	114
Total Basic Major Chemicals	**9884**	**10234**	**11069**	**11589**	**11943**	**4.84**	4763
Synthetic Fibers	3558	3599	3625	3601	3893	**2.27**	974
Polymers	8839	9163	9276	10040	12404	**8.84**	5606
Elastomers (S.Rubber)	242	285	308	351	358	**10.34**	156
Synth. Detergent Intermediates	566	664	743	687	715	**6.03**	347
Performance Plastics	1700	1799	1719	1589	1672	**-0.42**	656
Total Basic Major Petrochemicals	**14905**	**15510**	**15670**	**16269**	**19041**	**6.31**	7739
Total Basic Major Chemicals and Petrochemicals	24788	25744	26739	27858	30984	5.74	12502

*Note: The total basic Chemicals and Petrochemicals production is aggregated based on monthly production returns from manufacturers under large and medium scale units only. *Data is provisional.*

2.5 Above table shows that the production of Total Major Chemicals and Petrochemicals in 2020-21 (upto September 2020) is 12,502 thousand MT. Compound Annual Growth Rate(CAGR) in production of Total Chemicals and Petrochemicals during the period 2015-16 to 2019-20 is 5.74%. Except for the Performance Plastics, production of other major Chemicals and Petrochemicals have generally increased during 2015-16 to 2019-20. CAGR in production of total

basic major chemicals and total major basic petrochemicals during the period 2015-16 to 2019-20 is 4.84% and 6.31% respectively.

2.6 INTERNATIONAL TRADE

Trends in exports and imports of Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers) during 2015-16 to 2019-20 are given in Tables given below at A and B:-

A. Exports of Chemicals & Petrochemicals Products

(Value in Rs. crore)

HS Code	Commodity	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR (%	2019-20 (April 19 to Sep 19)	2020-21 (April 20 to Sep 20
	Total National Exports	1716384	1849434	1956515	2307726	2219854	**6.64**	1113886	735332
28	Inorganic Chemicals	7913	9138	11175	14056	12512	**12.14**	6047	4359
29	Organic Chemicals	75295	78386	95381	127567	124195	**13.33**	62440	54955
32	Tanning or Dyeing	16165	17189	18951	23124	24409	**10.85**	12288	7698
38	Miscellaneous Chemical Product	20083	21792	25080	32397	35663	**15.44**	17460	13471
39	Plastic and Articles thereof	34381	35502	40928	56079	48970	**9.24**	25522	22512
4002	Synthetic Rubber and Factice	452	480	571	739	759	**13.86**	369	345
54	Man-made Filaments	13460	13334	13984	16018	16962	**5.95**	7935	3041
55	Man-made Staple Fibres	13625	14373	13212	13308	11824	**-3.48**	5931	3170
A:Total Chemicals and Petrochemical Products		**181374**	**190193**	**219281**	**283287**	**275294**	**11.00**	**137991**	**109550**
% share in total export		10.6	10.3	11.2	12.3	12.4		12.4	14.9

Source: Directorate General of Commercial Intelligence and Statistics (DGCIS), Kolkata.

2. 7 Export of Chemicals and Petrochemicals have been increasing with a good pace showing CAGR of 11% in comparison of CAGR of 6.64 % for total national export during 2015-16 to 2019-20. Total national export for the year 2019-20 was Rs. 2219854 crore out of which value of export of total chemicals and petrochemical products was Rs. 275294 crore which is 12.4% of the total national export value. Due to higher CAGR value of export of total chemicals and petrochemical products, its share in the value of exports has increased during the period.

B. Imports of Chemicals & Petrochemicals Products

(Value in Rs. Crore)

HS Code	Commodity	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR (%)	2019-20 (April 19 to Sep 19)	2020-21 (April 20 to Sep 20)
	Total National Imports of which	2490306	2577675	3001033	3594675	3360954	**7.78**	1735551	898198
28	Inorganic Chemicals	33170	31654	38927	53237	45045	**7.95**	23513	17166
29	Organic Chemicals	101986	103798	123761	156552	140205	**8.28**	75932	53706
32	Tanning or Dyeing	10467	11186	12995	15460	14518	**8.52**	7769	4526
38	Miscellaneous Chemical Products	27207	30642	35521	41748	39069	**9.47**	21975	18969
39	Plastic and Articles thereof	74566	77573	89768	106591	100607	**7.78**	52849	30039
4002	Synthetic Rubber and Factice	5205	5654	6687	7896	6079	**3.96**	3255	1743
54	Mand-made Filaments	4879	4856	5538	6843	7351	**10.79**	3963	1469
55	Man-made Staple Fibres	4401	3826	4658	6508	6785	**11.43**	3670	1567
B: Total Chemicals and Petrochemical Products		**261880**	**269189**	**317856**	**394834**	**359660**	**8.25**	**192926**	**129185**
	% share in total import	10.5	10.4	10.6	11.0	10.7		11.1	14.4

Source: Directorate General of Commercial Intelligence and Statistics (DGCIS), Kolkata.

2.8 Perusal of above table shows that the value of Imports of total chemicals and petrochemical products has increased with CAGR 8.25 % compared to CAGR of 7.78% for total national imports. In the year 2019-20 value of total national imports was Rs. 3360954 crore and the value of Imports of total chemicals and petrochemical products was Rs. 359660 crore which is 10.7 % of total national import bill. In Comparison to the production of total basic major chemicals and petrochemicals which is increasing only at the CAGR of 5.74% imports are rising at a much faster pace.

2.9 When asked to furnish a detailed note on demand, production, supply, consumption, import and export of chemicals and petrochemicals during the last five years and the future plan of action in this regard, the Department in its written reply has furnished the following information:

Production, Import , Export and Consumption of Chemical and Petrochemical from 2015-16 to 2019-20

Figures in 000'MT

	2015-2016	**2016-2017**	**2017-2018**	**2018-2019**	**2019-20**
Total Production	45638	46661	47882	49108	55467
Total Import	17025	17529	18780	18735	18780
Total Export	6440	6773	8897	11198	10497
Total Consumption	56223	57416	57765	56645	63750
Production chemical	9884	10234	11069	11589	11943
Production PC	35754	36427	36813	37519	43524
Total	**45638**	**46661**	**47882**	**49108**	**55467**
Import Chemical	5360	5400	5937	6379	6557
Import PC	11666	12129	12843	12356	12222
Total	**17025**	**17529**	**18780**	**18735**	**18780**
Export Chemical	1138	1484	1496	1579	1698
Export PC	5302	5290	7401	9619	8798
Total	**6440**	**6773**	**8897**	**11198**	**10497**
Consumption Chemical	14106	14150	15510	16389	16802
Consumption PC	42118	43266	42255	40256	46948
Total	**56223**	**57416**	**57765**	**56645**	**63750**

Source:

1. Production data is received from Chemicals and Petrochemicals producer under large and medium scale units monitored by S&M Division of DCPC.
2. Import and Export is received from DGCIS, Kolkata.
3. Consumption data is derived (consumptions = Production + Import - Export).

It may be seen from the above table that in general production, import, exports and consumption is increasing. The per capita consumption of chemicals and petrochemicals in India is very low as compared to other developed countries indicating that there is enough potential for the growth of

the sector in the coming years. As India is a big consumer of chemicals and petrochemicals, it is anticipated that production, import, export and consumption shall continue increasing in the coming decades.

Projection of production, consumption, import and export of chemicals and petrochemicals for the next five years of major chemicals and petrochemicals as arrived at, ensuing the linear forecast formula is shown below:-

Projection of Production in next five years

Year	Production (Figures in '000 MT)		
	Chemicals	Petrochemicals	Chemicals and Petrochemicals
2020-21	12586	42997	55583
2021-22	13158	45411	58569
2022-23	13621	48055	61677
2023-24	14163	50389	64552
2024-25	14737	51712	66449

Year	Export (QTY) (Figures in '000 MT)		
	Chemicals	Petrochemicals	Chemicals and Petrochemicals
2020-21	1844	10679	12522
2021-22	1897	12010	13907
2022-23	2023	12784	14807
2023-24	2134	13641	15775
2024-25	2235	15119	17354

Year	Import (QTY) (Figures in '000 MT)		
	Chemicals	Petrochemicals	Chemicals and Petrochemicals
2020-21	6939	12645	19584
2021-22	7352	12563	19915
2022-23	7650	12445	20095

2023-24	7977	12601	20578
2024-25	8360	12662	21022

Year	Consumption (QTY) (Figures in '000 MT)		
	Chemicals	Petrochemicals	Chemicals and Petrochemicals
2020-21	17681	44964	62645
2021-22	18613	45964	64577
2022-23	19248	47716	66964
2023-24	20005	49350	69356
2024-25	20862	49255	70117

2.10 During oral examination of the representatives of the Department on Demands for Grants, 2021-22, the Secretary had submitted the following about the matters relating the Department of Chemicals and Petrochemicals salient features:-

"The Chemicals and Petrochemicals industries are highly diversified covering more than 80,000 commercial products. The market size of the Chemicals and Petrochemicals sector in India is worth about $ 165 billion. India ranks 14th in export and 8th in import. Approximately 50 per cent of agro-chemical products produced domestically are exported; 16 per cent of the world production of dyestuff and dye intermediates is manufactured domestically; and specialty chemicals constitute about 18 per cent of the chemicals and petrochemicals market in India. Department is having two autonomous bodies that are working with it, namely, the Central Institute of Petrochemical Engineering and Technology(CIPET) and the Institute of Pesticide Formulation Technology (IPFT). These institutions work in the specialized area of chemicals and petrochemicals sectors and focus on research, academics and skill development activities related to these sectors. We have three PSUs under the administrative control of the Department, namely, HIL (India) Limited, Hindustan Organic Chemicals Limited (HOCL) and Hindustan Fluorocarbons Ltd (HFL). PCPIR policy of the Department aims to attract investments in the region. Plastic parks scheme is expected to provide a state-of-the-art infrastructure for the sector increasing economies of scale. Department is working on specialty chemicals to reduce import dependency and enhance India's export. At present, BIS standards are voluntary in nature. There is a need for standardization of chemicals and petrochemicals produced domestically and imported for human safety, health and environment. Department has made the standards of the chemicals /

petrochemicals as mandatory for the exporters as well as for domestic manufacturers to meet the BIS quality parameters for 34 chemicals and for about 50 chemicals the process is at different stages. In the Budget 2021-2022 customs duty rationalization has been carried out for some items. These steps will encourage domestic production and boost the growth of economy. Financial provisions in the BE of 2021-2022 is Rs.233.14 crore against the budget allocation of Rs. 218.34 crore and RE of Rs.295.70 crore for the year 2020-2021".

2.11 When asked whether the Department has conducted any study to find out the specific problems faced by the domestic chemical and petrochemical industry and to state the steps taken/ proposed to be taken to address the same the Department in its written reply has furnished the following :

The Department had conducted a study on Impact of Free Trade Agreements (FTAs) on Chemical and Petrochemicals Sector through Indian Institute of Foreign Trade (IIFT), New Delhi. The main objective of the study was to understand the impact of FTAs on import and export of chemicals and measures to increase competitiveness of the Indian chemical industry. IIFT had recommended in the study report that imports need to be managed both from Free Trade Agreement (FTA) and non-FTA partners of the country. Further, effective trade protection for the sector needs to be increased in line with WTO guidelines. Non-Tariff Barriers need to be erected and make BIS Standards mandatory to reduce imports and protect the chemical sector.

2.12 The Department has a Vision Statement 2024 which aims

"to seize the opportunity to establish India as a leading chemicals & petrochemicals manufacturing hub,

- With a thrust on reduction in import dependency,
- By attracting investments for manufacturing quality products
- Using cutting-edge technologies,
- In specified clusters,
- With focus on sustainability

…contribute to Manufacturing sector of $ 5 Trn Indian economy"

2.13 During the oral evidence of the representatives of the Department of Chemicals and Petrochemicals on the Demands for Grants, 2021-22 of the Department, it was pointed out by the Committee that it is very difficult to sustain our domestic industries as the import is cheaper than domestic production,. In this regard, when the Committee asked about the plan of the Government to safeguard the domestic industries in order to achieve the Government's slogan of Atmanirbhar, a representative of the Department of Chemicals and Petrochemicals stated as under:-

"Availability of natural gas at the right price is very low. Whatever we get, we get imported and because of import the cost goes up. So, what happens, Middle East and other countries wherever you have adequate supply of natural gas, you get it free. You do not have to pay anything there. Using that natural gas they also produce power which is again almost free. So, the power cost and the raw material cost is drastically less and almost nil in those countries. So, naturally, our companies cannot compete with those kinds of imports. That has been the problem".

2.14 In regard to the above, the Secretary of the Department further clarified as below:-

"In so far as petrol and gas are concerned, we are dependent until and unless we have major crude oil and gases. Until and unless we have a major find which happens, we will be definitely dependent on imports insofar as crude oil and natural gases are concerned. That dependence also leads to dependence on certain other items. As a Department of Chemicals and Petrochemicals, we do carefully look at various items in which we have manufacturing capacities in the country. By rationalisation of duty structure, we also try and see the limited role in which we can help more private sector investments. That is one thing.

Secondly, in case if it becomes viable and strongly viable, huge level of investments are also likely. A lot of private sector participation is happening nowadays. In fact, the ease of doing business ranking of the country is also improving. That is giving a positive sentiment for the investments. That is the only way forward and it is a slow process. For cracker units, now we have two units which are likely to get completed by 2021-2022, and one by 2023. One is a joint venture. So, all that is going to be helping us".

2.15 Future Plan of action:

As economy grows, consequently, the demand for chemicals also expected to see a healthy increase. To enhance domestic production of chemicals and check excessive imports into the country, the Department on a consistent basis looks for measures to put both tariff as well as Non-Tariff barriers.

Every year, Department consults industry associations & Pre-budget proposals are formulated after consultation. In general, where the gap between domestic capacity and demand is very small, capacity utilization is low, it is proposed to enhance Basic Custom Duty (BCD). In cases, where the gap between capacity and demand is very high, progressive increase in BCD is proposed for

incentivizing new investments for capacity creation. BCD on basic feedstock/ building blocks is proposed to be kept at the minimum & on intermediates is kept moderately high. BCD on finished products is kept higher than that is applicable to intermediates.

The Department has also initiated an exercise for making existing voluntary standards as mandatory so as to prevent import of poor-quality products and to ensure that the quality of domestically produced and imported chemicals and petrochemicals conform to BIS standards. So far, Department has made BIS standards mandatory for 34 chemicals & petrochemicals.

2.16 Changes proposed in taxes

On being asked to furnish the details of proposals in the Finance-Bill-2021 regarding changes in taxes / levies / cess/ surcharges affecting chemicals and petrochemicals industry, the Department of Chemicals and Petrochemicals informed in a written reply as below:-

S.No.	Specific Item	Basic Customs Duty	
		Earlier	Revised
1.	Naphtha	4%	2.5%
2.	Carbon black*	5%	7.5%
3.	Bis-phenol A*	Nil	7.5%
4.	Epichlorohydrin*	2.5%	7.5%
5.	Builder's ware of plastic, not elsewhere specified or included*	10%	15%
6.	Polycarbonates*	5%	7.5%
7.	Capolactam	7.5%	5%
8.	Nylon Chips	7.5%	5%
9.	Nylon fibre and yarn	7.5%	5%
10.	Methyl Diphenyllsocyanate (MDI) for the manufacture of spandex yarn	Nil	7.5

* Revised customs duties come into force with immediate effect.

Naphtha Duty reduced from 4% to 2.5%; decreased custom duty on naphtha is likely to further improve the utilization of crackers resulting in availability of cost competitive olefins and aromatics. Low cost naphtha will also make a way into the availability of ethylene and propylene for petrochemical intermediates in value chain. Further boost to the production of major basic petrochemicals.

Duty on Carbon black Duty increased from 5% to 7.5%; Carbon Black is used in making tyres. With the growth of automobile industry this would lead to new capacity creation of carbon black and also improve capacity utilization of domestic players.

Builder's ware of plastics Duty increased from 10% to 15%; It will help in Competitive prices of plastics for local plastic processors against cheaper imports. Further, it will increase in capacity utilization by the plastic processors.

Duty on Polycarbonates Duty increased from 5 to 7.5%; This is used to make shatterproof windows, lightweight eyeglass lenses, etc. The revised duty may attract new investment in the technology intensive polycarbonate market.

Duty on Methylenediphenyl diisocyanate (MDI) Duty increased from NIL to 7.5%; It is being used in the production of polyurethanes for many applications, spandex yarn, etc. The revised custom duty will attract investments in India given the rising demand of polyurethanes and presence of no local players.

2.17 Custom duty on Bis-phenol A, which is used to make polycarbonate plastic which in turn is used in many consumer products, has been increased from 0% to 7.5%. Custom duty on polycarbonates has been increased from 5% to 7.5%. When asked to state whether the above increase in custom duties will result in increase in prices of consumer products, the Department in a written reply stated as under:-

> "0 % to 7.5 % to rectify the inverted duty structure of Bis- Phenol A. The main raw materials for the manufacture of Bis-Phenol are Phenol and Acetone & applied rate of BCD is 7.5%whereas BCD on Bis- Phenol A was Nil. Inverted duty structure was needed to be corrected to attract future investments for Bis-Phenol A projects which is an important chemical finding applications in the manufacture of Polycarbonates, epoxy resins and adhesives. It will attract investment in these projects in future. Since, cost of these chemicals is only a part of the cost of consumer products, there may be some marginal rise in prices of consumer products. Marginal increase in prices of consumer products may be easily absorbed without much impact".

2.18 Moreover, custom duty on Chemicals Carbon Black which is as a colour pigment in ink-jet toners, as ink for printing newspapers, etc. has been increased from 5% to 7.5%. Custom duty on Epichlorohydrin which is used in adhesives, epoxy resins, plastics, elastomers, etc. has also been increased from 2.5% to 7.5%. In this regard, the Committee asked to state whether there is any possibility of increase in prices of products made from these chemicals. The Department in its written reply stated as follows:-

> "India has adequate domestic capacity of Carbon Black but substantial imports of carbon black takes place into the country. Installed capacity for the

manufacture of carbon black is reported to be 13.19 Lakh MT and production reported during 2019- 20 is 8.81 Lakh MT. The capacity utilization is of the order of 67%. As per industry estimates, capacity to the extent of 6.81 Lakh MT is in pipeline for implementation and expected to be fructified by 2022-23.So there is no demand supply gap in respect of this chemical. Hence, to provide a level playing field to the domestic producers of carbon black, custom duty has been increased from 5 % to7.5%. No substantial impact may be expected on prices of consumer products from this 2.5% rise in customs duty on carbon black.

With respect to Epichlorohydrin, an essential feedstock for production of epoxyresin , domestic demand is mainly met by imports and consumption has been growing at a CAGR of around 14-15 %. In order to boost domestic manufacturing capacity, custom duty has been increased. Prices of products from Epichlorohydrin may see some nominal increase in short term however, it will attract investment for capacity addition & boost manufacturing capability in the country".

2.19 The Finance Minister in her Budget Speech, 2021-22, stated." We have calibrated customs duty rates on chemicals to encourage domestic value addition and to remove inversions. Apart from other items, we are reducing customs duty on Naptha to 2.5% to correct inversion." In this regard, the Committee asked about the manner in which this reduction in customs duty likely to help chemicals and petrochemicals industry in the country. The Department in a written reply stated as under:-

"Naphtha is a important feedstock for manufacturing chemicals and petrochemicals. They provide building blocks such as olefins like Ethylene, Propylene, Butadiene and aromatic hydrocarbons like Benzene, Toluene and Xylenes etc. Due to non-availability of naphtha in sufficient quantity, it is imported for setting up cracker complexes and other production units to produce those bulk chemicals which are imported today on large scale. The reduction of duty from **4% to 2.5%** is likely to further improve the utilization of crackers resulting in availability of cost competitive olefins and aromatics. Low cost naphtha will also make a way into the availability of ethylene and propylene for petrochemical intermediates in value chain. Further boost to the production of major basic petrochemicals".

CHAPTER – III
DEMANDS FOR GRANTS

3.1 Budget Estimates, Revised Estimates and Actuals pertaining to the Department of Chemicals and Petrochemicals for 2021-22 are as under:-

(Rs. in crore)

ACCOUNT	2019-20	2020-21		2021-22
	ACTUAL	BE	RE	BE
REVENUE	365.10	218.34	222.00	229.64
CAPITAL	-	-	73.70	3.50
TOTAL	365.10	218.34	295.70	233.14

3.2 When asked about the rationale for fixing BE at Rs.233.14 crore which is less than Rs. 295.70 crore at RE for 2020-21 and the Actual Expenditure of Rs. 365.10 crore for 2019-20, the Department furnished the following written reply:

> "The Ministry of Finance had allocated Rs.233.14 crore to the Department as against the proposed total outlay of Rs. 276.60 crore in BE 2021-22, inclusive of mainly a total of Rs.117.88 for the Central Institute of Plastic Engineering & Technology (CIPET) and Rs.53.73 crore to New Schemes of Petrochemicals (NSP). In the BE of 2020-21, the Ministry of Finance made an allocation of Rs.218.34 crore. However, at the 1st Supplementary stage, the Department received Rs.73.70 crore as cash supplementary for interest free loan to Hindustan Fluorocarbons Ltd. (HFL) for paying liabilities towards VSS/VRS on account of closure of HFL as approved by Cabinet. An amount of 0.01 crore each, as Token amount was also granted for CIPET for retaining its sustainability due to COVID-19 Pandemic and Secretariat for establishing Investment Promotion/Project Development Cell n the Department. Despite the total BE standing at Rs.218.34 crore, the RE was enhanced to Rs.295.70 crore, mainly due to Rs.73.70 crore for Loan to HFL and Rs.50.00 crore as Grant-in-Aid General to CIPET for retaining its sustainability in the COVID-19 Pandemic".

3.3 Statement showing BE, RE and Actual Expenditure for 2020-21 and BE2021-22 for various heads:

(Rs. in crore)

Sr. No.	Head	BE 2020-21	RE 2020-21	Actual as on 29.01.2021	BE 2021-22
I	Central Sector Schemes				
1.1	Assam Gas Cracker Project (AGCP)#	0.01	0.00	0.00	0
1.2	New Schemes of Petrochemicals	53.79	22.85	11.74	53.73
1.3	Chemical Promotion & Development Scheme (CPDS)	3.50	2.80	1.21	3.00
	Total	57.30	25.65	12.95	56.73
II	Other Central Expenditure (Sectt/BGLD/ABs/PSUs)				
2.1	Secretariat/Economic Services	19.99	18.12	15.16	20.97
2.2	Central Institute of Plastic Engineering & Technology (CIPET)	98.25	146.30	94.50	117.88
2.3	Institute of Pesticides Formulation Technology (IPFT)	11.00	10.50	8.98	12.00
2.4	Hindustan Organic Chemicals Ltd.(HOCL)	0.00	0.00	0.00	0.00
2.5	HIL (India) Ltd. (HIL)	0.00	0.00	0.00	0.00
2.6	Hindustan Fluorocarbons Ltd (HFL)*	0.00	73.70	73.70	3.50
2.7	Bhopal Gas Leak Disaster (BGLD)	31.80	21.43	14.58	22.06
	Total	161.04	270.05	206.92	176.41
	Grand Total	218.34	295.70	219.87 (74.36% of RE)	233.14

BPCL implementing AGCP scheme transferred to MoPNG w.e.f. 01.01.2020.

*Cash Supplementary of Rs.73.70 crore was granted under 1st Supplementary 2020-21 so as to recoup the same amount to the Contingency Fund of India from where an interest free loan was granted to HFL for offsetting the immediate expenditure on liabilities as well as VRS/VSS for employees of HFL pursuant to the CCEA decision regarding closure of the company.

3.4 When asked for a note on break-up of BE 2021-22 proposed by the Department for different schemes and finally approved by Ministry of Finance along with their comments/reasons why the later did not allocate the funds as originally proposed by the Department, the Department furnished the following written reply:

> "The Department had proposed BE of Rs.276.60crore during 2021-22, the Ministry of Finance allocated only an amount of Rs.233.14crore. This was further allocated scheme wise by the Department, as follows:-

(Rs. in crore)

Sr. No.	Name of the Scheme	Proposed BE 2021-22	Approved BE 2021-22	Remarks
I	**Central Sector Schemes**			
1.1	New Schemes of Petrochemicals(NSP)	76.78	53.73	The overall budget allocation has been provided by MoF keeping in view of the pace of expenditure during FY 2020-21
1.2	Chemical Promotion & Development Scheme (CPDS)	3.00	3.00	
	Total	**79.78**	**56.73**	
II	**Other Central Expenditure (Sectt/BGLD/ABs/PSUs)**			
2.1	Secretariat/Economic Services	24.30	20.97	
2.2	Central Institute of Plastic Engineering & Technology (CIPET)	134.46	117.88	
2.3	Institute of Pesticides Formulation Technology (IPFT)	12.50	12.00	
2.4	Hindustan Organic Chemicals Ltd.(HOCL)	0.00	0.00	
2.5	HIL (India) Ltd. (HIL)	0.00	0.00	
2.6	Hindustan Fluorocarbons Ltd (HFL)	3.50	3.50	
2.7	Bhopal Gas Leak Disaster (BGLD)	22.06	22.06	
	Total	**196.82**	**176.41**	
	Grand Total	**276.60**	**233.14**	

3.5 On being asked whether the proposed BE of Rs.233.14 crore for 2021-22 will help the Department in achieving development goals envisaged for scheme/programmes of the Department and the extent to which the initiatives of the Department are likely to be affected due to fund cut by the Ministry of Finance, the Department in a written reply stated as below:

> "The Department has an allocation of BE Rs.233.14 crore for the year 2021-22. The requirement was to meet additional expenditure for the following: -

1. **CIPET**: - The Department of Chemicals & Petrochemicals has been providing financial support to the Central Institute of Plastics Engineering technology (CIPET) for strengthening its civil and technical infrastructure facilities, research and development capacities and academic and training initiatives. In 2021-22, an amount of Rs.117.88 crore has been allocated to CIPET at BE stage for activities as under: -

Scheme etc.	B.E. 2021-22
Enhancing capabilities in Academics and Skill Development at CIPET	96.87
Enhancing capabilities in R&D and Technology Support at CIPET	21.01
TOTAL	**117.88**

2. In 2021-22, an amount of Rs.53.73 crore has been allocated to **NSP** at BE stage for activities under Scheme for setting up of plastic parks and for setting up of Centres of Excellence. Due to curtailed Budget of Rs.43.00 crore for the year 2021-22, the pace of developmental activities for NSP & CIPET may likely to be affected, to some extent.

3.6 During the oral evidence of the representatives of the Department of Chemicals and Petrochemicals on Demands for Grants, 2021-22, when the chairperson of the Committee enquired about the funds which are being sought for Research and Development, a representative of the Department stated as below:

> "Madam, R&D is supposed to be basically steered in the private sector but wherever it is not possible, the Department intervenes and tries to take up those areas of research. In the polymer research, some amount of research is being done by the organization under this Department. In respect of pesticides, wherever there is a necessity and the public sector, is not willing to come forward but for the sustenance of the environment, we do need to intervene, in those areas we are trying to undertake research activities".

In this regard, another representative adding to it stated, "Madam, all private companies like Reliance and Vedanta and all our PSUs are heavily expanding into petrochemicals. A lot of R&D is going on in this field, as part of that not as a part of this Department'. When the Chairperson further pointed out that Private sector doing R&D and the Government doing it are two different things. Thereupon, Secretary of the Department responded as follows:

> "All the refineries are also focusing on petrochemicals and chemicals. Polymer-based refineries are also going into the business of

chemicals and petrochemicals and they have financial strength and wherewithal, they are also expanding on the R&D side. Obviously, it does not come under the Department of Chemicals and Petrochemicals but activities are happening. In so far as the Department is concerned, research activities are taken up for polymers in two centers. Yes, Madam. In two centres of CIPET also we have a research activity. Apart from that, we also have a scheme for the centre of excellence where for specified research activities; we support institutions for establishing centres of excellence in specific areas of research. There are eight or 10 centres of excellence which have been approved, out of which five have been completed and others are in the process. Those are basically depending on the specific areas and the competence of the institute and the institutes like National Chemical Lab. Pune, IIT Delhi, our own CIPET are in that job. In terms of money, it may not look big. In the centres of excellence, we do support Rs.6 crore but the institutions put their own money also. It is not just Rs.67 crore of this scheme. So, we are able to support the sector. More is always better."

CHAPTER IV

Central Sector Schemes of the Department

4.1 Earlier the Department was implementing three Central Sector Schemes namely, Assam Gas Cracker Project (AGCP), Chemical Promotion and Development Scheme (CPDS) and New Schemes of Petrochemicals (NSP). The scheme AGCP has already been transferred to Ministry of Petroleum and Natural Gas (MOPNG) w.e.f 01/01/2020. Now the Department implements only two Central Sector Schemes viz CPDS & NSP.

4.2 Major Head 2852 Industries

Chemicals Promotion and Development Scheme (CPDS)

(Rs. in crore)

Account	2019-20	2020-21		Actual 2020-21	2021-22
	Actuals	BE	RE		BE
Revenue	2.94	3.50	2.80	1.21*	3.00

*As on 29/01/2021

Objective of CPDS

4.3 Promotion and development of Indian chemicals and petrochemicals industry by providing grants-in-aid and logo support to Industry Associations for organizing seminars, workshops, conferences, etc. Funds for CPDS are being used for the following purpose:

(i) Knowledge creation & other promotional activities like study, exhibition, workshop, etc.

(ii) National Awards for Technology Innovation in Petrochemicals and downstream Plastic Processing Industry

4.4 When asked about the slow pace of utilization of funds in the current financial year i.e. 2020-21 and programmes/events wise break up of funds utilized and proposed to be utilized during 2020-21, the Department furnished the following information in its written reply:

"An amount of Rs.3.50 crore was allocated under the scheme during BE 2020-21. Due to COVID-19 pandemic, proposals were not received from the

autonomous bodies/PSUs/industry associations, therefore the budget allocation was reduced to Rs.2.80 crore under the scheme. Sanction to the tune of Rs.1.21 crore has been issued. A sanction of Rs. 5.0 lakhs is being issued to FICCI for organising the 9th National Agro-chemicals Conference.

Porgramme/ events wise breakup of Funds ulitilized: -

(Rs. in Lakhs)

S.No.	Event	Amount
1.	National Awards (1st installment)	46.0
2.	15 training programmes to be conducted by HIL	75.0
	Total	**121.0**

The funds expected to be utilized during the FY 2020-21

(Rs. in Lakhs)

S.No.	Event	Expected Amount
1.	9th National Agro-chemicals Conference	5.0
2.	India Chem 2021	70.0
3.	National Awards (2nd installment)	48.0
4.	Advancement in Polymeric Materials event	30.0
5.	Study on Disaster Management Plan (30% of Rs.19.7 lakh)	5.9
	Total	**158.9**

4.5 National Awards for Technology Innovations

The Department is implementing an award scheme to provide incentive for meritorious innovations & inventions in various fields of petrochemicals and downstream plastics processing industry. The scheme aims at incentivizing meritorious innovations and institutions in petrochemicals and downstream plastics processing industry by giving awards to each of these innovations. Central Institute of Petrochemicals Engineering and Technology (CIPET) is entrusted with the task of seeking and short-listing nominations for the scheme. The Department has been providing grant-in-aid to CIPET each year for administering the award scheme. Presently, the Scheme is being operated as sub-scheme of the Chemicals Promotion and Development Scheme. The National Awards for Technology Innovation are given in various categories for innovation in areas such as Polymeric

Materials, Polymeric Products, Polymer Waste Management and Recycling Technology and related areas. The prize money for winners is Rs. 3 Lakhs and Rs. 1 Lakh for the runner- ups respectively. The details of number of innovations declared as winners and runners-up since 2012-13 are given below:-

(P.6/Point 1©/Prel. Mat + P.23/AR/2020-21)

Sl. No.	Year	Winners	Runners-Up
1	2012-13	11	08
2	2013-14	17	06
3	2014-15	16	14
4	2015-16	17	14
5	2016-17	16	07
6	2017-18	07	08
7	2018-19	06	07
8	2019-20	04	09

4.6 The Committee during the oral evidence of the representatives of the Department on the Demands for Grants, 2021-22 asked the reasons for decreasing number of the winners and runners-up over the years for these awards. In response a representative of the Department stated as follows:

> "As per the scheme guidelines, there are identified areas and sub-areas for which maximum of 12 plus 12 awards, winners and runners-up, can be considered. Winners are awarded an award amount of Rs.3 lakh.…We have a technical committee which evaluates whether the proposals for the award are befitting or not. Based on the technical Committee's recommendations these awards are given. In case, the work for which an award application has been filed is not up to the mark, the award is not sanctioned. So, you will find that in some cases we are giving Runners-up award but not giving the winners award because the work carried out is not up to the level at which it can be recognized as a winner award".

4.7 Major Head 2852 - Industries - New Schemes of Petrochemicals (NSP)

(Rs.in Crore)

Item	Year	BE	RE	Actuals	% Utilization
Schemes of	2016-17	48.00	48.00	33.84	70.50%

Petrochemicals	2017-18	48.00	26.51	10.80	40.53%
	2018-19	55.50	19.00	19.00	100%
	2019-20	31.65	31.65	31.65	100%
	2020-21	53.79	22.85	11.74 (As on 29/01/2021)	51.38% (As on 29/01/2021)
	2021-22	53.73			

4.8 There are two sub schemes presently under New Schemes of Petrochemicals (NSP).

i. Setting up of Plastic Parks

ii. Setting up of Centres of Excellence.

4.9 When asked that Budgetary Estimate of Rs. 53.73 crore has been made for 2021-22 under this scheme against the proposal of the Department for Rs. 76.78 crore and whether this allocation is sufficient for effectively implementing all the components viz. 'Setting up of Plastic Parks' and 'Setting up of Centers of Excellence' and the extent to which each of these components are likely to be affected due to curtailment of budgetary allocation. The Department in its written reply has furnished the following reply:

> **"**In 2021-22, an amount of Rs.53.73 crore has been allocated to NSP at BE stage for activities as under and the breakup of amount are also given below:-
>
> The details break-up of funds proposed during 2021-22 (as per B.E. Rs. 53.73 crore) is given below:-
>
> i. Scheme for setting up of plastic parks
>
> a. Jharkhand Plastic park- 2nd installment = Rs.11.78 crore
> b. Tamil Nadu Plastic Park – part of 2nd installment = Rs.6.00 crore
> c. Bilaua, MP Plastic park – part of 3rd installment = Rs. 6.00 crore
> d. Assam Plastic Park – Part of 3rd installment (NER) = Rs.3.30 crore
> e. Uttarakhand Plastic Park – Part of 1st installment = Rs. 2.22 crore
> f. Two new Plastic Park – 1st installment = Rs. 12.00 crore
>
> ii. Scheme for setting up of Centres of Excellence
>
> (a) CoE at IIT, Roorkee -Final instalment = Rs.0.60 crore
> (b) CoE at NCL, Pune -Final instalment = Rs. 1.40 crore
> (c) CoE at CIPET, Bhubaneswar = Rs.2.00 crore

(d) at IICT, Hyderabad = Rs.2.00 crore
(e) CoE at NEIST, Jorhat, Assam (NER) = Rs. 2.43 crore
(f) Two new COE (Toy Manufacturing)- 1st installment = Rs. 4.00 crore

TOTAL Rs. 53.73 crore (approx.)

As regards the sufficiency of funds allocated for 2020-21, the Department in a written reply stated, "Due to curtailed Budget of Rs.9.22 crore for the year 2020-21, the pace of developmental activities for NSP would have been affected but due to Covid situation the reduced budget was sufficient for this year".

4.10 Setting up of Plastic Parks

The scheme aims at setting up of need based plastic parks, an ecosystem with state-of-the-art infrastructure and enabling common facilities through cluster development approach, to consolidate and synergize the capacities of the domestic downstream Plastic Processing Industry. The larger objective of the scheme is to contribute to the economy by increasing investment, production, export in the sector and also generation ofemployment. Under the scheme, the Government of India provides grant funding up to 50% of the project cost, subject to a ceiling of Rs. 40 crore per project. The remaining project cost is funded by the State Government or State Industrial Development Corporation or similar agencies of State Government, beneficiary industries and loan from financial institutions.

4.11 Under the Scheme, 7 Plastic Parks have been given final approval and 3 Plastic Parks have been given "in-principle" approval. On being asked to furnish a statement showing the present status of all the seven plastic parks approved, plot wise, including the reasons for delays in commissioning each of them, the Department of Chemicals and Petrochemicals furnished the following information in a written reply:-

Location	Final Approval	Land area (Acre)	Total Project Cost (Rs cr)	Total GoI support approved (Rs cr)	GoI support released till date (Rs cr)	Exp (Rs in cr)	Physical Prog as reported by SPV	Total no. of plots	No. of plots allotted
Tamot, MP	09.10.2013	122	108	40.00	35.90	75.64	100%	172	13

Bilaua, MP	20.12.2018	93	68.72	34.36	18.90	**35.37**	55%	107	1
Paradeep, Odisha	09.10.2013	120	106.78	40.00	36.00	109.35	95%	80	15
Tinsukia, Assam	21.02.2014	173	93.65	40.00	29.00	48.25	35%	104	10 sheds
Deoghar, Jharkhand	20.12.2018	93	67.33	33.67	6.73	8.49	28%	107	0
Thiruvallur, Tamil Nadu	30.07.2019	257	216.92	40.00	8.00	6.86	Land grading is under progress	65	0
Sitarganj, Uttrakhand	03.12.2020	40	67.73	33.90	-	-	-	80	-
Total			**729.13**	**261.93**	**135.53**	**283.96**			

The allocation of plots to entrepreneurs are done by State Govt. based on their individual criteria, based on the State Industrial Policy, demands from the industry and various other factors. The reasons of delay are given below:

i. **Tamot, Madhya Pradesh Plastic Park**: The physical progress of park is completed and procurement of few equipment of common facility centre (CFC) is in progress.

ii. **Tinsukia, Assam Plastic Park**: The progress of Assam Plastic Park has been stagnant due to lack of interest from the local entrepreneurs despite repeated attempts and perceptions/ apprehensions in the mind of investors about law and order. Also the frequent rain and flood in the region are a cause of delay. The disturbance caused due to protest in the area and pandemic situation since last one year are also delayed the work. However, work is under progress now.

iii. **Paradeep, Odisha Plastic Parks:** The physical progress of Odisha Plastic Park is almost complete and SPV are putting in all the efforts to allocate the plots to the industries.

iv. **Thiruvallur,Tamil Nadu, Plastic Park:** The earlier land area was coming under Costal Regulation Zone (CRZ), owing to which the location had to be changed by the State Govt. The approval for new location was accorded in Sept-2019.Now the developmental work has started in the park and is expected to be completed as per scheduled fixed by the SPV.

v. **Bilaua, Gwalior, Madhya Pradesh Plastic park**: The pace of progress of physical infrastructure in park is in line with the proposed timeline and approx 50% work is completed so far. The project is expected to be completed within stipulated period of 3 years.

vi. **Deoghar, Jharkhand Plastic Park**: The work of Plastic Park started after approval of State Government Cabinet in September-2019 and presently the work is in progress.

vii. **Sitarganj, Uttrakhand Plastic Park**: The final approval was granted recently and the release of first installment is under progress.

4.12 During the oral examination the Committee asked about the primary role of the industries which will be coming up in these Plastic Parks and their backward and forward linkages to which a representative of the Department submitted the following reply:

> "Sir, plastic park is basically for plastic processing industries. When I say plastic processing industry, that is the downstream and the upstream is the polymer. The polymers are manufactured by IOCL, GAIL, and Reliance. So, there are huge units. They buy the material and produce various types of components. It may be injection moulding, may be blow moulding, may be calendaring and may be packaging. All these components go to automobile, telecommunications, agriculture, food packaging, medical devices and almost everything. So, based on the States' proximity to the raw-materials, proximity to the port, proximity to auto-ancillary industries, the industries are encouraged to start the units. When they start the unit, the technical-economical feasibility report to hand-holding is done by shipyard. In addition to that, in Swatch Bharat Mission, the Department is encouraging to have some recycling industries so that plant waste as well as the waste around can be recycled and can be reused. So, this is what the downstream unit do. We have another scheme called PCPIR where petroleum region is also there. If you see the Paradip and other areas, the plastic processing industries are coming up".

4.13 The Committee during the oral evidence of the representatives of the Department of Chemicals and Petrochemicals on the Demands for Grants, 2021-22,

when asked about criteria to establish Plastic Parks in any state, the Secretary of the Department replied as below:

> "The concept of Plastic Parks is demand driven and there are various criteria and parameters for establishing it. For example, what is the need of the industry? That is one. Secondly, whether a State Government is interested in setting it up because they are the main driving force. But the primary problem is with regard to the acquisition of land. Land is a State Subject. Therefore, the involvement of State Governments is very important. For any success of the project, their involvement and interest are important. So, that aspect is being taken care of. The Department evaluates DPR -- whether it is feasible or not. Feasibility study is also done. So, that also comes through DPR. The DG (CIPET) is an expert in the subject. He chairs the technical committee which evaluates it. Then, we give in-principle approval. Once an in-principle approval is granted, then based on the suggestions of the said technical committee, State Government's SPV submits the final DPR. Once all the criteria are met, Government sanctions the plastic parks".

4.14 During the oral evidence, when the Committee further asked about the cost escalation of setting up of plastic parks due to delays in completion of various Plastic Parks including that of Tamot in Rajasthan, the Secretary of the Department stated as under:

> "The scheme envisages that the State Government has to formulate a Special Purpose Vehicle wherein either the State Government or its one of the units have to have minimum 26 per cent of the equity contribution, as also provide for the land free of cost for implementation of the Plastic Parks project. So, the implementation of the project and the proposal for the project is led by the State Government. One of the challenges which have happened, as my colleague mentioned, is oppositions at the time of acquisition of the land. Or, in case, if there has been an industrial park next to the proposed plastic park, then the State Government sees that it may not go off quickly. So, the implementation gets slowed down by the State Government. As my colleague mentioned, insofar as the Government of India is concerned, the Government of India's contribution is limited to 50 per cent of the total cost or Rs.40 crore, maximum. If you look at this project (Tamot), the estimated project cost is about Rs.108 crore. The Government of India's contribution, in any case, is capped by Rs.40 crore which is what was sanctioned even in 2013. So, in terms of liability on Government of India, it does not increase. But, yes, delays do increase the liability of the State Governments".

4.15 The Committee further suggested that while granting such schemes, the Department should put a strict timeframe for the state governments for initiation and completion of different stages of scheme. In this regard, the secretary to the Department stated as follows:

> "It is a very valid point, Sir. In fact, about two years back, the Government of India decided to modify the guidelines and has very clearly, as you are pointing out, put specific milestones. Also, to ensure that these projects take off well, it has also included brownfield projects for improvement facilities. It is because a greenfield project may require a much bigger investment. So, it is absolutely well taken. In fact, I had a review meeting with two of the State Governments already, and with the remaining three State Governments I am having the meeting in the first week of March. The point is well taken. We will definitely pursue to push the project's completion."

4.16 Setting up of Centres of Excellence (CoE) in Polymer Technology

The scheme aims at improving the existing petrochemicals technology and research in the country and to promote development of new applications of polymers and plastics. In phase-I of the Scheme implemented up to 2017, the Government of India provided financial support to the extent of maximum of 50% of the total cost of the project subject to an upper limit of Rs. 6 Crore over a period of 3 years. The Scheme was extended upto year 2020 with modified guidelines in 2016-17, which aim at promoting applied research and technology transfer from Lab to Industry and funding of Rs. 5 crore per CoE. So far, eleven Centres of Excellence (CoE) within the premises of reputed educational/research institutes approved and established as per following details:-

S.No	Name of the institute where Centre of Excellence (CoE) has been established	Title of Centre of Excellence	Total Project Cost (Rs in crore)	GoI grant-in- aid approved (Rs in crore)
1	National Chemical Laboratory, Pune	Sustainable Polymer Industry to research & innovation	12.00	6.00
2.	Central Institute of Petrochemicals Engineering & Technology, Chennai	Green Transport Network (GREET)	18.98	6.00
3.	Central Institute of Petrochemicals Engineering & Technology, Bhubaneswar	Sustainable Green Materials	15.045	6.00
4.	Indian Institute of Technology, Delhi	Advanced Polymeric	12.00	6.00

		Materials		
5.	Indian Institute of Technology, Guwahati	Sustainable Polymers (Sus-Pol)	14.74	6.00
6.	Indian Institute of Technology, Roorkee	Process Development, Wastewater Management in Petrochemical Industries	13.13	4.40
7.	Central Institute of Petrochemicals Engineering & Technology, Bhubaneswar	Bio-engineered Sustainable Polymeric Systems	10.01	5.00
8.	National Chemical Laboratory, Pune	Specialty Polymers for Customized	5.60	2.80
9.	CSIR-IICT, Hyderabad	Polymer Coatings for Decorative, Protective and Strategic Applications	9.72	4.86
10.	CSIR–NEIST Jorhat- Assam	Polymers, Their Composites and Polymeric Membranes for Sustainable Development of Petroleum Industries	24.75	4.99
11.	CIPET, Chennai	Manufacturing of Next Generation Bio-Medical Devices	10	5

4.17 When asked to furnish the details of funds provided, goals set and achievements made by each of COEs set up under the Scheme including technologies transferred from Lab to Industries and the resultant impact thereon, the Department in a written reply stated as follows:-

Sl. No.	CoE	Goals	Achievements
1	CoE for Green Transportation Network (GREET) at CIPET, Chennai in collaboration with University of Toronto(UoT), Canada Approval date: 23.03.2011 Amount of funds released: Rs. 6.00 crore	(i) Design and engineering of lightweight and sustainable hybrid green composite auto parts; (ii)Development of dimensionally and thermally stable green composites; (iii) Performance evaluation, life cycle analysis, recyclability and prototyping.	• Development of Light weight sustainable bio composites from long and short fiber reinforced composites and nano composites for fuel efficient automobiles. • Development of Nano enhanced structural hybrid composites from natural fiber derivatives. • Utilization of functional polymer blends and nanocomposites for interior and exterior auto parts.
2	CoE for Sustainable Polymer Industry through Research Innovation & Training (CoE-SPIRIT) at National Chemicals Laboratory (NCL), Pune Approval date: 23.03.2011 Amount of funds released: Rs. 6.00 crore	(i) Research and Scientific Services Program (RSSP) – fundamental research on Reactor-Structure-Property Relationship (RSPR) (this includes reactor modeling, processing simulator and structure development); and (ii) Learning and Sharing Program (LSP).	• Catalyst development for newer class of meta-stable polyethylene's. • CoE facilities have also been utilized for helping Indian industries and also UG/PG students for characterizing polymers at nominal rates and a revenue of about Rs 21 lac have been generated from testing activities so far. • In this period, following two important projects have been sponsored; i. Novel UHMWPE blends with M/s Reliance Industries Ltd.(RIL) and ii. Chemical analysis of PE waxes with M/s Gulbrandsen, which are collectively worth about Rs. 50 lac.

3	CoE for Advanced Polymeric Materials at IIT, Delhi Approval date: March, 2013 Amount of funds released: Rs. 6.00 crore	(a) Fabrication, characterization of polymer nano-composites and their performance assessment to enable new application development; (b)Synthesis and characterization of polymer based composites and other materials for EMI shielding applications; and	• Various studies have been undertaken on various topics I. Filled acrylate based restorative composites. II. PLA/SEBS-g-MA blends III. SO-CO_2 process ability of Poly lactic acid based clay nanocomposites. • Functional polypropylene random copolymer composites for EMI shielding applications has been developed.
4	CoE on Sustainable Green Materials at CIPET, Bhubaneswar in collaboration with Michigan State University (MSU), USA Approval date: March, 2013 Amount of funds released: Rs. 6.00 crore	Phase I: Bio-resins from vegetable / plant oils (non-edible); Phase II: Bio-based adhesives /coating materials with enhanced curing mechanism from renewable resources; Phase III: Blends and composites from bio-resin / recycled plastics	• Bio based resins from plant oils I. Comparative analysis of bio resins with their petroleum based counter-parts. II. Specific characterization studies for adhesive & coating application • Eco-friendly recycled polymer blends I. Property analysis of recovered plastics and their comparison with virgin materials II. Development of novel formulations for enhancing the useful properties of recovered plastics.
5	CoE for Sustainable Polymers at IIT, Guwahati Approval date: March, 2013 Amount of funds released: Rs. 6.00 crore	To develop cost-effective and scalable technologies for the production of biodegradable polymer based end products using both petrochemical and renewable bio-feedstock.	• Industrially viable process for high barrier PLA- chitosan based films successfully achieved. • Sophisticated Polymer laboratories have been developed. • Organized ASP 16 Conference in Kyoto, Japan • CoE- SusPol activities presented in Taiwan, IIT Delhi, Guelphn, Canada.

6	CoE for Bio-engineered Sustainable Polymeric Systems at CIPET, Bhubaneswar Approved on 12th Feb, 2019 Funds released so far:Rs.5.00 crore	To develop sustainable Polymers for use in agriculture and various other fields.	The research work at the CoE is currently under progress
7.	CoE on Process Development, Wastewater Management in Petrochemical Industries at IIT, Roorkee Approved on: 12th Feb, 2019 Funds released so far: Rs. 3.77 cr	To develop a noble and sustainable process for waste water management in the Petrochemicals Industries and other industries.	The research work at the CoE is currently under progress
8	CoE on Specialty Polymers for Customized Additive Manufacturing at NCL, Pune Approved on : 12th Feb .2019 Funds released so far: Rs.1.40 crore	To develop specialty polymers for additive manufacturing (3D printing)	The research work at the CoE is currently under progress

The name and number of technologies transferred from Lab to Industries and the resultant impact thereon are as follows**:**

a. CoE for Green Transportation Network (GREET) at CIPET, Chennai in collaboration with University of Toronto (UoT), Canada.

- 52 nos. of papers have been published in peer reviewed international Journals.
- 19 nos. of research scholars completed their PhD thesis – 15 nos. under regional universities & 05 nos. of University of Toronto, Canada

Validation of developed technology

- Prototypes of automobile components have been developed from the composition developed – Automobile bumper, A/C panel, Mirror cover
- Validated at M/s Ford, Canada.

b. CoE for Sustainable Polymer Industry through Research Innovation & Training (CoE-SPIRIT) at National Chemicals Laboratory (NCL), Pune

Two important projects have been sponsored:

- Novel UHMWPE blends with M/s Reliance Industries Ltd.(RIL) and
- Chemical analysis of PE waxes with M/s Gulbrandsen, which are collectively worth about Rs. 50 lac.

c. CoE for Advanced Polymeric Materials at IIT, Delhi

- The CoE was mainly focused upon establishing research equipment's and facilities at Laboratory level. The equipment's installed under the CoE are being used by Research Fellows at various levels.

d. CoE on Sustainable Green Materials at CIPET, Bhubaneswar in collaboration with Michigan State University (MSU), USA

- A consultancy assignments in the area of coating was received by CIPET due to the research work done at CoE-SGM.

e. CoE for Sustainable Polymers at IIT, Guwahati

- Six Indian patents have been filed on the CoE-SusPol research
- CoE-SusPol @IIT Guwahati can be used as base Research and Development and Testing laboratory for recently commissioned Brahmaputra Cracker and Polymer Limited, Assam.
- Facilities established at CoE-SusPol @IIT Guwahati are being used by BCPL for research and training purpose. (Reply to Q.7(a)/p.22-24/LOP)

"During the year 2020-21, three new CoEs were approved at CIPET, Bhubaneswar, CSIR-IICT Hyderabad and CSIR-NEIST, Jorhat (Assam). When asked to furnish the present status of these CoEs, the Department in written reply stated, "The three CoEs approved at CIPET, Bhubaneswar, CSIR-IICT Hyderabad and CSIR-NEIST, Jorhat (Assam) are currently

completing their pre-release formalities as per the Scheme Guidelines. The Memorandum of Agreement (MoA) has been signed with all three of these institutes and the process of releasing 1st installment is under progress."

4.18 In regard to a query of the committee about monitoring and third party evaluation of new schemes of petrochemicals, the department in its preliminary material on demends for grants, 2021-22 has stated, "The project is continuously monitored and reviewed by Department of Chemicals and Petrochemicals and based on the review and feedbacks from all stakeholders, the Department has revised the scheme guidelines for the scheme of setting up of Plastic Parks and has now included the criteria of approving Brownfield projects and has promoted the lease/rent model for increasing the viability of the scheme along with certain other minor amendments. As per direction of NITI Aayog, third party evaluation of NSP is under progress".

CHAPTER V

AUTONOMOUS INSTITUTIONS

5.1 MH 2852- Industries

CENTRAL INSTITUTE OF PETROCHEMICALS ENGINEERING & TECHNOLOGY (CIPET)

Central Institute of Petrochemicals Engineering & Technology (CIPET) (formerly known as Central Institute of Plastics Engineering & Technology) is a centrally funded technical higher education institution under the Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India fully devoted to Skill development, Technology Support, Academic & Research (STAR) activities for the growth of Petrochemical industries in the country. CIPET operates at 37 locations spread across the country which includes 7 Institute of Plastics Technology (IPTs), 23 Centres for Skilling and Technical Support (CSTS), 03 School for Advanced Research in Polymers (SARP), 3 sub-centres and 01 Plastics Waste Management Centre. Apart from the above, CIPET is also in the process of establishing 9 more Centres at different parts of the country including 4 Plastic Waste Management Centres. CIPET Centres have state-of-the-art infrastructural facilities in the area of Design, CAD/CAM/CAE, Tooling & Mould manufacturing, Processing, Testing and Quality Control to cater to the needs of polymer and allied industries. CIPET has enriched its civil & technical infrastructure facilities which has resulted in ensuring consistent growth in all the domains of Plastics Engineering &Technology viz., Skill Development, Technology Academic and Research & Development and had been operating on self-sustainable mode since 2008-09 onwards. Department of Chemicals and Petrochemicals supports CIPET with budgetary support for the development of its infrastructural and technical facilities. During the financial year 2020-21, CIPET is committed to generate an income of Rs.330.00 crore with the budgeted revenue expenditure of Rs.270.00 crore.

(Rs. In Crore)

Year	BE	RE	Actual
2019-20			81.50
2020-21	98.25	146.30	94.50 (As on 31/01/2021)
2021-22	117.88		

5.2 When asked about the CIPET schemes/projects for which Rs. 117.88 crore has been estimated during 2021-22 the department in its written reply has furnished the following information:

> CIPET schemes / projects for which Rs.117.88Crores has been estimated during the year 2021-22 are as under;

Scheme etc.	B.E. 2021-22
Enhancing capabilities in Academics and Skill Development at CIPET	96.87
Enhancing capabilities in R&D and Technology Support at CIPET	21.01
TOTAL	**117.88**

5.3 On being asked about the reasons for variation in Budget Estimates, Revised Estimates and Actual Expenditure for the years 2020-21 the Department in its written reply has stated as below:

> "CIPET was allocated Rs.98.25 Cr at B.E. 2020-21. However, due to lockdown in the country for Covid-19, the Institute could not continue its various activities such as regular courses, etc. and suffered loss of revenue. Therefore, it proposed a one-time grant of Rs.144.00 crore from the Govt. An amount of Rs.50.00 crore was agreed to by M/o Finance at RE 2020-21 subject to overall RE ceiling of Rs.295.70 crore.The overall Budget allocation for CIPET has been enhanced to Rs. 146.30 crore at RE 2020-21."

5.4 Department of Chemicals and Petrochemicals proposed a budgetary allocation of Rs.134.46 crore for 2021-22 but the Ministry of Finance has allocated only Rs.117.88 crore at BE stage for 2021-22. When asked whether this allocation is sufficient for meeting the requirements of CIPET during the year, the Department stated in a written reply as under:

> "The amount of Rs.117.88 Crores is lesser than the requirement to meet the execution of existing schemes for the current year. This may affect the construction of Hostels, procurement of plant & machinery, planned training programme with consequent effect of less skill development training."

5.5 Since the lock down during COVID 19 pandemic severely affected the operations of CIPET, it requested a one time grant of Rs 144 crore at R.E stage during 2020-21 for sustenance due to revenue loss. However, an amount of Rs.50.00 crore was only allocated by M/o Finance at RE 2020-21. In this regard, the

Committee enquired about the present status of functioning of CIPET in the light of the lower budgetary allocation. In this regard, the Department in its written reply stated:-

> "CIPET had requested an amount of Rs.144.00 Crores as one time grant from Govt. of India for meeting the unavoidable minimum recurring expenditure for the year 2020-21. Out of Rs.144.00 Crores, an amount of Rs.50.00 Crores has been approved as one-time Grant-in-Aid (General). Out of this, an amount of Rs.21.50 Crores has been released so far, which has been utilized for the purpose of meeting the unavoidable recurring expenditure of CIPET Centres. CIPET has resumed regular training courses through online mode for all the Long Term Courses and for skilling, offline courses are also started at few centres as per the operating guidelines of the respective States.CIPET has generated the Income of Rs.147.56 Crores till January, 2021 (2020-21). 24,690 nos. of candidates trained through Long term and skill development programmes and 60939 nos. of assignments undertaken under Technology Support services till January, 2021. CIPET is committed to meet the assigned target in all the domains of its activities and programmes for the FY 2020-21. More focussed attention will be given in enhancing the students intake capacity, Skill development training programme, undertaking more number of Technology Support Services assignments and sponsored R & D projects in the emerging area of Polymer Science & Technology to enriched interface with industries / elite institutions across the globe".

Plastic Waste Management Centers

5.6 (a) Standing Finance Committee (SFC) on CIPET's programmes held under the Chairmanship of Secretary (C&PC) on 21.10.2019 at New Delhi has approved setting up of Plastic Waste Management Centers (PWMCs) at four CIPET centres with the total Project cost of Rs. 24 crore and with the Government of India's contribution of Rs. 21.60 crore therein. Objectives of PWMCs have been given below:-

- Segregation / sorting, cleaning and recycling of plastics waste.
- Cleaning and Optimization of processing conditions with improved compatibility among the different plastics.
- Characterization and generation of datasheet of the optimized material obtained from developed plastics wastes.
- Product development for economic aspects.
- Assessment of recyclability of developed pellets.

- To develop skill manpower for plastics recycling industries.
- To promote effective plastics waste management solutions.
- To develop eco-friendly value added recyclates.

(b) A Central Pollution Control Board (CPCB) report (2018-19) puts the total annual plastic waste generation in India at 3.3 million metric tonnes per year.

(c) Central Pollution Control Board (CPCB) conducted study in 60 major cities of India and estimated that around 4059 tonnes per day of plastic waste is generated from these cities. Detailed information on the same is given in Annexure I of this report.

5.7 On being asked whether the Government of India's contribution of Rs. 21.60 crore has been disbursed to CIPET, the Department in a written reply stated as below:

> "The proposal of CIPET was approved by Govt. of India vide meeting of Standing Finance Committee (SFC) on CIPET's schemes held on 21.10.2019. As per recommendations, an amount of Rs.202.87 crores has been allocated for various schemes of CIPET including setting up of Plastics Waste Management Centres at four locations. As per B.E 2021-22 of Rs.117.88 Crores, an amount of Rs.11.60 Crores has been estimated for setting up of Plastics Waste Management Centres at four locations".

5.8 In regard to a query of the Committee about the names of CIPET centres where these centres are being set up/ proposed to be set up and the time frame for the same, the Department in a written reply stated as below:

> "The Plastic Waste Management Centres proposed to be set up by CIPET in the following places;
>
> i. Ahmedabad
> ii. Bengaluru
> iii. Patna
> iv. Varanasi
>
> All the 4 PWMCs is expected to be functional by end of FY 2021-22".

When it was asked whether there is any proposal to set up more PWMCs in the country, the Department in its written reply stated, "At present there is no proposal. However after the establishment of the above 4 Plastic Waste Management Centres & based on their performance, more centres can be planned".

MH- 2852 Industries- Institutes of Pesticides Formulation Technology (IPFT)

5.9 Institute of Pesticide Formulation Technology (IPFT) located at Gurugram Haryana, is a registered Society under the Societies Registration Act - 1860 under the Department of Chemicals & Petrochemicals. IPFT is the only Institute of its kind devoted to the development of state-of-the-art user and environment friendly new generation pesticide formulation technologies. IPFT T is also helping the industries in data generation as per CIB/RC guidelines for bio-efficacy, phytotoxicity and pesticide residue analysis for both agriculture and house hold formulations. IPFT undertakes both in-house and external funded R & D projects. The following are the Objectives of the Institute:-

- Development and production of the state-of-the-art user and environment friendly new generation pesticide formulation technology.
- Promotion of efficient application technologies suiting the existing requirements of the newer formulations.
- Information dissemination of safe manufacturing practices, quality assurances, raw material specification and sources.
- Analytical and consultancy services.
- Fostering the improvement

The following table provides budget allocation for IPFT: -

(Rs. in crore)

Head	Actuals 2019-20	BE 2020-21	RE 2020-21	BE 2021-22
Grants in aid general	1.50	2.50	2.50	2.50
Grants for creation of capital assets	3.00	5.00	4.50	6.00
Grants in aid Salary	3.5	3.50	3.50	3.50
Total	8.00	11.00	10.50	12.00

5.10 Out of Rs.10.50 crore allocated at RE stage of 2020-21, Rs.8.98 Crore has been spent as on 29/01/2021. In this regard, when asked whether IPFT would be able to spend the rest of the amount before 31 March 2021, the Department in a written reply stated as under:-

"Yes. The balance amount of grant will be utilized for the committed expenditure during the year. Proposed utilization is as under –

Head	RE 2020-21	Release as on date	Balance	Remarks
Grants in Aid-General	2.50	2.18	0.32	The same will be utilized for recurring expenditure.
Grants for creation of capital assets	4.50	3.90	0.60	Orders for procurement of capital items for creation of GLP Laboratory have been released and the same will be utilized.
Grants in Aid - Salary	3.50	2.90	0.60	The same will be utilized under Grant-in-Aid Salary.
Total	**10.50**	**8.98**	**1.52**	

5.11 Institute of Pesticides Formulation Technology (IPFT) has been provided Rs 12.00 crore in BE 2021-22 in comparison to Rs 10.50 crore at RE stage during 2020-21. On being asked about the manner in which the enhanced funds are goint to be utilized by IPFT in the coming financial year, the Department in a written reply stated as below:-.

"The enhanced budget is for procurement of capital items in terms of creation of GLP facility at IPFT. Pesticide Industries are in need of GLP laboratories for generating several data on their molecules. At present in India, only toxicological data for pesticide generated from a GLP facility is mandatory. Other data like chemistry of pesticides, residue data, bio-efficacy & phyto-toxicity data are acceptable from non-GLP lab/ facility also. At present no Government lab is GLP certified for Physico-Chemical testing of pesticides. In addition, as nanotechnology is the emerging area of research, testing and characterization of nanotechnology based products with improved efficacy will be the future requirement. Therefore, establishment of GLP facilities for pesticides and heavy metals is the need of the hour. Establishment of GLP laboratory at IPFT will be beneficial for the Indian industries specially for small and medium scale and also for multinationals industries. Therefore, to cater the need of Indian industries as well as multinationals companies, IPFT has

submitted application with Quality Council of India for recognition of its laboratory as GLP Certified Laboratory."

5.12 In regard to the contributions made by IPFT in creation of cost effective and environmental friendly pesticide formulations particularly bio-pesticide formulations since its establishment, the Department in a written reply informed the Committee as under:-

"Institute of Pesticide Formulation Technology is actively engaged in development of user & environment friendly and cost effective formulation of pesticides. The Institute has successfully developed following bio-botanical based pesticide formulations as safe alternative to synthetic pesticides:

1. **Development and Promotion of Non-POPs alternatives to DDT**-Bio- and botanical pesticides and locally appropriate cost-effective and sustainable alternatives to DDT have been developed for eventual elimination of dependency on DDT, ensuring food safety, enhancing livelihood and protecting human health and environment. The technologies of Neem based Spreading Oil, Suspension Concentrate, Coil, Cream, Tablet have been developed and transferred to HIL India Limited for commercialization.

2. **Development of Verticilliumlecanii Suspension concentrate (SC) formulation** - For minimization of chemical pesticide residues in Seed spice crops, bio-pesticide Verticilliumlecanii Suspension concentrate (SC) formulation has been developed in collaboration with ICAR- National Research Centre for Seed Spices, Ajmer. This bio-pesticide formulation has been found effective in controlling various insects in seed spice crops like Aphis craccivora-in fenugreek, Myzuspersicae and Aphis gossypii in Cumin and Hyadaphis in coriander. Patent has been filed for the formulation. Development and bio-efficacy studies on bio-botanical based Hirsutellathompsonii, and Eucalyptus extracts is in progress.

3. **Development of Surface Disinfectant Spray formulation**- IPFT has developed, Surface Disinfectant Spray formulation with botanical based anti-microbials for the surface applications. The formulation may be effective in prevention from various communicable diseases and COVID-19.The technology has been transferred to a MSME unit for commercialization.

4. **Development of Water Dispersible Granules formulation of HYTC bio-fertilizer**-The technology of Water Dispersible Granules formulation of HYTC bio-fertilizer has been developed. The formulation is suitable for soil application and adding into irrigation water. The formulation readily disperses

in water and improves availability of nutrients to roots of the plants. The technology has been transferred to industry for commercialization.

Our country is rich in bio-diversity with different Plants & herbs of pesticidal and medicinal properties. Therefore, this Institute has submitted SFC proposal to DCPC for opening of its new centres in the areas which are rich in bio-diversity and industrial hub for pesticide industry".

5.13 During the oral evidence of the representatives of the Department of Chemicals and Petrochemicals, the Committee asked about the development of environment friendly pesticide formulations by IPFT. In this regard, IPFT has furnished the following post evidence reply:

Disadvantages of Conventional formulations

The conventional formulations Emulsifiable Concentrate (EC), Soluble Concentrate (SL), Wettable powder (WP), Dust (DP), and Granules (Gr.) give sufficient bio-efficacy but have shortcomings in respect of safety to mammalians, non target organisms and environment. The EC formulations contains large amount of petroleum distillate organic solvents and pose the risk of flammability during storage and transportation and application. The organic solvents have the risk of phytotoxicity to the crops and higher dermal toxicity to users. After application in the agricultural fields, the organic solvents evaporate and contaminate the environment. The Dust and WP formulations contain very fine powder, which pose the risk of inhalation to humans and contamination of environment at the time of production, packaging and application. To control the target pests, high amounts of conventional formulations are used, which cause environmental contamination, health hazards to the farmers and pesticide residue problem in food products.

To minimize the risks and disadvantages of conventional formulations, IPFT is developing following types new generation pesticide formulations for safety of user and environment:

1. Safer formulations of synthetic pesticides:

The new generation formulations produce adequate bio-efficacy and minimize the disadvantages and problems associated with the use of conventional and solvent based formulations. The New generation formulations readily disperse in water and form a homogeneous spray suspension. These formulations contain no or minimum solvent, therefore, safer to the user and do not create

the hazards produced by conventional formulations. Fine size of dispersed particles or droplets provides very good bio-efficacy on the target pests at the same or lower doses of pesticides. These formulations minimize the risk of dermal toxicity, flammability, phytotoxicity and pesticide residue in food products. IPFT has developed more than sixty five formulations of different types like Suspension Concentrates, Water Dispersible Granules, Controlled Release Formulations, Concentrated Emulsions, Microemulsions, Suspo–emulsions, Micro and Nano encapsulation, Gel, Tablet, ZW, ZC Formulations. The technologies of SC formulations of Hexaconazole, Sulphur, Carbendazim, Fipronil, Isoproturon, Metamitron, WDG formulations of Isoproturon, Metamitron, Mencozeb, Chlorothalonil, Diuron, Thiram, Deltamethrin, Thiamethoxam, SG formulation of 2,4–Sodiumm, Microencapsulation of Lambda Cyhalotrhrin, Gel Bait of Imidacloprid have been commercialised by the pesticide industries.

The development work on slow release formulation of Pyriproxyfen for mosquito larvae control, Penconazole ME formulation for fungal disease control in plants is on progress.

2. Bio- botanical formulations

IPFT has developed different bio-botanical formulations as safer alternative to synthetic pesticides. Under UNIDO sponsored project entitled “Development and Promotion of Non-POPs alternatives to DDT”, the technologies of Neem based Surface Spreading, Suspension Concentrate, Tablets, Mosquito repellent cream and coil formulations have been developed and transferred to HIL for commercialization. Bacillus thuringiensis based Suspension Concentrate, Wettable Powder, and Surface Spreading formulations have been developed for mosquito control applications.

Neem based WDG formulation and Micro-emulsion formulations have been developed for agricultural applications. In collaboration with ICAR- National Research Centre for Seed Spices , Ajmer Verticillium lecanii based Suspension concentrate (SC) formulation, Oil dispersion (OD) formulation of Sisham leaf extract have been developed. . In the bio-efficacy studies, the formulations have been found effective against Aphids of spice crops. Recently, the work for developing the formulations for controlling Orobanche weeds, which is a serious threat to mustard crop, has been started in collaboration with ICAR-Directorate of Rapeseed Mustard Research (DRMR), Bharatpur. Workshop was organised jointly by ICAR-DRMR and IPFT on 29th

January, 2021 in the farmers fields in Bharatpur and training was given to farmers for applying extracts from locally available botanicals like; Sisham leaves and Neem seeds for controlling various insects in crops.

IPFT has developed, Surface Disinfectant Spray formulation with botanical based anti-microbial for applying on different surfaces. The formulation may be effective in prevention from various communicable diseases and COVID-19. The technology has been transferred to a MSME unit for commercialization. The technology of Bio-fertilizer HYTC –Chitin developed and transferred to industry. It has been commercialized.

IPFT has developed botanical based low cost adjuvant, this adjuvant found in abundance enhances the efficacy of Neem products. The adjuvant is found effective in controlling mosquito larvae and insects like white fly in vegetable crops. Aphids including Hyadophis coriandri- Aphid of coriander, Aphis craccivora- Aphid of fenugreek, Myzus persicae and Aphis gossypi- Aphid of Cumin when applied with Neem at lower doses. In the bio-efficacy studies conducted at NRCSS, Ajmer, the he botanical adjuvant was also found effective in dose reduction of synthetic pesticides like Thiamethoxam in Seed spices crops.

The work for developing bio-pesticide formulations from Gaur seed (Cluster Beans) extract and Aak (Calotropis gigantean) for agricultural application and bio-pesticide combination formulation for mosquito control applications is on progress.

5.14 When asked whether there is there any effective research output of the IPFT to contain the menace of frequent locust attack in India, the Department stated in a written reply as below:

"Locust had spread across different regions in India in 2020 and in-spite of measures taken for its control, it devoured various crops and caused serious agricultural damage. IPFT has initially started development of synthetic and bio-botanical based formulations for Locust control. A project will be submitted to DCPC for development of formulations for Locust control".

CHAPTER VI

PUBLIC SECTOR UNDERTAKINGS

HINDUSTAN ORGANIC CHEMCIALS LIMITED (HOCL)

6.1 Hindustan Organic Chemicals Limited (HOCL) was incorporated on 12th December, 1960 as a Government company with the objective of setting up manufacturing capacities for chemicals / intermediates required for production of dyes, dyes–intermediates, rubber chemicals, pesticides, drugs and pharmaceuticals, laminates, etc. The company had two manufacturing units located at Rasayani (Maharashtra) and at Kochi (Kerala). The Rasayani unit (Chemical Complex) started production from 1970-71 and the Kochi Unit (Phenol Complex) commenced production from 1987-88. The Kochi unit has plants to manufacture Phenol, Acetone and Hydrogen Peroxide. After the implementation of restructuring plan for HOCL that was approved by the Government of India on 17.05.2017, Rasayani unit has been closed down and the strategically important Concentrated Nitric Acid (CNA)/ Di-nitrogen Tetroxide (N_2O_4) plant has been transferred to the Department of Space/ISRO. The CNA/ N_2O_4 plant is the only facility for production of N_2O_4 in India which is used exclusively by ISRO in its rocket launching programme.

6.2 Disposal of land under restructuring plan

It may be seen while Rasayani unit has been successfully closed down under HOCL's restructuring plan, significant progress has also been made in the implementation of other aspects of the restructuring plan as mentioned above. However, disposal of unencumbered land assets of HOCL at Rasayani has been delayed due to various reasons. So far out of total of approx. 684 acres of land approved by the Govt. for sale to BPCL, sale & registration of only about 374 acres have been completed. Sale of balance approx. 310 acres land has been affected by law & order situation due to protests by the local villagers to fencing of the purchased land by BPCL and their demand for compensation. The Committee under Divisional Commissioner, Konkan, constituted by the Maharashtra Govt. to address the concerns and demands of villagers in respect of HOCL land sale to BPCL has submitted its report to State Government. Decision of the State Govt. on the said report is awaited. Sale of the balance 250+ acres land at Rasayani can be taken up only after the above issues are resolved. NOC for the sale of 7 acre of land at Panvel and a 16,800 sq ft plot at

Rasayani to IOCL is also pending since long with the State authorities. The Department and HOCL is closely following up the matter with the State Govt. at the highest levels for expediting resolution of the issues delaying disposal of HOCL's unencumbered land at Rasayani and Panvel.

6.3 Financial Performance

Financial performance of HOCL in terms of turnover and net profit / loss for the last 5 years and net worth as on 31.3.2020 are given below:

(Rs. In crore)

Year	Turnover (Gross)	Net Profit / (Loss)
2015-16	120.79	(173.91)
2016-17	158.21	(255.57)
2017-18	242.33	(203.45)
2018-19	471.99*	70.88**
2019-20	300.01#	(94.68)

Net-Worth (as per new accounting standard Ind AS which includes revaluation of land and other assets) as on 31.03.2020:
(+)Rs. 29.02 Crore.
Net-Worth as per the Companies Act (excluding revaluation of land and other assets) as on 31.03.2020: (-) **Rs.895.31 Crore.**

6.4 Hindustan Fluorocarbons Limited (HFL)

Hindustan Fluorocarbons Ltd. (HFL), a subsidiary company of Hindustan Organic Chemicals Ltd. (HOCL), was incorporated on 14.07.1983. It is located at Rudraram, District Sangareddy, Telangana.

(Rs. in crore)

ACCOUNT	2019-20	2020-21		2021-22
	ACTUAL	BE	RE	BE
Capital / Revenue	0.00	0.00	73.70	3.50

No budgetary provision for HOCL & HIL was made in BE 2019-20 and 2020-21. In RE 2020-21 an amount of Rs.73.70 crore has been provided to HFL as interest free loan for offsetting its liability on VRS/VSS as Cabinet approved the proposal for closure of HFL within the overall RE ceiling of Rs.295.70 crore.

6.5 CCEA on 22.01.2020 approved closure of HFL which includes providing interest free loan of Rs.77.20 crore to the company for settling closure related liabilities. The loan provision of Rs.77.20 crore includes Rs.7.00 crore for salary/wages and administrative expenses of skeletal staff of HFL to be retained temporarily for implementing the closure of the company @ Rs.3.50 crore per year for two years. Ministry of Finance vide OM No.4(8)/B(SD)/2020 dated 11.05.2020 conveyed grant of an advance of Rs.73.70 crore from the Contingency Fund of India (CFI) for HFL's closure. As per DEA's letter No.4(16)-B(SD)/2020 dated 28.09.2020, Supplementary Grant of Rs.73.70 crore for recoupment of advance from the Contingency Fund of India for offsetting the immediate expenditure on liabilities as well as VRS/VSS for employees of HFL has been obtained in the Supplementary Demands for Grants 2020-21 (September, 2020). Out of the Govt. loan of Rs.73.70 crore released to the company for closure related liabilities.

6.6 Salient points About HFL

- Set up in 1983 at Rudraram, Telangana, as subsidiary of HOCL for manufacturing PTFE (Poly Tetra FluoroEthylene) and CFM-22 (Chloro Di Fluoro Methane)
- 56.43% shareholding by HOCL, No GoI shareholding, Listed on BSE
- Making losses from its inception in 1987-88 except for nominal profits from 2007-2008 to 2012-2013 (after rehabilitation package) and again in 2018-19
- Due to erosion of net worth, HFL was registered as sick company under the erstwhile BIFR.

6.7 Closure of HFL:

- HFL was mainly manufacturing & selling CFM-22 as its conversion to PTFE was not financially viable
- Under Montreal Protocol on phasing out of ozone depleting substances, CFM-22 production quota was reduced to only 282 MT from 2020 onwards
- In view of the poor financial situation and non-viability of HFL's existing operations, CCEA in its meeting held on 22.01.2020 approved the closure of HFL and giving VRS to all the employees
- HFL has received interest free loan of Rs. 73.20 crore from GoI. for payment of liabilities viz. VRS/VSS to existing employees, Clearing liabilities of Ex employees, Statutory dues and secured / unsecured creditors, etc.

- GoI interest free loan to be repaid from sale proceeds of 126.13 acres of HFL land
- NOC for sale to 126.13 acres of HFL land from State Govt of Telangana is awaited
- Regular plant operations have been stopped since July, 2020
- HFL had tried to sell the plant and machinery on two occasions in 3 lots by e-auction through MSTC on 1.9.2020 and 8.10.2020, however no bids were received. Hence, the Board of HFL decided to sell all plant and machinery in one lot as per the recommendation received from MSTC
- High Court of Hyderabad has granted stay on the sale of assets of the company in a case filed by M/s Rockwell Industries. Once the stay is vacated, HFL will initiate process for disposal of plant and machinery

6.8 During oral evidence of the representatives of the Department of Chemicals and Petrochemicals on Demands for Grants, 2021-22, when the Committee asked whether an viable alternative proposal was considered before taking decision for closure of Hindustan Fluorocarbons Limited, a representative of the Department stated as below:

> "Madam, Hindustan Fluorocarbons Limited was manufacturing CFM-22 which is being used as refrigerant and the quota which was allotted to it was around 1100 metric tonnes. So, the plant used to runthroughout the year and could sustain itself. But then the quota was reduced to only 200 metric tonnes which is only two months of operation of the plant. So, considering the manpower cost and other costs, it was not sustainable. The alternative was explored by companies, but the liabilities of those companies were very high. They had existing liabilities towards outstanding dues to the employees and other things."

Another representative further stated as below:

> "I will slightly elaborate on that various alternatives of product lines were explored. First, this CFM-22 is an ozone depleting substance. But there are other substances which can be produced, and which are not ozone-depleting. One of these product lines was also explored but that required a lot of investment in the plant. This plant could not have produced that. So, we required a fresh new plant with a large amount of investment. We had discussions with Gujarat Fluorocarbons Limited to see if they could take over HFL and do something. We had discussions with some foreign technology

suppliers also. But wherever we went, we saw that it required huge investment. That investment could not be raised from the bank, and the Government had already closed the window of lending for public sector investment. We saw that there was nothing else remaining; there was no strength or no asset in the company which could be leveraged, or which could be kept alive to ensure that there is no economic loss of those valuable assets. Finally, it was decided to close it down."

6.9 HIL (INDIA) Ltd.

HIL (India) Ltd., formerly known as Hindustan Insecticides Limited (HIL), was incorporated in 1954 in New Delhi for manufacturing and supply of DDT (Dichloro Diphenyl Trichloroethane) for Malaria Eradication Programme of Government of India. In the year 1957, the company set up a factory at Udyogamandal, Kerala, for manufacturing of DDT. HIL set up another factory in 1977 at Rasayani, Maharashtra, for manufacturing DDT and Malathion, an insecticide. The third manufacturing unit of the company for product formulation was set up at Bathinda, Punjab, in 2003 by shifting its erstwhile Delhi factory. Rasayani and Udyogmandal Plants have both DDT and agrochemical manufacturing facilities while Bathinda has only formulations manufacturing and packaging facility. The company has also diversified its business in to seeds and fertilizers sectors also. The company has 7 Regional Sales Offices across India and a wide network of dealers for marketing and distribution of its products across India.

6.10 Financial Performance

After implementation of revival package sanctioned in 2006-07, HIL has been continuously posting profits. Financial performance in terms of turnover and net profit / loss for the last 5 years and net worth as on 31.03.2020 are given below, (2019-20 figures based on unaudited financials):

(Rs. In crore)

Year	Gross Turnover	Net profit / (Loss)
2015-16	334.75	1.83
2016-17	372.94	3.26
2017-18	432.66	3.41
2018-19	478.24	3.62
2019-20	417.71	0.59
Net worth as on 31.03.2020: **Rs.104.44 crore**		

6.11 When asked whether HIL has its own R&D facilities for innovation and development, the Department in its written reply has furnished the following information:

> "HIL is having an R&D facility at its Unit at Udyogamandal, Kerala which is giving technical support to the commercial plants of the Unit by providing assistance in the improvement/maintenance of the quality of the products, perfecting the technology of newly commissioned plants, achieving the quality and capacity of the plants, improvements in the raw material efficiency/reduction in the process duration, development of new formulations, etc. A R&D facility is under construction at company's Rasayani unit, Maharashtra, which will be assisting in perfecting the technology and commercialization of the LLIN plant at the Unit. This facility will support the activities of the other process plants also.
>
> In addition to the above, autonomous bodies under the Department like IPFT and CIPET are engaged in R&D activities in the field of pesticide formulations, polymeric materials, etc. The outcome of such R&D activities, wherever applicable, are also shared with HIL. For example, CIPET has supported HIL in the development of LLIN technology and IPFT is supporting HIL in the commercialization of Neem based botanical pesticides".

CHAPTER VII

BHOPAL GAS LEAK DISASTER (BGLD)

7.1 On the intervening night of 2nd/3rdDecember, 1984, "Methyl Isocyanate" (MIC) a lethal gas stored in two tanks of the Union Carbide Pesticide Factory at Bhopal leaked in the atmosphere resulting in industrial disaster unparalleled in its magnitude and causing serious injuries to a large portion of population of Bhopal city, also resulting in immediate death of thousands of human lives. Various relief and rehabilitation measures initiated immediately after the disaster are still continuing.

7.2 Government of India enacted an act known as The Bhopal Gas Leak Disaster (processing of Claims) Act, 1985. The Act came into force on 20thFebruary, 1985. It empowered the Union of India to take over the conduct of all litigation in regard to claims arising out of gas disaster and to award compensation to the victims and affected persons. Under this Act, the Government has framed a scheme known as the Bhopal Gas Leak Disaster (Registration and Processing of Claims) Scheme, 1985 for registration, processing, determination of compensation to each claim and appeals, ifany, arising therefrom. Under this Act, the Office of the Welfare Commissioner, Bhopal Gas Victims, was set up by the Government of India for speedy adjudication and award/disbursement of compensation to the survivors and families of the victims of the gas leak disaster.

The following table shows the budgetary allocation to BGLD since 2017-18:-

(In Rs. Crore)

Actual 2017-18	**Actual 2018-19**	**Actual 2019-20**	**BE 2020-21**	**RE 2020-21**	**BE 2021-22**
22.32	20.98	23.61	31.80	21.43	22.06

Detailed Demands for Grants showing funds allocated under different heads pertaining to the Bhopal Gas Leak Disaster is given in the table below:

(In Thousands Rupee)

Actuals 2019-20	Budget Estimates 2020-21	Revised Estimates 2020-21			Budget Estimates 2021-22
			MH 2852	**Industries MH**	
			01	**Bhopal Gas Leak Disaster (Processing of Claims) Act, 1985**	
			01.01	Payment under Retainer Agreement for engagement of Attorneys	
	500	0	01.01.28	Professional Services	500
			01.02	Other items	
			01.02.13	Office Expenses	
176900	248700	150000	01.02.50	Other Charges (Action Plan)	149000
			01.06	Expenditure on account of Exchange rate variation for settlement of amount	
	500	0	01.06.44	Exchange rate variation	500
			01.05	**Establishment of the Welfare Commissioner**	
49400	55500	53200	01.05.01	Salaries	57700
4300	4400	3900	01.05.02	Wages	4500
	0	0	01.05.03	Over Time Allowances	0
			01.05.04	Pensionary Charges	
300	1300	1300	01.05.06	Medical Treatment	1300
500	700	700	01.05.11	Domestic Travel Expenses	700
3500	5100	3900	01.05.13	Office Expenses	5100
		0	01.05.14	Rent, Rates, Taxes	
1200	1300	1300	01.05.28	Professional Services	1300
59200	**68300**	**64300**	**TOTAL -**	**Welfare Commission Establishment**	**70600**
236100	**318000**	**214300**	**TOTAL -**	**Bhopal Gas Leak Disaster (Processing of Claims) Act, 1985**	**220600**
				Charged	
236100	**318000**	**214300**		**Voted**	**220600**

7.3 During Oral evidence on Demands for Grants, 2021-22, the Committee asked about the time frame for completing the whole process related to the compensation

to the removal of toxic waste lying at the UCIL site. A representative of the Department replied as under:

> "Initially, 350 metric tonnes of toxic waste was there. The Government of India decided that it should be disposed of in the right environment-friendly manner. It should not harm the environment. For this, you have to carry out a study to arrive at the best way of disposing the waste. There are Supreme Court's orders to the effect that CPCB should carry out trial runs to find out the best way of incinerating that. CPCB carried out trial runs on 10 metric tonne of that waste which were successful. It was decided that the Government of MP should dispose of the remaining waste on the same lines. They have to float a tender, get a party to incinerate that. Somehow, even after repeated persuasion and follow up with the Government of MP, that has not really happened".

7.4 The Committee were not satisfied and further stated that It was almost 35 years and they did not think any excuse would be valid for non-removal of the toxic waste and for not completing the compensation to the victims. Replying to it, a representative of the Department stated as below:

> We are trying our best to persuade the Government of MP to take up this. The Government of India cannot really implement that disposal. It is the basic responsibility of the State Government. We have said that the monetary support, the funding required, and technical support required from CPCB is available and you have to just carry it out. Somehow, there is, maybe, lack of some kind of will. I do not know exactly what is happening but somehow, they are not in a position to dispose of that waste. We have taken it up again. It is a continuous phenomenon that we are taking it up again and again but some of the things are not moving.

Observations/ Recommendations

Recommendation No.1 - Budgetary allocation for the Department

The Committee note that the Ministry of Finance was able to allocate only Rs. 233.14 crore at BE stage for 2021-22 to the Department of Chemicals' and Petrochemicals against the requirement of Rs. 276.60 crore by the Department. According to the Department, the pace of developmental activities for New Scheme of Petrochemicals (NSP) & Central Institute of Petrochemicals Engineering Technology (CIPET) is likely to be affected to some extent due to the curtailment of BE to the tune of Rs.43 crore for the year 2021-22. During 2020-21, Rs.218.34 was allocated at BE stage and the same was increased to Rs.295.70 crore but the actual expenditure incurred by the Department was only Rs.219.87 Crore as on 29/01/2019. The enhancement of RE to Rs.295.70 crore during 2020-21 was mainly due to Rs.73.70 crore for interest free loan to Hindustan Fluorocarbons Ltd. (HFL) for paying liabilities towards VSS/VRS on account of closure of HFL as approved by Cabinet and Rs.50.00 crore as Grant-in-Aid General to Central Institute of Petrochemicals Engineering Technology (CIPET) for retaining its sustainability in the COVID-19 Pandemic. The pace of utilization of funds under the Heads for New Scheme of Petrochemicals and CIPET were not up to the mark during 2020-21. COVID 19 pandemic has been shown as reason for slow utilization of funds under these heads during the year. The Committee also note that the Ministry of Finance allocates funds at BE stage to the Department based on the expenditure trend in the last few years and according to the Medium Term

Expenditure Frame work. Additional requirement, whenever required by the Department will be provided at supplementary/Revised Estimate (RE) stage. Hence, the Committee recommend that the Department take proactive steps for timely utilization of funds allocated under various Heads for 2021-22 so as to enable the Ministry of Finance allocate the rest of the funds required by the Department at RE stage of 2021-22 for the holistic implementation of its Schemes and programmes. It should also place proper and timely demand before the Ministry of Finance for allocation of rest of the funds required for developmental activities during 2021-22 at supplementary/RE stage. Moreover, the Committee feel that there is a strong need for further development of the chemical and petrochemical sector in the country in order to meet the requirements of this huge country but the present Schemes and programmes of the Department and the financial outlays for the same seems to be highly inadequate. The Committee, therefore, recommend that the Department should make a complete review of its Schemes and programmes in consultation with various stake holders and also study the successful models of other countries in this regard for making a road map for the holistic development of the chemical and petrochemical industry in the country.

Recommendation No. 2 Budgetary allocation for New Scheme of Petrochemicals (NSP)

The Committee note that there are two sub schemes presently under New Schemes of Petrochemicals (NSP) viz. Setting up of Plastic Parks and Setting up of Centres of Excellence (CoEs). The Ministry of Finance has allocated Rs. 53.73 crore at BE 2021-22 for this Scheme against the proposal of the Department for Rs. 76.78 crore. During 2020-21, an amount of Rs.53.79 Crore was allocated at BE stage and the same was reduced to Rs.22.35 crore at RE stage but the Department could use only Rs.11.74 Crore as on 29/01/2021. According to the Department, the pace of expenditure during 2020-21 was slow due to the ongoing pandemic. This has resulted in Special Purpose Vehicles, which are engaged in setting up of plastic parks and CoEs, facing difficulties in completing their stipulated targets and hence failing to achieve the milestones required for being eligible for receiving further grants as per the respective scheme guidelines. However, the Ministry has assured the Committee that it would be in a position to spend the entire amount of R.E allocated for 2020-21. In this regard, the Committee hope that the Department would be able to chalk out a proper planning for the timely utilization of the funds allocated under this scheme for 2021-22 so that the demand for additional fund may be put before the Ministry of Finance at RE stage. The larger objective of the Plastic Parks scheme is to contribute to the economy by increasing investment, production, export in downstream Plastic Processing Sector and also generation of employment. CoE scheme aims at

improving the existing petrochemicals technology and research in the country and to promote development of new applications of polymers and plastics. In view of the above, any fund crunch would be an impediment to the timely execution of these two sub schemes. During 2020-21, the Ministry of Finance resorted to fund reduction to the tune of 41.50 per cent at RE stage for this important scheme. In this regard, the Committee strongly recommend that the Ministry of Finance should carefully examine the funds requirements of the Scheme and allocate necessary funds for the Scheme at RE stage of 2021-22.

Recommendation No.3 Central Institute of Petrochemicals Engineering Technology (CIPET)-Requirement of additional funds

The Committee note that Central Institute of Petrochemicals Engineering Technology (CIPET) is a premier national Institution fully devoted to skill development, technology support, academic and research activities for the growth of polymer and allied industries in the country. CIPET conducts different long term training programs including undergraduate, post graduate and doctoral programmes and also conducts vocational skill development programmes in the entire gamut of Petrochemicals Engineering Technology in line with the Skill India Mission of the Government of India. CIPET has been operating on self-sustainable mode since 2008-09 onwards and the Government of India provides funds only for strengthening CIPET's civil and technical facilities. CIPET was allocated Rs.98.25 Cr at B.E. 2020-21. However,

due to lockdown in the country for Covid-19, the Institute could not continue its various activities such as regular courses, etc. and suffered loss of revenue. Therefore, it proposed a one-time grant of Rs.144.00 crore from the Govt. However only an amount of Rs.50.00 crore was agreed to by Ministry of Finance at RE 2020-21 and the overall Budget allocation for CIPET was enhanced to Rs. 146.30 crore at RE 2020-21. Against the requirement of Rs. 134.46 crore for 2021-22, only Rs. 117.88 crore has been allocated in BE 2021-22 for CIPET. Since CIPET is providing yeoman service to the nation in the field of petrochemical engineering technology, the Committee feel that it is necessary to allocate the requisite funds for its infrastructural and technical development. The Ministry of Finance should encourage further such successful models with the allocation of suitable funds for further development. The Committee, therefore, recommend that the Ministry of Finance should consider allocating the additional fund requirement of Rs. 16.58 crore to CIPET at R.E. stage during 2021-22.

<u>Recommendation No.4 Financial Assistance to CIPET for loss of revenue due to COVID 19 pandemic</u>

Moreover, the Committee note that CIPET has resumed regular training courses through online mode for all the Long Term Courses and for skilling, offline courses are also started at few centres as per the operating guidelines of the respective States. CIPET is committed to generate an income of Rs.330.00 crore with the budgeted revenue expenditure of Rs.270.00 crore.

However, CIPET has generated an income of only Rs.147.56 Crore till January, 2021 In this regard, the Committee recommend that the Department of Chemicals and Petrochemicals should assess fund requirements of CIPET for 2021-22 in view of the loss of revenue suffered due to non operation of regular courses due to COVID 19 pandemic and take steps for providing requisite amount of financial assistance at RE stage of 2021-22, if necessary.

Recommendation No. 5 Import of Chemicals and Petrochemicals

The Committee are concerned to note the increasing volume of imports of chemicals and petrochemicals as imported products are cheaper than many indigenous products. The import of major chemicals and petrochemicals had risen to the tune of 14.4% of the total national imports during the period from April, 2020 to September, 2020 when compared to 11.1% during the period of 2019. On the one hand the Government is promoting the Idea of self-reliant India and on the other hand many domestic industries are facing losses/closures due to increasing cheaper imports of the products which in turn are depleting the domestic capacity. The Committee are, therefore, of the view that in the interest of Self-reliant India, the Government should provide appropriate safeguards to the domestic producers against the cheap imports, in line with WTO guidelines. In this regard, the Committee note that the Department on a consistent basis looks for measures to put both tariff as well as Non-Tariff barriers to protect the domestic industry. According to the Department, it has made the standards for the chemicals / petrochemicals mandatory to meet the BIS quality parameters for the exporters as well as for

domestic manufacturers in respect of 34 chemicals and petrochemicals and for about 50 chemicals and petrochemicals the process is at different stages. The Department has also taken steps for rationalization of Basic Custom Duty (BCD) viz. BCD on basic feedstock/ building blocks is proposed to be kept at the minimum & on intermediates is kept moderately high. BCD on finished products is kept higher than that is applicable to intermediates. In the Finance Bill, 2021 it has been proposed that BCD on Naptha which is a basic feed stock decreased from 4% to 2.5% and it has also been decreased in some other materials like nylon chips. However, BCD has been increased on some other materials like Carbon Black, Poly Carbonates, Bis Phenol, etc. mainly to protect the domestic industry. Since it is very much necessary to safeguard the interests of domestic chemical and petrochemical units and also to develop the chemicals and petrochemical industry according to the increasing needs of the country, the Committee recommend the following: -

(i) **Concrete steps should be taken to realize the goals envisaged under Vision Statement 2024 which aims to seize the opportunity to establish India as a leading chemicals & petrochemicals manufacturing hub with the thrust on reduction in import dependency by attracting investments for manufacturing quality products.**

(ii) **Two cracker units are likely to get commissioned by 2021-22, and one by 2023. A comprehensive assessment should be made on the requirements of cracker units for the country and**

necessary measures should be initiated for setting up of more cracker units in the country.

(iii) **The Government should also look in to making the domestic industry more competitive by providing them cheaper raw materials and fuels so that they can compete with the prices in global market and the import bill on account of import of chemicals and petrochemicals be brought down.**

(iv) **Increase of Basic Custom Duty on some chemicals/petrochemicals has been proposed in Finance Bill, 2021 particularly to protect the interests of domestic manufacturers. In this regard, it is also necessary to take appropriate steps to ensure that the increase in BCD does not result in price rise of the end products which may affect the consumers.**

RECOMMENDATION NO. 6 - CHEMICAL PROMOTION AND DEVELOPMENT SCHEME (CPDS)

The Committee note that Chemical Promotion and Development Scheme (CPDS) envisages promotion and development of Indian chemicals and petrochemicals industry by providing grants-in-aid and logo support to Industry Associations for organizing seminars, workshops, conferences, etc. Funds for CPDS are being used for two purposes viz. (i) knowledge creation & other promotional activities like study, exhibition, workshop, etc. and (ii)

National Awards for Technology Innovation in Petrochemicals and downstream Plastic Processing Industry. The Department has been allocated Rs. 3.00 crore for this scheme in BE 2021-22 as proposed by the Department. The Committee are of the view that this scheme should be implemented at a much larger scale for the promotion and development of Indian chemicals and petrochemicals industry particularly to attract foreign entrepreneurs to invest in India by showcasing country's ease of doing business environment and the facilities being offered for investment in the country. Further there is a need for encouraging innovation in Petrochemicals and downstream Plastic Processing Industry by increasing the number of winners and runner ups for National Awards for Technology Innovation. The Committee, therefore, recommend that the Department should take necessary steps to widen the scope of this Scheme for the promotion and development of the Scheme on a large scale. Moreover, the Department should also examine the adequacy of present level of budget allocation of Rs.3 Crore or so for the large scale promotion and development of this crucial sector and take necessary action for the allocation of requisite amount of funds for the Scheme.

RECOMMENDATION NO. 7 NATIONAL AWARD FOR TECHNOLOGY INNOVATION

The Committee note that the Department of Chemicals and Petrochemicals is implementing an award scheme to provide incentive for meritorious innovations & inventions in various fields of petrochemicals and downstream

plastics processing industry. The scheme aims at incentivizing meritorious innovations and institutions in petrochemicals and downstream plastics processing industry by giving awards to each of these innovations. Presently, the Scheme is being operated as sub-scheme of the Chemicals Promotion and Development Scheme. The National Awards for Technology Innovation are given in various categories for innovation in areas such as Polymeric Materials, Polymeric Products, Polymer Waste Management and Recycling Technology and related areas. The prize money for winners is Rs. 3 Lakhs and Rs. 1 Lakh for the runner- ups. The Committee note with dissatisfaction that the number of winners and runners up are coming down during the last few years. In 2015-16 17 winners and 14 runners up were awarded and the same came down to 4 winners and 9 runners up in 2019-20. In this regard, the Committee recommend the following:-

(i) the Department should review the Scheme guidelines so as to give more awards on liberal terms so as to encourage more people to come forward for innovation in the field;

(ii) steps should be taken for increasing publicity on these awards so that more persons engaged in research and development in this field benefitted of the Scheme apply for these awards.

(iii) Quantum of price money for winners and runners up may be increased so as to award befittingly the innovators and the

budgetary allocation for the Scheme may enhanced accordingly.

RECOMMENDATION NO. 8 - DELAYS IN SETTING UP OF PLASTIC PARKS

The Committee are not satisfied at the pace with which the Plastic Parks scheme is being implemented by the Department of Chemicals and Petrochemicals. The scheme aims at setting up of need based plastic parks, an ecosystem with state-of-the-art infrastructure and enabling common facilities through cluster development approach, to consolidate and synergize the capacities of the domestic downstream Plastic Processing Industry. Under the scheme, the Government of India provides grant funding up to 50% of the project cost, subject to a ceiling of Rs. 40 crore per project. The remaining project cost is funded by the State Government or State Industrial Development Corporation or similar agencies of State Government, beneficiary industries and loan from financial institutions. Under the Scheme, 7 Plastic Parks have been given final approval and 3 Plastic Parks have been given "in-principle" approval. These parks are under various stages of implementation. This Scheme was started in 2013, but none of these plastic parks have become fully functional due to slow development of infrastructure at these parks and other reasons. 100% physical progress of the park has been completed only in respect of Tamot, Madhya Pradesh and it is 95% completed in respected of Paradeep, Odhisha. Since it is necessary to complete the work in a time bound manner, the Committee recommend that

while granting approval for the parks, the Department should put strict timeframe for the state governments for initiation and completion of different stages of work in the park and if any State Government/SPV is unable to adhere to the timeframe, it has to withdraw from the Scheme so that delay in execution may be avoided and cost over runs which occur due to such delays may also be avoided. Further, the Committee recommend that the Department should review progress of all the ten parks approved in various states on monthly basis and problems/difficulties associated with each park should be resolved in a time bound manner for the complete setting up and fulfledged functioning of each of the parks.

RECOMMENDATION NO. 9 CENTRES OF EXCELLENCE (COE) IN POLYMER TECHNOLOGY

The Committee note that the scheme aims at improving the existing petrochemicals technology and research in the country and to promote development of new applications of polymers and plastics. In phase-I of the Scheme implemented up to the 2017, the Government of India provided financial support to the extent of maximum of 50% of the total cost of the project subject to an upper limit of Rs. 6 Crore over a period of 3 years. The Scheme was extended upto year 2020 with modified guidelines in 2016-17, which aim at promoting applied research and technology transfer from Lab to Industry and funding of Rs. 5 crore per CoE. So far, eleven Centres of Excellence (CoE) within the premises of reputed educational/research institutes are approved and established. The Committee are glad to learn that these CoEs are making immense contribution in Research and Development in Polymer Technology and technology transfer to the industries. The Committee note the various achievements made at these CoEs such as:-

- **Development of Light weight sustainable bio composites from long and short fiber reinforced composites and nano composites for fuel efficient automobiles.**
- **Development of Nano enhanced structural hybrid composites from natural fiber derivatives.**
- **Catalyst development for newer class of meta-stable polyethylene's.**

The Committee are of the firm view that the investments in scientific advancement and R&D are the most important drivers of economy, as they lead to creation of wealth. Any new R&D or innovation that occurs in a nation drives production of completely new commodities and industries that creates wealth, jobs and improves living standards. In view of the above the Committee recommend that this scheme should be continued and even expanded to other reputed research institutes which are willing to work in the field of polymer technology. The Committee also recommend that separate budgetary allocation should be made for the Research and Development efforts of the Department of Chemicals and Petrochemicals.

RECOMMENDATION NO. 10 - PLASTIC WASTE MANAGEMENT CENTRES (PWMCs)

1. **The Committee note that Plastic Waste Management Centres are being set up in four Central Institute of Petrochemicals Engineering and Technology (CIPET) Centres in Ahmedabad, Bengaluru, Patna, and Varanasi generating 241.50, 313.87, 12.60 and 25.92 tonnes/day plastic waste with the total Project cost of Rs. 24 crore and with the Government of India's contribution of Rs. 21.60 crore therein. All the 4 PWMCs is expected to be functional by the end of FY 2021-22. The basic**

objectives of setting up of these PWMCs are Segregation / sorting, cleaning and recycling of plastic waste, product development for economic aspects, develop skill manpower for plastic recycling industries etc. The Committee note that the plastic waste have become one of the most pressing environmental issues as rapidly increasing production of disposable plastic products overwhelms country's ability to deal with them. According to a Central Pollution Control Board (CPCB) report (2018-19) the total annual plastic waste generation in India is 3.3 million metric tonnes per year. It is also noted that there are many cities like Delhi, Mumbai, Chennai, Kolkata which are generating much more plastic waste than other cities and where no PWMCs have been set up. Since PWMCs at CIPET Centres in four cities may not be adequate, the committee recommend that the number of these PWMCs should be increased and PWMCs should be set up in all CIPET centres across the country to manage the issue of plastic waste management. The possibility of setting up of PWMCs in other cities and towns where there is no CIPET centre should also be explored and initiative should be made to open PWMCs in all cities and towns, giving priority to those cities which are generating more plastic waste, in coordination with State Governments. Budget allocation for the purpose should be increased proportionately.

RECOMMENDATION NO. 11- DEVELOPMENT OF ENVIRONMENTAL FRIENDLY PESTICIDES by IPFT

The Committee note that Institute of Pesticides Formulation Technology (IPFT) is the only Institute of its kind in the country devoted to the development of state-of-the-art user and environment friendly new generation pesticide formulation technologies. An allocation of Rs.12 Crore has been made for IPFT in BE 2021-22 which is more than the RE allocation of Rs.10.50 Crore for 2020-21. It is also noted that Rs. 8.98 crore has already been spent by the IPFT by 29 January 2021. The Committee hope that the remaining amount would be utilized by the end of FY 2020-21. According to IPFT, the conventional formulations Emulsifiable Concentrate (EC), Soluble Concentrate (SL), Wettable powder (WP), Dust (DP), and Granules (Gr.) give sufficient bio-efficacy but have shortcomings in respect of safety to mammalians, non target organisms and environment. To control the target pests, high amounts of conventional formulations are used, which cause environmental contamination, health hazards to the farmers and pesticide residue problem in food products. In this regard, IPFT has developed many environmental and user friendly pesticide formulations. The Committee are of the view that a major thrust be given on the development of safer and environmental friendly pesticides in the interest of human/animal health and safer environment. Even though the Committee understand that increasing agricultural output is

necessary but health and welfare of human and other living beings which are affected by the harmful pesticides should be accorded top priority by the Government. The Committee, therefore, recommend that more Centres of IPFT should be set up in various regions of the country to cater to the requirements of those regions and appropriate corresponding Budgetary allocation be given for the same.

RECOMMENDATION NO - 12 Hindustan Organic Chemicals Limited (HOCL)

The committee note that Rasayani unit of Hindustan Organic Chemicals Limited (HOCL) was closed down under HOCL's restructuring plan. However, disposal of unencumbered land assets of HOCL at Rasayani (Maharastra) has been delayed due to various reasons. So far, out of total of approx. 684 acres of land approved by the Govt. for sale to BPCL, sale & registration of only about 374 acres have been completed. Sale of balance approx. 310 acres land has been affected by law & order situation due to protests by the local villagers to fencing of the purchased land by BPCL and their demand for compensation. A Committee under Divisional Commissioner, Konkan, constituted by the Maharashtra Govt. to address the concerns and demands of villagers in respect of remaining HOCL land for sale to BPCL has submitted its report to State Government. Decision of the State Govt. on the said report is awaited. In this regard, the Committee recommend that the Department should take up this matter with the State Government at the

highest level so that the issue is resolved at the earliest. The Committee would also like to know the response of the State Government in this regard.

RECOMMENDATION NO 13 - BHOPAL GAS LEAK DISASTER (BGLD)- COMPENSATION TO THE VICTIMS

The Committee note that BE 2021-22 for the BGLD is Rs 22.06 crore out of which 14.9 crore has been estimated for Action Plan and 7.06 crore for the Welfare Commissioner Establishment which comprises of Salaries, wages, Office expenses etc. of the Establishment of the Welfare Commissioner. Thus, nearly 2/3rd of the BE is for compensation of the victims of BGLD and 1/3rd for the Welfare Commission Establishment. Even after 36 years of the disaster the compensation process for the victims has still not been completed. The Committee are of the view that the process of paying compensation to the victims should be completed in a time bound manner and it should not be a never-ending process. The Committee, therefore, recommend that Department should look into the matter and take necessary steps for the early completion of the compensation process so that the Bhopal gas victims need not wait indefinitely for the compensation.

RECOMMENDATION NO - 14 BHOPAL GAS LEAK DISASTER (BGLD)-REMOVAL OF TOXIC WASTE

The Committee take a serious view that there is a huge pile of toxic waste still lying at the UCIL site even after 36 years of the Bhopal Gas Leak Disaster. It could not be disposed of due to one reason or another. The toxic waste may contaminate the ground water and is a potential health hazard for the people living in the area. In this regard, the Committee note that a trial run was taken under the direction of Hon'ble Supreme Court to incinerate 10 metric tons of about 350 metric tons of waste lying in the site and that was successfully done. In this regard, the Committee note that It was decided that the Government of Madhya Pradesh should dispose of the remaining waste on the same line. State Government has to float a tender to get a party to incinerate all the toxic waste. According to the Department, this has not really happened even after repeated persuasion and follows up with the State Government. In this context, the Committee feel that the non-disposal of toxic waste even after 36 years of tragedy indicate the lackadaisical attitude of both the Union and State Governments towards this potential danger which has already played havoc among the people of Bhopal. The Committee, therefore, strongly recommend that the Department should take up the matter of disposal of remaining toxic waste lying at the UCIL site and the remediation of the site with the state government at Chief Minister's level and the sentiments expressed by this Committee may also be

intimated to him so as to complete the task by the year 2022 positively. In case, the State Government is not forthcoming, the Union Government should take necessary steps for the immediate disposal of toxic waste lying at the UCIL site of the Bhopal Gas Leak Disaster.

New Delhi;
15 March, 2021
24 Phalguna, 1942 (Saka)

Uday Pratap Singh
Chairperson (Acting)
Standing Committee on
Chemicals and Fertilizers

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA UNSTARRED
QUESTION No. 4553

TO BE ANSWERED ON 19.07.2019

Generation of Waste

4553. DR. (PROF.) KIRIT PREMJIBHAI SOLANKI:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

(a) the total quantum of solid waste such as plastic waste, e-waste and hazardous waste generated in the country annually, State/UT-wise;
(b) the total quantum of such waste recycled and/or reused;
(c) the total quantum of waste that is deposited in landfills;
(d) whether the Government has taken any steps to encourage the recycling of waste and/or reduce the quantum of waste generated; and
(e) if so, the details thereof?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

(SHRI BABUL SUPRIYO)

(a) to (c) As per Ministry of Housing and Urban Affairs Annual Report for the year 2016-17, it is estimated that the total generation of solid waste is approximately 1,50,000 T/day. Out of the total, approximately 90% (1,35000 MT/day) is collected. Out of the collected waste, 20% (27,000 MT/day) is processed and the remaining 80% (10,8000MT/day) is going to the dump sites. Central Pollution Control Board (CPCB) conducted study in 60 major cities of India and estimated that around 4059 ton per day of plastic waste is generated from these cities. Extrapolating this it is estimated that around 25,940 ton per day of plastic waste is generated in the country. The CPCB in 2005 estimated 1.47 lakh ton of e-waste in the country. As per the United

Nations University report, “The Global E-Waste Monitor 2017”, 20 lakh ton of e- waste generation was reported in the country in 2016. As per information available with CPCB 69,414 MT of e-waste was collected, dismantled and recycled during 2017-18. The inventory of e-waste generation state wise has not been completed for all the states and only six states namely Goa, J&K, Himachal Pradesh, Madhya Pradesh, Chhattisgarh and Punjab have completed the inventory of e-waste generation. Quantity of hazardous waste generation in the country was around 7.17 million ton during 2016-17, of which 3.68 million ton (49.46%) was recycled. The quantum of waste deposited into landfills have not been estimated. The state wise generation of solid waste, hazardous waste, e-waste and city wise generation of plastic waste is enclosed at Annex I.

(d) &(e) For sound management of various type of wastes, the Government had comprehensively revised and notified various waste management rules in 2016 on hazardous waste, E-waste, solid waste, plastic waste, construction & demolition waste and bio-medical waste. The rules emphasize on recycling and material recovery and provide for technological options for management of such wastes. The recycler/ operator/ generator may opt for any recycling/ resource recovery technological options, after due evaluation by prescribed authorities viz. State Pollution Control Boards/Committees, Central Pollution Control Board, Local Bodies.

CPCB has published guidelines for environmentally sound recycling of commonly recyclable hazardous wastes (such as used/waste oil, zinc dross, copper dross, used lead acid battery, etc. CPCB has prepared 52 Standard Operating Procedures (SOPs) for utilization of 40 different types of hazardous wastes after conducting trial runs.

The CPCB in its guidelines for collection, segregation & disposal of plastic waste has prescribed for technological solutions including utilization of plastic waste in road construction, co-processing in cement kilns, conversion of plastic waste into refused derived fuel (RDF) and disposal of plastic waste through Plasma Pyrolysis Technology. Similarly, the Biomedical Medical Waste Management Rules, 2016 prescribe segregation, collection, pre-treatment followed by channelization of waste plastic, glass and metals to authorized recyclers as well as disposal of infectious incinerable bio-medical waste through incineration.

Further, the Ministry of Electronics and Information Technology (MeitY) is undertaking research and development projects for e-waste recycling/recovery and has set up the following demonstration/ pilot projects:

- Demonstration plant at Bangalore on “Environmentally Sound Methods for Recovery of Metals from Printed Circuit Boards (PCBs) – Phase II” operated by Centre for Materials for Electronics Technology (C-MET), Hyderabad and E-Parisara, Bengaluru.

- Pilot plant at National Metallurgical Laboratory (NML), Jamshedpur involving physical separation and chemical leaching methods for recycling/recovery of electronic waste;
- Demonstration plant at Central Institute of Plastics Engineering & Technology (CIPET), Bhubaneswar on converting plastics from e-waste to virgin master batch for use in value added products. The process is capable of converting about 76% of waste plastic into master batch.

*** Annex I

1. State/UT-wise Status of Solid Waste Generated and Processed up to November 2018

Sl. No.	State/ UT	Total Waste Generation (MTPA)	Total Waste Processing (%)
1.	Andhra Pradesh	2,330,160	29%
2.	Andaman & Nicobar Islands	36,500	52%
3.	Arunachal Pradesh	66,065	20%
4.	Assam	413,910	35%
5.	Bihar	828,915	43%
6.	Chandigarh UT	172,280	85%
7.	Chhattisgarh	601,885	84%
8.	Daman & Diu	11,680	65%
9.	Dadra & Nagar Haveli	12,775	0%
10.	NCT of Delhi	3,832,500	55%
11.	Goa	94,900	65%
12.	Gujarat	3,702,925	57%
13.	Haryana	1,647,610	17%
14.	Himachal Pradesh	124,830	40%
15	Jammu & Kashmir	501,510	8%
16.	Jharkhand	849,335	42%
17.	Karnataka	3,650,000	32%
18.	Kerala	227,760	60%
19.	Madhya Pradesh	2,344,760	65%
20.	Maharashtra	8,238,050	44%
21.	Manipur	64,240	50%
22.	Meghalaya	97,820	58%
23.	Mizoram	73,365	4%
24.	Nagaland	124,830	52%
25	Odisha	992,800	12%

26.	Puduchery UT	127,750	10%
27.	Punjab	1,496,500	33%
28.	Rajasthan	2,372,500	55%
29.	Sikkim	32,485	66%
30.	Tamil Nadu	5,601,655	55%
31.	Telangana	2,690,415	73%
32.	Tripura	153,300	45%
33.	Uttar Pradesh	6,132,000	57%
34.	Uttarakhand	513,190	38%
35.	West Bengal	2,810,500	5%
	Total/ Average	**52,971,720**	**46.03%**

2. Plastic Waste Generation in Sixty Major Cities of India

S. No.	Name of City	Total Municipal Solid Waste (Tonnes/day)	Plastic Waste (Percentage of Municipal Solid Waste)	Plastic Waste (Tonnes/day)
		2010-11	2010-11	2010-11
1.	Kavaratti	2	12.09	0.24
2.	Dwarka	18	8.08	1.45
3.	Daman	25	4.64	1.16
4.	Panjim	25	4.47	1.12
5.	Gangtok	26	8.95	2.33
6.	Jamshedpur	28	3.36	0.94
7.	Silvassa	35	6.11	2.14
8.	Port Blair	45	10.07	4.53
9.	Kohima	45	5.01	2.26
10.	Shimla	50	4.45	2.23
11.	Meerut	52	6.42	3.34
12.	Gandhinagar	97	4.81	4.66
13.	Shillong	97	5.44	5.27
14.	Itanagar	102	5.35	5.46
15.	Agartala	102	5.71	5.83
16.	Aizwal	107	7.95	8.50
17.	Imphal	120	5.13	6.16
18	Ranchi	140	5.92	8.29
19.	Kochi	150	6.29	9.43
20.	Dhanbad	150	5.02	7.52

21.	Guwahati	204	5.04	10.27
22.	Asansol	210	6.01	12.62
23.	Dehradun	220	6.67	14.66
24.	Patna	220	5.73	12.60
25.	Raipur	224	10.61	23.76
26.	Rajkot	230	6.93	15.93
27.	Thiruvanandapuram	250	6.02	15.06
28.	Pondicherry	250	10.46	26.15
29.	Chandigarh	264	3.10	8.18
30.	Jammu	300	7.23	21.68
31.	Jaipur	310	5.03	15.58
32.	Vishakhapatnam	334	9.03	30.17
33.	Nashik	350	5.82	20.38
34.	Bhopal	350	6.59	23.08
35.	Allahabad	350	5.39	18.86
36.	Jabalpur	400	5.18	20.70
37.	Bhubaneswar	400	7.98	31.92
38.	Madurai	450	5.06	22.77
39.	Varansi	450	5.76	25.92
40.	Agra	520	7.86	40.89
41.	Srinagar	550	5.12	28.14
42.	Amritsar	550	4.44	24.42
43.	Vadodara	600	4.57	27.41
44.	Vijayawada	600	7.29	43.72
45.	Nagpur	650	7.07	45.96
46.	Coimbatore	700	9.47	66.31
47.	Faridabad	700	11.29	79.03
48.	Indore	720	8.81	63.40
49.	Ludhiana	850	5.96	50.68
50.	Surat	1200	12.47	149.62
51.	Lucknow	1200	5.90	70.84
52.	Pune	1300	7.80	101.35
53.	Kanpur	1600	6.67	106.66
54.	Ahmedabad	2300	10.50	241.50
55.	Kolkata	3670	11.60	425.72
56.	Bangalore	3700	8.48	313.87

57.	Hyderabad	4200	4.75	199.33
58.	Chennai	4500	9.54	429.39
59.	Mumbai	6500	6.28	408.27
60.	Delhi	6800	10.14	689.52
	Total MSW	50592		
	Average PW generation		6.92	4059.18

3. Quantum of generation of e-waste in six states

Sl. No	Year of Information	State	Estimated quantity of e- waste generation (Ton per Annum)
1.	2015	Chhattisgarh	43431
2.	2012	Goa	915
3.	2012	Himachal	4749
4.	2012	Jammu & Kashmir	500
5.	2014-2015	Madhya Pradesh	2,20,700
6.	2012	Punjab	12432

4. State-wise Hazardous Waste Generation (2016-17)

S. No.	State/UT	Quantity of Hazardous Waste generation (MTA)
1	Andaman & Nicobar	Not Applicable
2	Andhra Pradesh	282266.4
3	Arunachal Pradesh	Information not available
4	Assam	29434.64
5	Bihar	7629
6	Chandigarh	2846.892
7	Chhattisgarh	65186.14
8	Daman & Diu	INP
9	Delhi#	4197.36
10	Goa	24796
11	Gujarat	2811925.3
12	Haryana	58829.43

13	Himachal Pradesh	29029.38
14	Jammu & Kashmir	1043.21
15	Jharkhand	578788.6
16	Karnataka	336791.6
17	Kerala	38466.20
18	Lakshadweep	0.00
19	Madhya Pradesh	125880.7
20	Maharashtra	381686.2
21	Manipur*	Information not available
22	Meghalaya	75.8
23	Mizoram	0.00
24	Nagaland	10
25	Odisha	595697.8
26	Puducherry*	Information not available
27	Punjab	115490.1
28	Rajasthan*	724663.2
29	Sikkim	785.472
30	Tamil Nadu	383189.2
31	Telangana	277078.5
32	Tripura	270.19
33	Uttarakhand	24264.09
34	Uttar Pradesh	186591.5
35	West Bengal	85848.74

MINUTES OF THE SECOND SITTING OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS

(2020-21)

The Committee sat on Friday, the 19th February, 2021 from 1015 hrs. to 1200 hrs. in Committee Room No. 3, Extension to Parliament House Annexe Building, New Delhi.

SESSION I

PRESENT

Ms Kanimozhi Karunanidhi- Chairperson

MEMBERS

LOK SABHA

2. Shri Deepak Baij
3. Shri Ramesh Chandappa Jigajinagi
4. Shri Satyadev Pachauri
5. Shri Arun Kumar Sagar
6. Shri Pradeep Kumar Singh
7. Er. Bishweswar Tudu
8. Dr. sanjeev Kumar Singari

RAJYA SABHA

9. Shri G. C. Chandrashekhar
10. Shri Jaiprakash Nishad
11. Shri Arun Singh
12. Shri A. D. Singh
13. Shri Vijay Pal Singh Tomar
14. Shri K. Vanlalvena

SECRETARIAT

1. Shri Manoj K. Arora - OSD
2. Shri Nabin Kumar Jha - Director
3. Shri C. Kalyanasundaram - Additional Director

2. At the outset, the Hon'ble Chairperson welcomed the Members of the Committee.

XXX XXX XXX XXX

SESSION II

PRESENT
Ms Kanimozhi Karunanidhi- Chairperson
MEMBERS
LOK SABHA

2. Shri Deepak Baij
3. Shri Ramesh Chandappa Jigajinagi
4. Shri Satyadev Pachauri
5. Shri Arun Kumar Sagar
6. Shri Pradeep Kumar Singh
7. Er. Bishweswar Tudu
8. Dr. sanjeev Kumar Singari

RAJYA SABHA

9. Shri G. C. Chandrashekhar
10. Shri Jaiprakash Nishad
11. Shri Arun Singh
12. Shri A. D. Singh
13. Shri Vijay Pal Singh Tomar
14. Shri K. Vanlalvena

SECRETARIAT

1. Shri Manoj K. Arora - OSD
2. Shri Nabin Kumar Jha - Director
3. Shri C. Kalyanasundaram - Additional Director

WITNESSES

I. MINISTRY OF CHEMICALS AND FERTILIZERS
(DEPARTMENT OF CHEMICALS AND PETROCHEMICALS)

1. Sh. Yogendra Tripathi, Secretary (C&PC)
2. Shri Rajesh Aggarwal, AS&FA
3. Sh. Samir Kumar Biswas, AS (Chemical)
4. Sh. Kashi Nath Jha, JS (PC)
5. Sh. N.K Santoshi, DDG
6. Sh. Prem Parkash, Director
7. Dr. P.G.S. Rao, Director

Representatives of PSUs/Autonomous Institutes

6. Dr. Jitendra Kumar, Director (IPFT)
7. Dr. S.K. Nayak, DG (CIPET)
8. Sh. S.B. Bhide, CMD, HOCL
9. Sh. S.P. Mohanty, CMD, HIL
10. Sh. Suresh Singh, Addl. Welfare Commissioner, Bhopal

3. At the outset, Hon'ble Chairperson welcomed the representatives of the Ministry of Chemicals & Fertilizers (Department of Chemicals and Petrochemicals) to the sitting. Their attention was invited to the provisions contained in Direction 55(1) of the Directions by the Speaker regarding confidentiality of the Committee's proceedings.

4. After the witnesses introduced themselves, the Secretary of the Department made power point presentation to the Committee regarding salient features of the Demands for Grants 2021-22 pertaining to the Department of Chemicals and Petrochemicals. The power point presentation was followed by discussion on several aspects of Demands for Grants of the Department and the same were explained.

5. During the discussion, the Hon'ble Chairperson and Members of the Committee raised questions on several issues such as:

(i) Budget for Research and Development of Chemical and Petrochemical Industry.

(ii) Issues relating to the implementation of the Scheme "Setting up of Plastic Parks.

(iii) National Awards for Technology Innovation

(iv) Central Institute of Petrochemicals Engineering & Technology (CIPET) and its achievements.

(v) Closure of Hindustan Fluorocarbon Limited.

(vi) Increasing imports of chemicals and petrochemicals and the measures to be taken for self reliance.

(vii) Delays in completion of process to compensate Bhopal Gas Tragedy victims and the issue of toxic waste lying at the UCIL Complex.

(viii) Environment friendly pesticides and the role of Institute of Pesticides Formulation Technology therein

6. The Secretary, Department of Chemicals and Petrochemicals and other officials responded to the aforesaid questions/issues raised by the Committee.

7. The Chairperson thanked the witnesses for appearing before the Committee as well as for furnishing valuable information to the Committee. They were also asked to provide required information which was not readily available in writing at the earliest.

8. A copy of the verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

XXX Matter not related to this report.

MINUTES OF THE FIFTH SITTING OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2020-21)

The Committee sat on Monday, the 15th March, 2021 from 1500 hrs. to 1545 hrs. in Committee Room No.139, Parliament House Annexe, New Delhi.

PRESENT

Shri Uday Pratap Singh, Chairperson (Acting)

MEMBERS

LOK SABHA

2. Shri Ramakant Bhargava
3. Shri Satyadev Pachauri
4. Dr. M.K. Vishnu Prasad
5. Shri Arun Kumar Sagar
6. Shri Pradeep Kumar Singh
7. Shri Indra Hang Subba
8. Shri Prabhubhai Nagarbhai Vasava

RAJYA SABHA

9. Shri G. C. Chandrashekhar
10. Dr. Anil Jain
11. Shri Ahmad Ashfaque Karim
12. Shri Jaiprakash Nishad
13. Shri Arun Singh
14. Shri A.D. Singh
15. Shri Vijay Pal Singh Tomar
16. Shri K. Vanlalvena

SECRETARIAT

1.	Shri Manoj K. Arora	-	OSD (LSS)
2.	Shri N.K Jha	-	Director
3.	Shri C. Kalyanasundaram	-	Additional Director
4.	Shri Panna Lal	-	Under Secretary

2. At the outset, the Hon'ble Chairperson welcomed the Members of the Committee.

3. The Committee, thereafter, took up for consideration and adoption the following draft Report(s):

(i) 'Demands for Grants 2021-22' of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals);
(ii) 'Demands for Grants 2021-22' of the Ministry of Chemicals and Fertilizers (Department of Fertilizers);
(iii) 'Demands for Grants 2021-22' of the Ministry of Chemicals and Fertilizers (Department of Pharmaceuticals); and
(iv) 'Status of Covid-19 Vaccine Production In India' pertaining to the Department of Pharmaceuticals.

4. After deliberations, the Committee adopted the above four Draft Report(s)

unanimously without any change/amendment.

5. The Committee also authorised the Chairperson to make consequential changes, if any, arising out of the factual verification of the Report(s) by the Department of Chemicals and Petrochemicals, Department of Fertilizers and Department of Pharmaceuticals of the Ministry of Chemicals and Fertilizers and present the same to both the Houses of Parliament.

The Committee then adjourned.