सत्यमेव जयते

ANNUAL REPORT
2020-21

Government of India
Ministry of Chemicals & Fertilizers
Department of Chemicals and Petrochemicals

CONTENTS

ANNEXURES

Chapter - 1

INTRODUCTION

1.1 Department of Chemicals and Petrochemicals (DCPC) aims:

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.

1.2 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 control of, 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.

1.3 The Department 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.

1.4 There are three Central Public Sector Undertakings (CPSUs) in the chemical sector namely Hindustan Organic Chemicals Ltd. (HOCL), HIL (India) Limited and Hindustan Fluorocarbons Limited (HFL), which is a subsidiary of HOCL. The autonomous institutes under this Department are Central Institute of Petrochemicals Engineering & Technology (CIPET) and Institute of Pesticides Formulation Technology (IPFT).

1.5 Shri D.V. Sadananda Gowda is the Minister for Chemicals and Fertilizers with effect from 13.11.2018. Shri Mansukh Mandviya is the Minister of State for Chemicals and Fertilizers. Shri Yogendra Tripathi is the Secretary of the Department.

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Chapter - 2

AN OVERVIEW OF CHEMICAL AND PETROCHEMICAL INDUSTRY

Vision Statement 2024, Department of Chemicals and Petrochemicals

2.1 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

Chemical and Petrochemical Industry

2.2 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.

2.3 As per National Industrial Classification (NIC) 2008, Chemical & Chemical products are covered under the industry division 20. The description of product groups at 4-digit level under this division is given below:

Table I: Description of product groups

Class	Description
2011	Manufacture of basic chemicals
2012	Manufacture of fertilizers and nitrogen compounds

2013	Manufacture of plastics and synthetic rubber in primary forms
2021	Manufacture of pesticides and other agrochemical products
2022	Manufacture of paints, varnishes and similar coatings, printing ink and mastics
2023	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
2029	Manufacture of other chemical products etc.
2030	Manufacture of man-made fibers

The industry division 24 of NIC 2004 is equivalent of industry division 20 (manufacture of chemical & chemical products), 21(manufacture of pharmaceuticals, medicinal chemicals and botanical products) and 268 (manufacture of magnetic and optical media) of NIC 2008

2.4 According to National Accounts Statistics 2020, brought out by the Central Statistics Office (CSO), chemical and chemical products sector (industry division 20 of NIC 2008) accounted for 1.12% of the GVA for all economic activities (at 2011-12 prices) in 2018-19, compared to 1.04% in 2017-18 at constant prices. The share of this sector in the GVA of manufacturing sector (at 2011-12 prices) was 6.21% during 2018-19 as compared to 5.73% in 2017-18. Share of Chemical and Chemical products sector including pharmaceutical sector (industry division 20 and 21 of NIC 2008) accounted for 2.25% of the GVA for all economic activities (at 2011-12 prices) in 2018-19, compared to 2.16% in 2017-18. The share of this sector in the GVA of manufacturing sector at 2011-12 prices was 12.46% during 2018-19 as compared to 11.88% in 2017-18. The size of the Indian Chemical industry (industry division 20 of NIC 2008) in terms of value of output in the year 2018-19 was Rs. 6, 95,513 crore while size of the Indian Chemical industry including Pharmaceutical (industry division 20 and 21 of NIC 2008) in terms of value of output in the year 2018-19 was Rs. 9, 92,626 crore at constant prices (2011-12). The CAGR based on average annual index of Industrial Production (IIP) for the Chemicals and Chemicals product (Industry Division 20: NIC 2008) during the period 2015-16 to 2019-20 is 1.04%.

2.5 The production of selected Major Chemicals and Petrochemicals during the years 2015-16 to 2020-21 (upto September 2020) is given in Table-II. The production of Total Major Chemicals and Petrochemicals in 2020-21 (upto September 2020) is 12,502 thousand MT. CAGR in production of Total Chemicals and Petrochemicals during the period 2015-16 to 2019-20 is 5.74%.

Table II: Production of selected Major Chemicals and Petrochemicals

(Figures in 000'MT)

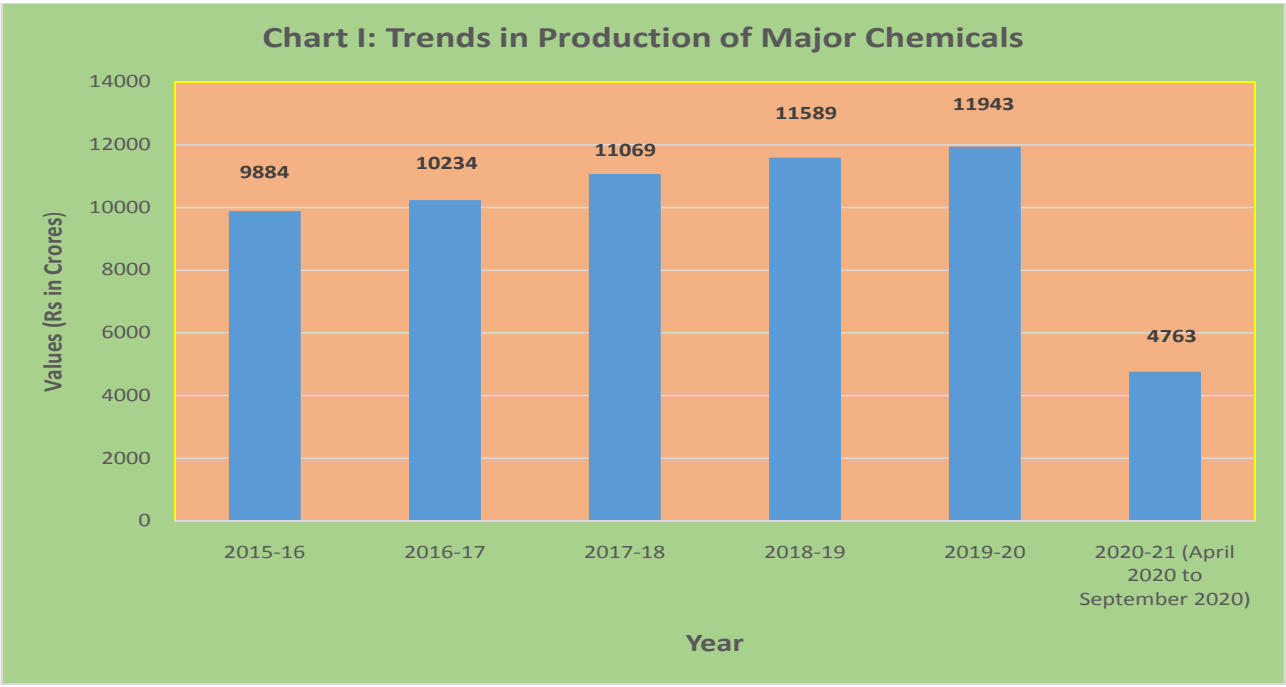
Group	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR	2020-21 (April 2020 to Sep.2020)*
Alkali Chemicals	6802	7009	7631	8043	8457	**5.60**	**3369**
Inorganic Chemicals	1002	1053	1058	1064	1063	**1.50**	**364**
Organic Chemicals	1589	1638	1799	1884	1847	**3.83**	**816**
Pesticides	188	214	213	217	192	**0.61**	**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. Product- wise and Group wise details of installed capacity and production for major chemicals and major petrochemicals are given in Annexure-I & II respectively.

**Data is provisional.*

Chemical Sector- Production Trends

2.6 It may be seen from Table II that the production of alkali chemicals accounts for around 71% of the total production of major mhemicals for the year 2020-21 (upto September 2020). The production of major chemicals in 2020-21 (upto September 2020) is 4763 thousand MT. The CAGR in production of total basic major chemicals during the period 2015-16 to 2019-20 is 4.84%. The trend in the production of selected major chemicals is depicted in Chart I.

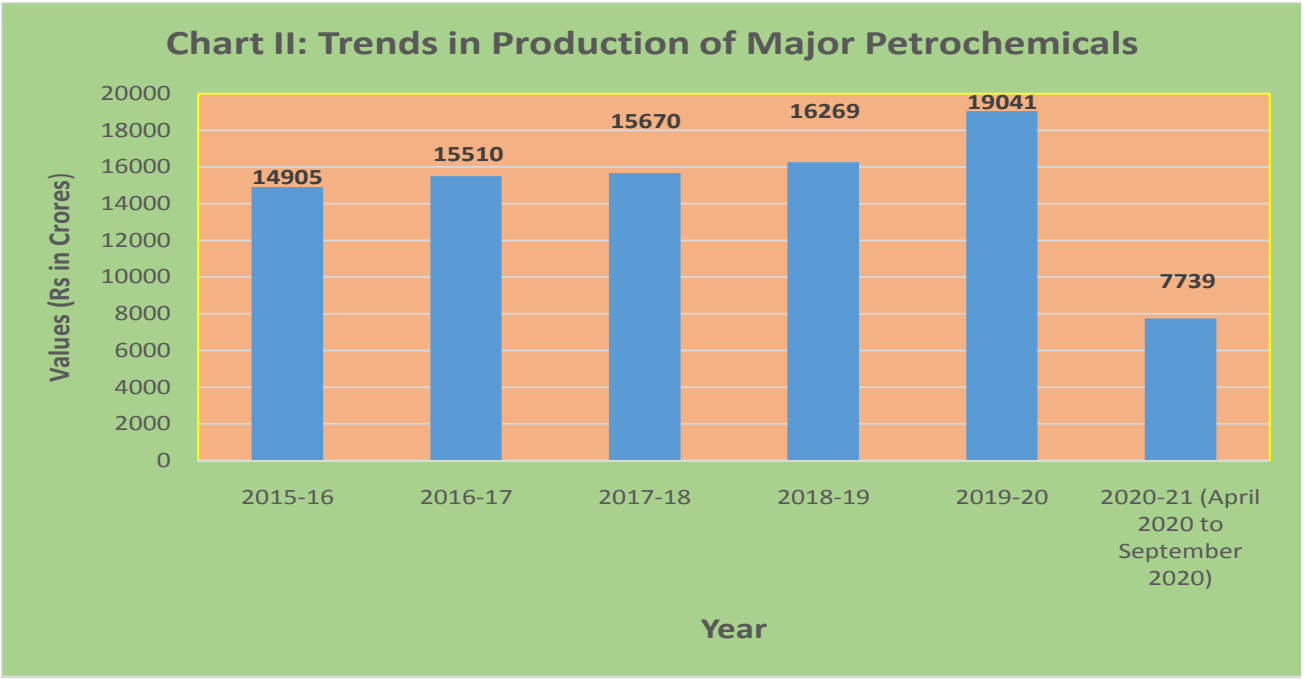


Petrochemical Sector- Production Trends

2.7 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.

2.8 There are 11 cracker complexes in operation in the country with a combined annual Ethylene capacity of 7.05 million Tonnes per annum.

2.9 From Table II, it may be seen that the production of polymers account for around 72% of the total production of basic major petrochemicals for the year 2020-21 (upto September 2020).The production of basic major petrochemicals in 2020-21 (upto September 2020) is 7,739 thousand MT. The CAGR in production of major petrochemicals during the period 2015-16 to 2019-20 is 6.31%. The trend in the production of selected major petrochemicals has been depicted in Chart II.



Index of Industrial Production

2.10 The weight of chemical and chemical products (Industry Division 20 of NIC 2008) is 7.87 out of 100 in the Index of Industrial Production (Base Year: 2011-12). The General Index for the month of September 2020 stands at 123.2, as compared to 122.9 in the month of September 2019. The cumulative growth of general index for the period April-September (2019-20) over the corresponding period of the previous year 2018-19 stands at negative 21.02%. The Index of Industrial Production for the manufacturing sector for the month of September 2020 stands at 125.3, as compared to 126.0 in the month of September 2019. The Index of Industrial Production for the chemicals and chemical products for the month of September 2020 stands at 124.9, as compared to 118.8 in the month of September 2019. The cumulative growth in manufacturing sector during April-September (2019-20) over the corresponding period of 2018-19 has been negative 23.58% while cumulative growth in chemical & chemical products during April-September (2019-20) over the corresponding period of 2018-19 has been negative 11.74%. The month-wise Index of Industrial production during 2018-19 and 2019-20 is depicted in Table III.

Table III: Index of Industrial Production

Index of Industrial Production		(Base : 2011-12=100)	
Period	**Chemicals and chemical products**	**Manufacturing**	**General**
Weight	7.87	77.63	100.00
Oct-18	118.0	133.9	132.8

Nov-18	110.9	126.8	126.1
Dec-18	122.4	135.8	133.9
Jan-19	123.7	135.5	134.4
Feb-19	111.6	129.3	127.6
Mar-19	128.9	144.6	144.1
Apr-19	116.1	126.2	126.5
May-19	118.9	135.8	135.4
Jun-19	116.0	129.0	129.3
Jul-19	124.6	133.7	131.8
Aug-19	120.3	128.4	126.2
Sep-19	118.8	126.0	122.9
Oct-19	116.2	126.3	124.0
Nov-19	120.2	130.6	128.8
Dec-19	123.0	135.4	134.5
Jan-20	124.9	137.9	137.4
Feb-20	121.7	134.2	134.2
Mar-20	101.1	111.6	117.2
Apr-20	53.0	42.1	54.0
May-20	95.9	84.4	90.2
Jun-20	117.3	107.1	107.9
Jul-20	120.5	118.2	117.6
Aug-20	119.2	118.3	116.9
Sep-20	124.9	125.3	123.2

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

2.11 The behaviour of IIP of chemicals and chemical products vis-à-vis General IIP and IIP of manufacturing from 2015-16 to 2019-20 is depicted in Table IV and Chart III. The Average annual growth rate during the period 2015-16 to 2019-20 in Chemicals and Chemicals Products based on IIP is 1.04% while it is 2.83% for manufacturing sector.

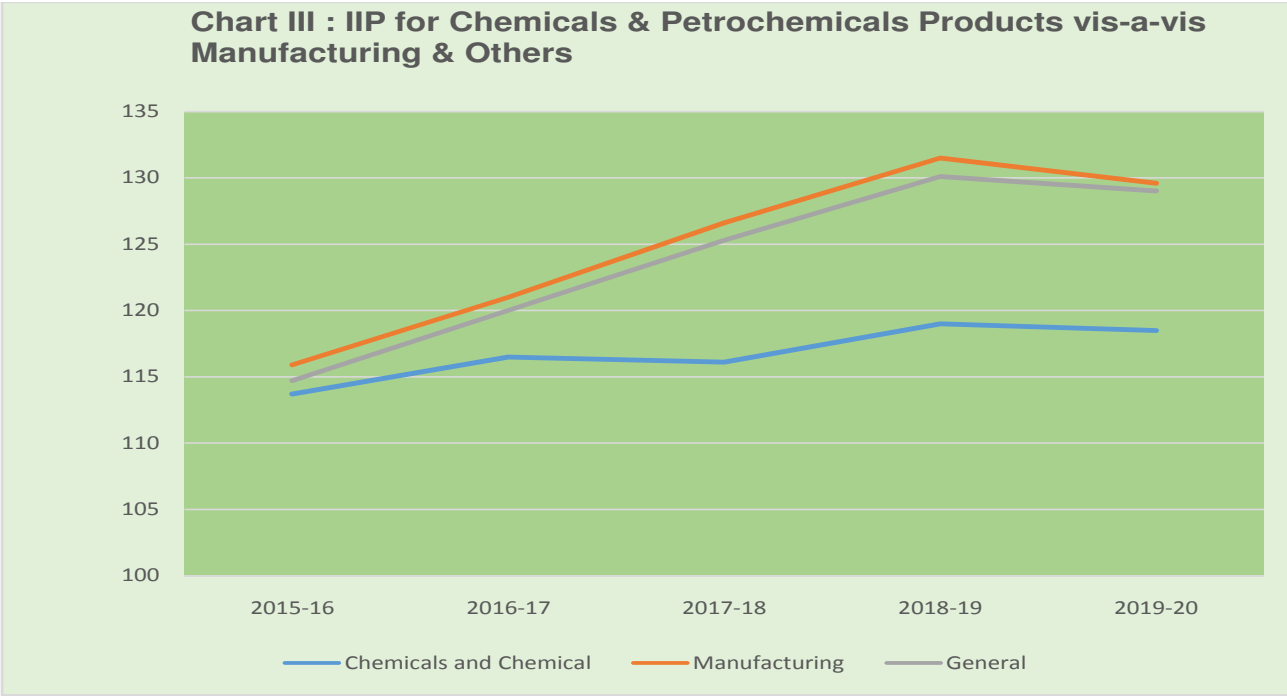
Table IV: Annual Average (April-March) Indices of Industrial Production

(Base: 2011-12 =100)

Particulars	**Weight**	2015-16	2016-17	2017-18	2018-19	2019-20	CAGR
Chemicals and Chemical Products	**7.87**	113.70	116.50	116.10	119.00	118.50	1.04

Manufacturing	**77.63**	115.90	121.00	126.60	131.50	129.60	2.83
General	**100.00**	114.70	120.00	125.30	130.10	129.00	2.98

Sources: Ministry of Statistics and Programme Implementation



Whole Sale Price Index (WPI)

2.12 The annual rate of inflation based on monthly WPI (Base Year: 2011-12) released by the Office of the Economic Advisor, for 'all commodities' stood at 1.32% in the month of September 2020 over September 2019. The index for 'Food Articles' group increased by 8.17%, for 'Manufactured Products' increased by 1.61% and whereas it is declined for 'Chemicals & Chemical products' by 1.44% during the same period. The weight of Chemicals & Chemical products in the WPI is 6.47 out of all commodities weight of 100. The month-wise Index of WPI from October 2018 to September 2020 is given in Table V.

Table V: Whole Sale Price Index

(Base Year: 2011-12 =100)

Month	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
Oct-18	122.0	145.9	118.9	120.5
Nov-18	121.6	146.2	118.8	121.2

Dec-18	119.7	143.5	118.3	120.0
Jan-19	119.2	144.2	118.1	119.6
Feb-19	119.5	143.7	118.2	119.7
Mar-19	119.9	144.5	118.3	119.6
Apr-19	121.1	148.8	118.5	119.9
May-19	121.6	150.6	118.6	119.8
Jun-19	121.5	152.2	118.5	119.0
Jul-19	121.3	154.3	118.0	118.4
Aug-19	121.5	156.1	117.8	118.2
Sep-19	121.3	155.4	117.9	117.7
Oct-19	122.0	160.2	117.8	117.1
Nov-19	122.3	162.6	117.8	116.5
Dec-19	123.0	162.6	118.0	116.2
Jan-20	123.4	160.5	118.8	116.2
Feb-20	122.2	154.7	118.8	115.8
Mar-20	120.4	151.2	118.6	115.5
Apr-20	119.2	154.5	118.7	115.2
May-20	117.5	153.1	118.2	115.5
Jun-20	119.3	155.4	118.6	115.7
Jul-20	121.0	161.3	118.7	115.9
Aug-20	122.0	163.0	119.4	116.1
Sep-20	122.9	168.1	119.8	116.0

Source :Office of the Economic Advisor (http://eaindustry.nic.in)

2.13 Table VI and Chart IV below show the annual WPI for chemicals & chemical products vis-à-vis all commodities, food articles and manufactured products during the years 2015-16 to 2019-20. The Average annual growth rate during the period 2015-16 to 2019-20 in Chemicals and Chemicals Products based on WPI was 1.07% while it was 2.02% for manufactured products.

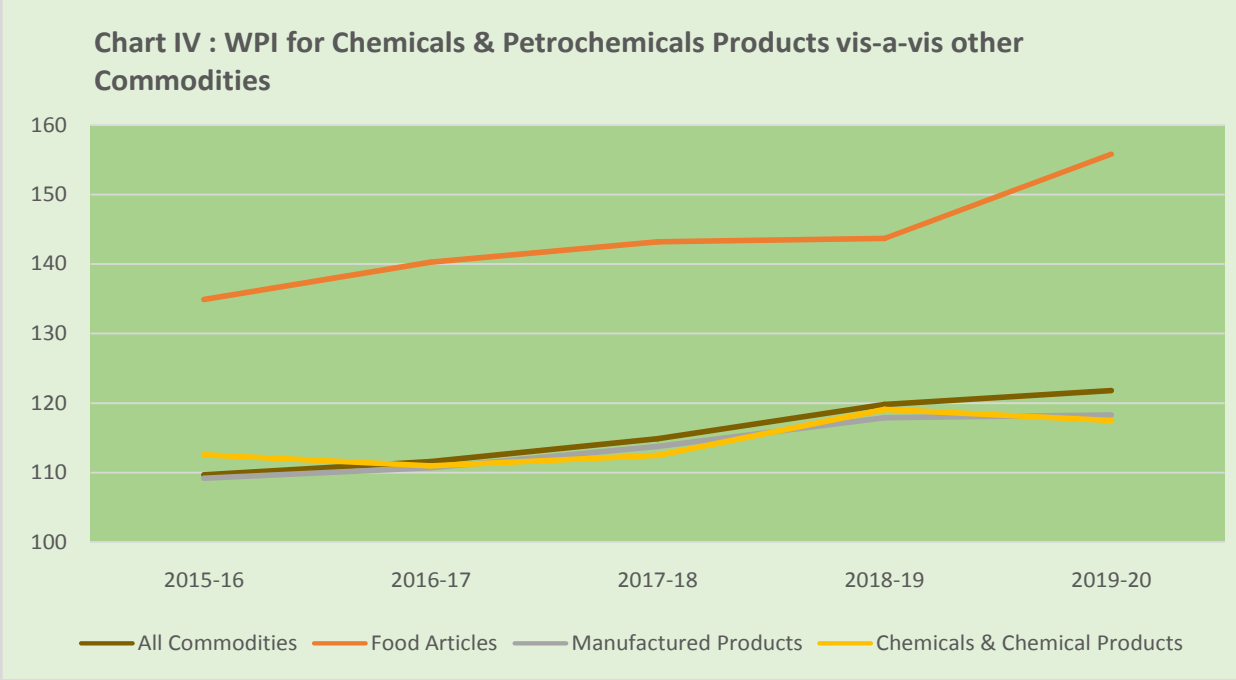
Table VI: Annual Average (April - March) Indices of Wholesale Price

(Base Year: 2011-12 = 100)

Description	**Weight**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**CAGR (%)**
All Commodities	100.00	109.70	111.60	114.90	119.80	121.80	**2.65**
Food Articles	15.26	134.90	140.30	143.20	143.70	155.80	**3.67**

Manufactured Products	64.23	109.20	110.70	113.80	117.90	118.30	**2.02**
Chemicals & Chemical Products	6.47	112.60	111.00	112.50	119.10	117.50	**1.07**

Source: Office of the Economic Advisor (http://eaindustry.nic.in)



2.14 Table VII shows WPI of different commodity groups within Chemicals & Chemical products group during the years 2015-16 to 2019-20.

Table VII: WPI of Chemicals & Chemical Products

(Base year: 2011-12=100)

DESCRIPTION	WEIGHT	2015-16	2016-17	2017-18	2018-19	2019-20
Chemicals and Chemical Products	6.47	112.6	111.0	112.5	119.1	117.5
Basic Chemicals	1.43	105.8	104.7	111.2	125.0	119.9
Fertilizers and Nitrogen Compounds	1.48	121.4	118.7	117.1	121.1	123.1
Plastic and synthetic rubber in primary form	1.00	115.3	113.7	113.0	117.6	112.4

Pesticides and Other Agrochemical Products	0.45	122.6	116.8	115.3	120.2	122.6
Paints, Varnishes and Similar Coatings, Printing Ink and Mastics	0.49	109.8	108.5	108.6	112.7	114.7
Soap and Detergents, Cleaning and Polishing Preparations, Perfumes and Toilet Preparations	0.61	112.3	113.7	115.2	116.8	118.6
Other Chemical Products	0.69	108.4	106.5	110.1	116.6	114.2
Man-Made Fibres	0.30	93.3	94.1	97.5	104.0	97.9

Source: Office of the Economic Advisor (http://eaindustry.nic.in)

INTERNATIONAL TRADE

2.15 Trends in exports and imports of Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers) during 2015-16 to 2019-20 are given in Table VIII (A & B) and Chart V and Chart VI.

Table VIII: Exports and Imports– Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)

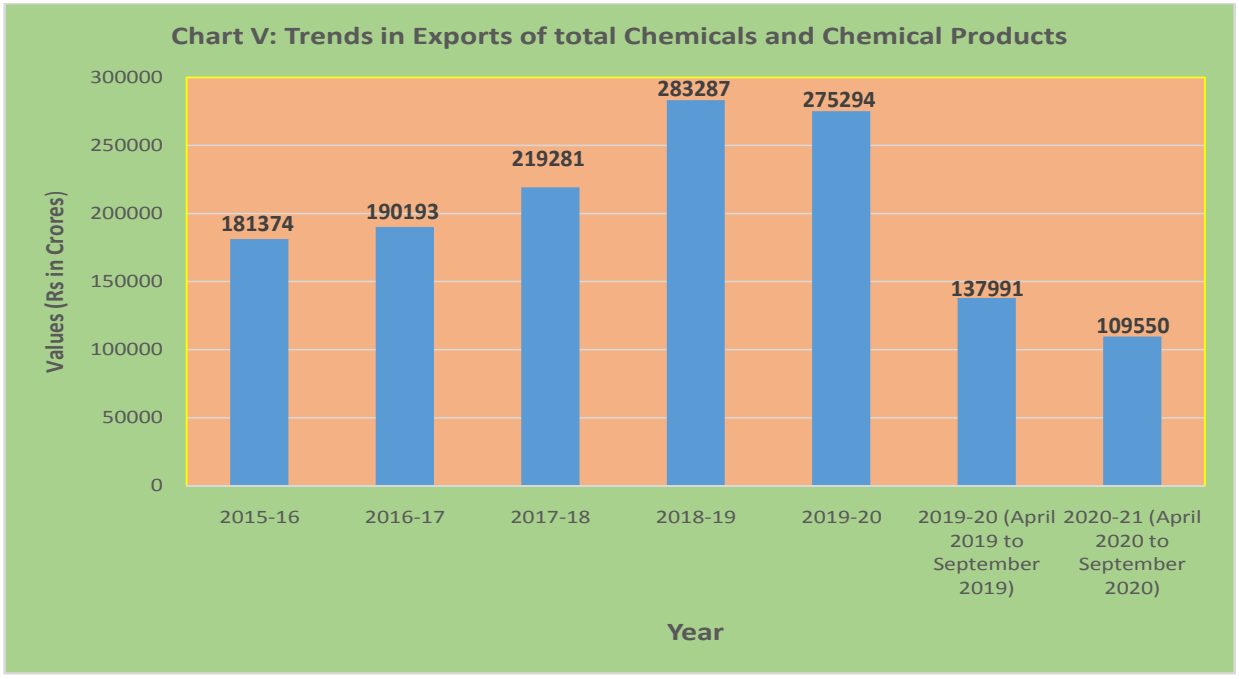
A. Exports of Chemicals & Petrochemicals Products

(*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.

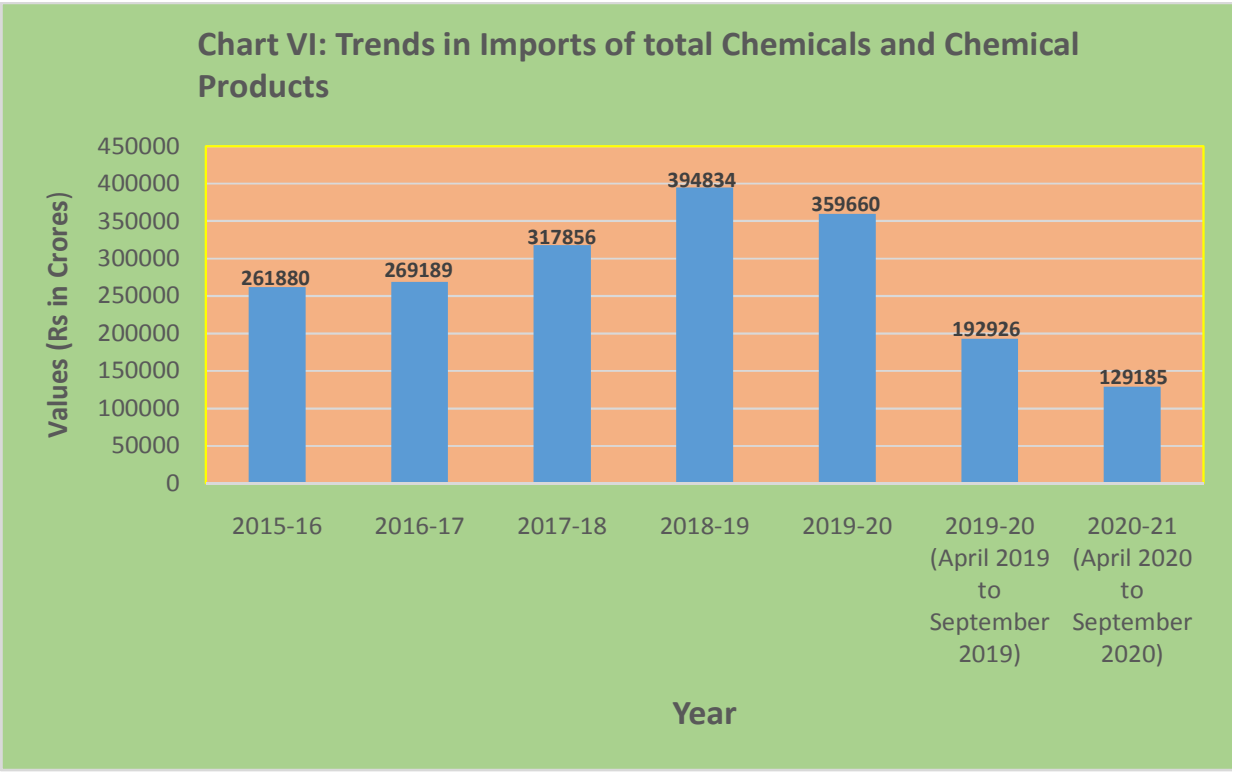


B. Imports of Chemicals & Petrochemicals Products

(*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.



2.16 As per Export and Import figures, Exports of chemicals and chemical products (excluding pharmaceutical products and fertilizers) contributed 14.9% of total export in the year 2020-21 (upto September 2020) compared to 12.4% in the year 2019-20 during the corresponding period. Imports contributed 14.4% of total imports in 2020-21 (upto September 2020) which was 11.1% in the year 2019-20 during the same period. CAGR in export of total chemicals and chemicals products (excluding pharmaceutical & fertilizer products) during the period 2015-16 to 2019-20 is 11% while CAGR of total national export is 6.64%. CAGR in Import of total chemicals and chemicals products (excluding pharmaceutical & fertilizer products) during the period 2015-16 to 2019-20 is 8.25% while CAGR of total national import is 7.78%.

2.17 As per the European Chemical Industry Council Report-2020 (Cefic- 2020) world chemicals (excluding pharmaceuticals) sales in 2018 are valued at 3347 Euro billion. India ranks 4th in Asia and 6th in world with chemicals sales valued at 89 Euro billion in 2018. India's Capital spending in World Chemicals (excluding pharmaceuticals) is valued at 4.6 Euro billion in 2018, as compared to 3.6 Euro billion in 2008. India's chemical R&D spending is valued at 1.4 Euro billion in 2018, as compared to 0.7 Euro billion in 2008.

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Chapter – 3

SCHEMES OF THE DEPARTMENT

3.1 The Department of Chemicals and Petrochemicals was earlier implementing three Central Sector Schemes viz Assam Gas Cracker Project (AGCP), New Schemes of Petrochemicals (Scheme for setting up of Plastic Parks, Scheme for setting up of Centres of Excellence & National Awards Scheme) and Chemical Promotion & Development Schemes (CPDS). The Assam Gas Cracker Project is being implemented by Brahamputra Cracker and Polymer Limited (BCPL), a Public Sector Undertaking earlier under the administrative control of Department of Chemicals & Petrochemicals. The administrative control of BCPL has now been transferred to Ministry of Petroleum and Natural Gas w.e.f. 01.01.2020.

3.2. In addition, the Department is also implementing other schemes for funding its Secretariat expenses; support to Central Institute of Petrochemicals Engineering & Technology (CIPET), which is engaged in academic, technology support, research and skill development activities; Institute of Pesticides Formulation Technology (IPFT) and Bhopal Gas Leak Disaster (BGLD).

3.3. The larger objective of the Plastic Parks scheme is to contribute to the economy by increasing investment, production, exports in the Petrochemicals sector along with generation of employment.

3.4. Schemes of Centres of Excellence provides Grant-in-aid to identified research institute(s) with the aim of improving the existing petrochemicals technology and research in the country and to promote development of new applications of polymers and plastics.

3.5. Under the Chemicals Promotion Development Scheme (CPDS), the Department provides Grant-in-aid to various organizations/industry associations, etc. to organise workshops, seminars and for conducting studies/ surveys for the creation and dissemination of knowledge for the development of chemical and petrochemical sectors.

3.6. The Department provides budgetary support to CIPET for strengthening its civil and technical infrastructure, research and development capacities and academic and training initiatives and also for construction of hostels and setting up new CIPET centres.

3.7. IPFT, located at Gurugram is an autonomous body under the Department of Chemicals and Petrochemicals with mandate to develop environment and user friendly pesticides formulation technologies for a safer environment and also develop methods for the detection and analysis of pesticides and their residues.

3.8. Office of the Welfare Commissioner of Bhopal is entrusted with the work of disbursement of compensation to Bhopal Gas victims. Budget is provided settlement of ex-gratia cases.

3.9. Expenditure under Secretariat head is of contingent nature for payment of salaries and office expenses etc. of the Department.

Table No. IX: Scheme-wise Outlay

(Value in Rs. crore)

Sr. No.	Schemes	BE 2020-21	RE 2020-21	BE 2021-22
I	**Central Sector Schemes**			
1.	Assam Gas Cracker Project (AGCP)*	0.01	0.00	
2.	New Schemes of Petrochemicals	53.79	22.85	53.73
3.	Chemical Promotion & Development Schemes (CPDS)	3.50	2.80	3.00
	Total of I	**57.30**	**25.65**	**56.73**
II	**Other Central Expenditure (Sectt./BGLD/ ABs/ PSUs)**			
1.	Secretariat	19.99	18.12	20.97
2.	Bhopal Gas Lead Disaster (BGLD)	31.80	21.43	22.06
3.	Central Institute of Plastics Engineering & Technology (CIPET)	98.25	146.30	117.88
4.	Institute of Pesticides Formulation Technology (IPFT)	11.00	10.50	12.00
III	**Loan to PSUs**		73.70	3.50
1.	Hindustan Fluorocarbon Ltd.			
	Total of II	**161.04**	**270.05**	**176.41**
	Grand Total (I+II+III)	**218.34**	**295.70**	**233.14**
*AGCP transferred to MOP&NG in January, 2020.				

Table X: Expenditure 2019-20 & 2020-21

(Rs. in crore)

Sr. No.	Name of Scheme	BE 2019-20	RE 2019-20	Exp. 2019-20	% of Exp. w.r.t. RE 2019-20	BE 2020-21	RE 2020-21	Exp as on 31.12.2020	% of Exp. w.r.t. BE 2020-21
I	**Central Sector Schemes**								
1.	Assam Gas Cracker Project (AGCP)	100.00	200.00	200.00	100.00	0.01	0.00		
2.	New Schemes of Petrochemicals	31.65	31.65	31.65	100.00	53.79	22.85	11.74	51.38
3.	Chemical Promotion & Development Schemes (CPDS)	3.00	3.00	2.94	98.00	3.50	2.80	1.21	43.21
	Total of I	**134.65**	**234.65**	**234.59**	**99.97**	**57.30**	**25.65**	**12.95**	**50.49**
II	**Other Central Expenditure (Sectt/ BGLD/ABs/PSUs)**								
1.	Secretariat	19.58	18.08	17.40	96.24	19.99	18.12	13.87	76.54
2.	Bhopal Gas Lead Disaster (BGLD)	21.42	27.95	23.61	84.47	31.80	21.43	12.89	60.15
3.	Central Institute of Plastic Engineering & Technology (CIPET)	80.00	81.50	81.50	100.00	98.25	146.30	94.50	64.59
4.	Institute of Pesticides Formulation Technology (IPFT)	8.00	8.00	8.00	100.00	11.00	10.50	8.19	78.00
	Total of II	**129.00**	**135.53**	**130.51**	**96.30**	**161.04**	**196.35**	**129.45**	**65.93**
III	**Loan to PSUs**								
1.	Hindustan Fluorocarbon Ltd.						**73.70**	**73.70**	**100.00**
	Grand Total (I+II)	**263.65**	**370.18**	**365.10**	**98.63**	**218.34**	**295.70**	**216.10**	**73.08**

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Chapter – 4

PETROLEUM, CHEMICAL AND PETROCHEMICAL INVESTMENT REGIONS (PCPIRs)

Background

4.1 Four Petroleum, Chemical and Petrochemical Investment Regions (PCPIRs) are being implemented in the States of Andhra Pradesh (Vishakhapatnam), Gujarat (Dahej), Odisha (Paradeep) and Tamil Nadu (Cuddalore and Nagapattinam) to promote investment and industrial development in these sectors.

4.2 The PCPIRs were conceptualized in a cluster approach to promote Petroleum, Chemical and Petrochemical sectors in an integrated and environment friendly manner on a large scale. Government of India formulated the PCPIR policy in April, 2007 to give a boost to this sector.

4.3. Each PCPIR is a specifically delineated investment region having an area of about 250 sq. km (with around 40% of the area earmarked for processing activities). It is not mandatory for the State Government concerned to acquire the entire area comprising the PCPIR, but they have to notify the area under the relevant area planning and zoning law.

4.4. The concerned State Governments carry out Environmental Impact Assessment (EIA) and lead the project implementation. Government of India ensures the availability of external physical infrastructure linkages to the PCPIR including connectivity through Railways, Roads, Ports, Airports and Telecom etc. through Public Private Partnership projects to the extent possible. The Central Government also provides necessary funding to make such projects viable, in the form of Viability Gap Funding (VGF), as well as budget support for creation of these linkages wherever required.

4.5. The policy provides that each PCPIR would have a refinery / petrochemical feedstock company as an Anchor Tenant.

4.6. The State Government notifies a nodal Department or agency for coordinating the linkages. A Management Body constituted by the State Government for each PCPIR, under relevant legislation, is responsible for the development and management of the PCPIR.

4.7. Once fully established, these four PCPIRs are expected to attract investment of around Rs. 7.63

lakh Crore. As per data available from State Governments, investments worth Rs. 2.22 lakh Crore (approximately) have been made / committed in these regions. The four PCPIRs are expected to generate employment for around 33.83 lakh persons. Around 3.85 lakh persons have been employed in direct and indirect activities related to PCPIRs.

4.8. A Sub-committee was constituted in November, 2019 under the chairmanship of Principal Secretary (Industries) Govt. of Andhra Pradesh with the members of Govt. of Odisha, Govt. of Gujarat, Govt. of Tamil Nadu and representatives from FICCI, CII, ICC, AIPMA and CIPET to recommend the amendments in PCPIR Policy, 2007 to make it more effective. A review meeting was held on 27.05.2020 under the chairmanship of the then Secretary, DCPC to discuss the report submitted by the committee of State Secretaries of Industries for recommending amendments to the PCPIR Policy. The recommendations made by the sub-committee are being examined for incorporating the same in the revised PCPIR Policy.

4.9. The status of implementation and execution of these projects is as follows:

Indicator	Gujarat	Andhra Pradesh#	Odisha	Tamil Nadu
Location/ Region	Dahej, Bharuch	Vishakhapatnam – Kakinada	Paradeep	Cuddalore-Nagapattinam
Date of Approval	Feb, 2009	Feb, 2009	Dec, 2010	July,2012
Date of MoA	07.01.2010	01.10.2009	03.11.2011	20.02.2014
Total Area (Sq. kms.)	453.00	640.00	284.15	256.83
Processing Area (Sq.kms.)	248.00	270.00	123.00	104.00
Anchor Tenant	ONGC Petro Additions Limited (OPaL)	Yet to be finalized	Indian Oil Corporation Ltd. (IOCL)	TIDCO is awaiting the revival of proposed Anchor Tenant of Nagarjuna Oil Corporation Limited / new project to be set up in this location.
Refinery / Cracker capacity in MMTPA	Cracker: Ethylene: 1.1 Propylene: 0.6	Yet to be finalized	15 (Greenfield refinery).	
Anchor Project Status	Commissioned	Yet to be finalized	Commissioned in February, 2016.	
Amount of approved infra. Projects (Rs. crore)*	NA	18,731.00	13,634.00	13,354.00
GoI share in form of VGF (Rs. crore)	80.50	1206.80	716.00	1143.00 budgetary support-1500)
Total proposed investments (Rs. crore)	50,000.00	3,43,000.00	2,77,734.00	92,500.00
Investments made (Rs. Crore)	1,15,816.00	51,481.00 - Committed & 15,081.00 – Actual made so far	47,000.00	8,100.00

Projected employment (No.)*	8,00,000	11,98,000	6,48,000	7,37,200
Employment generated (No.)	1,92,000	1,39,627	40,000	13,950
Status of Master Plan notification	Development Plan sanctioned.	Field Studies, village level consultations completed. Once the Anchor unit finalizes location, configuration and capacity of the Cracker Complex etc., Master Plan will be finalized.	Preparation of Master Plan is in process.	Will be taken up after formation of PCPIR Management Board.
Status of EIA	Environmental Clearance & Coastal Region Zone (CRZ) clearance received.	Environmental Clearances, EIA Studies, Collection of Baseline Data etc completed. Once the Master Plan finalized based on location, configuration and capacity of the Cracker Complex the public hearing will be conducted and will be processed for Environmental Clearance.	Tor received from MoEFF&CC. EIA Study is in process.	Will be taken up after formation of PCPIR Management Board.

* At the approval stage of the projects.

Status of Implementation of PCPIRs

4.10 Gujarat PCPIR

- Gujarat PCPIR has been notified under the Gujarat Special Investment Region (GSIR) Act, 2009. It is strategically positioned to the east of Delhi-Mumbai Industrial Corridor (DMIC) and near the western coastline of India.
- The Gujarat Infrastructure Development Corporation (GIDC) has made an investment of around Rs. 17,227 crore for infrastructure development in the PCPIR.
- The Anchor Tenant, viz. M/s ONGC Petro additions Ltd. (OPaL), has spent around Rs. 30,826 crore on the project. The project has been commissioned in 1st week of March, 2017.
- Ministry of Environment, Forest and Climate Change (MoEF&CC) has granted Environment and Coastal Region Zone (CRZ) clearance on 14.09.2017 for an area of 44445.18 hectare for development of Gujarat PCPIR.

4.11 Andhra Pradesh PCPIR:

- Special Development Authority (SDA) was formed by Government of Andhra Pradesh in May, 2008 to develop the AP PCPIR.
- AP PCPIR covers 6 existing SEZs. The committed investment in AP PCPIR is around Rs. 51,481 crore. Investment of Rs. 1948.61 crore appx. have been made on infrastructure development.
- Hindustan Petroleum Corporation Limited (HPCL) and GAIL have conducted pre-feasibility study. Discussions are going on between Government of Andhra Pradesh and M/s HPCL & GAIL on

Viability Gap Funding and other support / incentives.

- Road, rail link, water supply, effluent treatment and marine outfall projects are under different stages from study to implementation.

4.12 Odisha PCPIR:

- Detailed Master Plan for industrial development of PCPIR area shall be prepared by PCPIR Authority. Industrial Development Corporation of Odisha (IDCO) has selected a consultant for preparation of Master Plan of the region. Draft detailed Master Plan has already been completed.
- Indian Oil Corporation's 15 MMTPA Refinery at Paradeep was commissioned in February, 2016. IOCL has commissioned 730 Kilo Tonne per Annum (KTA) Polypropylene Unit which can be utilized in the proposed Plastic Park at the same PCPIR location. IOCL has also planned to set up Mono-ethyle Glycol, Paraxylene-PTA & Petcoke gasification units for availability of raw materials in time bound and cost effective manner in Paradeep PCPIR.
- Detailed Environmental Impact Assessment (EIA) is being undertaken by Environmental Protection Training and Research Institute (EPTRI), Hyderabad. This study will ascertain the actual number of displacement. Accordingly, rehabilitation will be taken up as per Odisha Resettlement and Rehabilitation Policy, 2006. Terms of Reference (ToR) have been received from Ministry of Environment, Forest and Climate Change (MoEF&CC). The final report has already been prepared and shall be submitted with MoEF&CC after conducting the public hearing in the zone.

4.13 Tamil Nadu PCPIR

- An area of about 246.90 Sq. Kms in Cuddalore and Nagapattinam district have been notified as PCPIR under the Tamil Nadu Town and Country Planning Act 1971 in January, 2016. Government of Tamil Nadu in its order dated 20.06.2017 has notified the PCPIR area as a Local Planning Area under the Tamil Nadu Town and Country Planning Act, 1971.
- In-principal approval was obtained from Govt. of Tamil Nadu on 15.02.2018 for formation of management board.
- Representative from Tamil Nadu Government has informed that they are not in position to implement the PCPIR Policy as the proposed Anchor Tenant was Nagarjuna Oil Corporation Limited against which liquidation process has been ordered by NCLT and now TN Govt. is in process to withdraw the notification of TN PCPIR.

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Chapter – 5

NEW SCHEMES OF PETROCHEMICALS

The Department of Chemicals and Petrochemicals is implementing the following schemes under the National Policy on Petrochemicals:-

i. National Awards for Technology Innovation in Petrochemical and Plastic Processing Industry
ii. Setting up of Centres of Excellence in Polymer Technology
iii. Setting up of Plastic Parks

National Awards for Technology Innovation in Petrochemical and downstream Plastic Processing Industry

5.1 The Department is implementing an award scheme to provide incentive for meritorious innovations & inventions in various fields of petrochemicals and downstream plastics processing industry. 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.

5.2 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. In a ceremony held on 13th February, 2020 at Bengaluru, the Hon'ble Minister of Chemicals & Fertilizers, Sh. D.V Sadananda Gowda presented the 9th National Awards for the year 2018-19. The Awards covered eleven categories covering fields like New Polymers, New Applications of Polymer in various fields, viz., New Polymer Processing Machines including Energy Efficiency, Innovation in Polymer Waste Management and Recycling, Green/ Bio-degradable Polymer, Innovation in Packaging etc. The prize money for winners was Rs. 3 Lakhs and Rs. 1 Lakh for the runner- ups respectively. The work related to the 10th National Award for the year 2019-20 is under progress.

Sh. D.V. Sadananda Gowda, Hon'ble Minister (Chemicals & Fertilizers) along with Secretary (C&PC); Joint Secretary (Petrochemicals); Director General, CIPET & Principal Director (Technical), CIPET at the 9th National Awards ceremony.

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

5.3 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.

5.4 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 Materials	12.00	6.00
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

Setting up of Plastic Parks

5.5 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 of employment.

5.6 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.

5.7 Under the Scheme, 7 Plastic Parks have been approved in the States of Madhya Pradesh (two), Odisha, Jharkhand, Tamil Nadu, Uttrakhand and Assam. These parks are under various stages of implementation as per following details:

Location of Plastic park	Final Approval	Land area (Acre)	Total Project Cost (Rs cr)	Total GoI grant-in-aid approved for project (Rs cr)	GoI grant-in-aid released till September, 2020 (Rs cr)	Total no. of plots
Tamot, Madhya Pradesh	09.10.2013	122	108.00	40.00	35.90	155
Jagatsinghpur, Odisha	09.10.2013	120	106.78	40.00	36.00	80
Thiruvallur, Tamil Nadu	05-09-2019	239.82	216.92	40.00	8.00	68
Tinsukia, Assam	21. 02.2014	173	93.65	40.00	29.00	104
Deoghar, Jharkhand	20.12.2018	93.09	67.33	33.67	6.73	107
Bilaua, Madhya Pradesh	20.12.2018	93	68.72	34.36	18.89	107
Sitarganj, Uttrakhand	03.12.2020	40	67.73	33.9		

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Chapter – 6

INTERNATIONAL CONVENTIONS AND TREATIES

Chemical Weapons Convention (CWC)

6.1 India is a signatory and party to the Chemical Weapons Convention (CWC) administered by Organization for the Prohibition of Chemical Weapons (OPCW) with Head Quarters at The Hague, Netherlands. The Convention is a universal, non-discriminatory, multi-lateral, disarmament treaty which prohibits the development, production, stock-piling and use of chemical weapons and monitors its elimination in order to secure chemical weapons free world. India signed the treaty at Paris on 14th January, 1993. India, pursuant to provisions of the Convention enacted the Chemical Weapons Convention Act, 2000. As on date, 193 countries are parties to the Convention. India was the First State Party to secure the distinction of chemical weapon free state Party by destructing all its stockpile of its chemical weapons amongst all State Parties of the Convention. In the Annex on Chemicals, in Schedules of Chemicals, under Schedule 1, after item (8) the following toxic chemicals, have been inserted, namely: -

(i) P-alkyl (H or ≤C10, incl. cycloalkyl) N-(1-(dialkyl(≤C10, incl. cycloalkyl)amino)) alkylidene (H or ≤C10, incl. cycloalkyl) phosphonamidic fluorides and corresponding alkylated or protonated salts.
e.g. N-(1-(di-n-decylamino)-n-decylidene)-P-decylphosphonamidic fluoride
Methyl-(1-(diethylamino)ethylidene)phosphonamidofluoridate

(ii) O-alkyl (H or ≤C10, incl. cycloalkyl) N-(1-(dialkyl(≤C10, incl. cycloalkyl)amino))alkylidene(H or ≤C10, incl. cycloalkyl) phosphoramidofluoridates and corresponding alkylated or protonated salts
e.g. O-n-Decyl N-(1-(di-n-decylamino)-n-decylidene) phosphoramidofluoridate
Methyl (1-(diethylamino)ethylidene)phosphoramidofluoridate
Ethyl (1-(diethylamino)ethylidene)phosphoramidofluoridate

(iii) Methyl-(bis(diethylamino)methylene)phosphonamidofluoridate

(iv) Carbamates (quaternaries and bisquaternaries of dimethylcarbamoyloxypyridines) Quaternaries of dimethylcarbamoyloxypyridines:
1-[N,N-dialkyl(≤C10)-N-(n-(hydroxyl, cyano, acetoxy)alkyl(≤C10)) ammonio]-n-[N-(3-dimethylcarbamoxy-α-picolinyl)-N,N-dialkyl(≤C10) ammonio]decanedibromide (n=1-8)
e.g. 1-[N,N-dimethyl-N-(2-hydroxy)ethylammonio]-10-[N-(3-dimethyl carbamoxy-α- picolinyl)-N,N-dimethylammonio]decanedibromide

Bisquaternaries of dimethylcarbamoyloxypyridines:
1,n-Bis[N-(3-dimethylcarbamoxy-α-picolyl)-N,N-dialkyl(≤C10) ammonio]-alkane-(2,(n-1)- dione) dibromide (n=2-12)
e.g. 1,10-Bis[N-(3-dimethylcarbamoxy-α-picolyl)-N-ethyl-Nmethylammonio] decane-2,9-dionedibromide

Rotterdam Convention

6.2 Rotterdam Convention on Prior Informed Consent Procedures (PIC) that entered into force on 24th February, 2004, is a legally binding instrument, which was adopted on 10th September 1998 by a Conference of Plenipotentiaries in Rotterdam. India acceded to the Convention on 24.05.2006.

6.3 The Convention seeks to promote shared responsibility and cooperative efforts among State Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm. It also seeks to contribute to the environmentally sound use of these hazardous chemicals by facilitating information exchange about their characteristics, providing for a national decision making process on their import and export, and by disseminating these decisions to the Parties.

6.4 Each Party is required to designate a National Authority for performing the administrative functions required under the Convention. Department of Chemicals and Petrochemicals is the Designated National Authority (DNA) for industrial chemicals and Department of Agriculture and Co-operation is the DNA for pesticides.

6.5 There are a total of 52 chemicals listed in Annex III, 35 pesticides (including 3 severely hazardous pesticide formulations), 16 industrial chemicals, and 1 chemical in both the pesticide and the industrial chemical categories (list is enclosed as Annexure-III). The parties are required to communicate their import policy for these chemicals to the PIC Secretariat. The exporting Party has to provide the export notification to the importing Party in respect of banned or severely restricted chemicals in the importing country. The export notifications received from other Parties for industrial chemicals are examined by Department of Chemicals and Petrochemicals, being the DNA for industrial chemicals, and acknowledgment/ reply is sent to the DNA of the exporting country.

Stockholm Convention

6.6 The Stockholm Convention, ratified by India on 13.01.2006, is a global treaty to protect human health and environment from Persistent Organic Pollutants (POPs). POPs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to human beings and wildlife. POPs

travel globally and can cause damage wherever they travel. The Convention that entered into force of 17th May, 2004, lays down that in its implementation, Governments will take measures to eliminate or reduce the release of POPs into the environment.

6.7 The Stockholm Convention seeks the elimination or restriction of production and use of all intentionally produced POPs (industrial chemicals and pesticides). The Convention also seeks the continuing minimization and wherever feasible, ultimate elimination of the releases of unintentionally produced POPs such as dioxins and furans. At present, 35 chemicals are covered under the Stockholm Convention, of which use of DDT is restricted in India. Use of DDT is banned for agricultural purposes; it is produced in a restricted manner for use in vector control only, as India has obtained exemption for use of DDT for vector control.

6.8 Stockpiles and wastes containing POPs must be managed and disposed of in a safe, efficient and environmentally sound manner, taking into account international rules, standards and guidelines. Each country is required to develop a plan for implementing its obligations under the Convention. A Global Environment Facility (GEF) has been set up as an interim financial mechanism, to assist the developing countries in implementation of the Convention.

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Chapter – 7

BHOPAL GAS LEAK DISASTER

7.1 On the intervening night of 2nd /3rd December, 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.

Adjudication of Compensation Claims

7.2 Several suits were filed for compensation and damage in different courts in India. Prosecution had also been launched. Government of India enacted an act known as The Bhopal Gas Leak Disaster (processing of Claims) Act, 1985. The Act came into force on 20th February, 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, if any, arising there from. 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.

7.3 Looking to the magnitude of the human suffering that occurred due to BGLD, Hon'ble Supreme Court of India passed a settlement order dated 14th and 15th February, 1989 directing the Union Carbide Corporation to pay a sum of US $ 470 million, which was deposited by the Company with the Registrar of the Supreme Court of India, in 1989.

Original Compensation

7.4 The actual disbursement of the compensation started from 1992 and the Office of the Welfare Commissioner awarded/disbursed Rs.1549.32 crore as compensation in settled cases of 5,74,393 claimants belonging to the categories of death, permanent disability, temporary disability, injury of utmost severity cases, minor injury, loss of property/PSU and loss of livestock.

Pro-Rata Compensation

7.5 The Supreme Court vide order dated 19th July, 2004 had directed the Welfare Commissioner to disburse the balance amount of approximately Rs.1500 crore, which accumulated with the

Reserve Bank of India on account of accrual of interest and exchange rate variation, on pro-rata basis (in the ratio of 1:1 of original compensation) to the claimants whose cases had been settled. The distribution of pro-rata compensation started from November, 2004. A sum of Rs.1517.87 crore as pro-rata compensation has been awarded in 5,63,120 cases till December, 2020. The work of disbursal of pro-rata compensation is continuing.

Disbursement of Ex-gratia

7.6 On the recommendations of the Group of Ministers (GoM) constituted on Bhopal Gas Leak Disaster, the Government took certain decisions to provide further relief and rehabilitation to the gas victims in the year 2010. One of the major decisions taken by the Government was to pay ex-gratia to the following categories of gas victims:

Categories of Ex-gratia payments to Gas victims

Category	Scale of Ex-gratia
Death	Rs.10 lakh (less amount already received)
Permanent disability	Rs. 5 lakh (less amount already received)
Injury of utmost severity	Rs. 5 lakh (less amount already received)
Cancer	Rs. 2 lakh (less amount already received)
Total Renal Failure	Rs. 2 lakh (less amount already received)
Temporary disability	Rs. 1 lakh (less amount already received)

7.7 An amount of Rs.936.00 crore has been approved by the Government for disbursement of ex-gratia amongst the above categories of victims. The Office of the Welfare Commissioner has commenced disbursal of ex-gratia to the gas victims on 19th December, 2010. Till December, 2020, 62,229 cases have been decided and an amount of Rs.848.35 crore has been awarded.

Rehabilitation of Bhopal Gas Victims (Action Plan)

7.8 Rs.102 crore was sanctioned by the Government of India for relief, rehabilitation and financial assistance to victims of gas tragedy from 1985 to 1989.

7.9 In 1990, Government of India approved 5-years Action Plan of the State Government of Madhya Pradesh with a capital outlay of Rs.163.10 Crore for the Medical, Economic, Social and Environmental rehabilitation of the Bhopal Gas victims. The outlay was subsequently revised upwards to Rs.258 crores. It was decided that the Action Plan was to be shared by the Government of India and State Government of Madhya Pradesh (GoMP) in the ratio of 75:25 and implemented by the GoMP. The Action Plan was implemented from 1990 to 1999 this involved creation of infrastructure for providing relief and rehabilitation to the gas victims against this approved plan, GoMP spent and amount of Rs.992.18 crore. The major component of the Action Plan was Medical Rehabilitation which included establishment of six full-fledged Gas Relief hospitals and also dispensaries for free treatment of gas victims.

7.10 Further Rs.14.18 crore was provided by Government of India under Jawaharlal Nehru National Urban Renewal Mission (JNNURM), in April, 2006 for supply of piped drinking water to 14 localities around UCIL plant site where the ground water is not potable.

7.11 GoMP had submitted to Group of Ministers (GoM) in April 2008, a new Memorandum on New Plan of Action with an outlay of Rs.982.75 crore for various rehabilitation measures to be taken for Bhopal Gas Victims. The Government, on the recommendations of the GoM, approved a sanction of Rs.272.75 crore shared between the Central Government and GoMP in the ratio of 75:25 for implementation of New Plan of Action, 2010. A sanction of Rs.272.75 crore was released by the Ministry of Finance, Department of Expenditure to the GoMP on 08.07.2010 'On account' payment of Additional Central Assistance (ACA) for other projects (Grant Component) for State's Annual Plan 2010-2011.

7.12 GoMP is in the process of implementation of various rehabilitation schemes as approved in the New Plan of Action 2010. The GoMP has apprised that an amount of Rs.132.34 crore has been utilized out of the approved plan of Rs.272.75 crore.

Social Rehabilitation

7.13 Total 5000 widows of gas victims paid pension plan of Rs.1000 per month for a period of five years, (GoMP extended this scheme for another 2 years) for which Rs.30 crores have been allocated. An amount of Rs.43.17 crore * (Excess amount of Rs.13.17 crore earned from FD's interest) has been disbursed to widows pension to 4,995 beneficiaries.

Medical Rehabilitation

7.14 Most of the essential equipment for Gas Rahat Hospitals have been procured, installed and are functioning. The work of construction and renovation of Hospital buildings were completed out of Rs.272.75 crore, a sum of Rs.33.55 crore was allotted for Medical Rehabilitation. GoMP had utilized a fund of Rs.16.32 crore and sought an administrative approval to utilize the unspent balance fund of Rs.17.23 crore under Medical Rehabilitation for execution of certain new items of work such as construction of Bone Marrow Transplant Centre and procurement of equipment at Kamla Nehru Hospital, Renovation of civil work for Modular OT for 4 Hospitals namely Indira Gandhi Mahila Evam Balya Chikitsalaya, Khan Shakir Ali Khan Hospital, Jawaharlal Nehru Hospital and Kamla Nehru Hospital. Tender process has been done and various work order has been issued an amount of Rs.2.05 crore has been utilized in above work. The same was accorded in 2018-19 by the Department to the GoMP.

Economic Rehabilitation

7.15 For ensuring employment to the gas victims, the GoMP launched an entrepreneurship training programme scheme with built-in employment opportunity, GoMP selected 21 institutes through a transparent procedure, for providing training in different trades to the gas victims. The State Govt. has provided training to 12,355 gas victims beneficiaries under different traits. Initially, this programme was successful but later on it has not yield the results as desired. As the scheme was not attractive, GoMP has submitted a proposal seeking approval for an amount of Rs.25.12 crore from the unspent balance of Rs.85.87 crore under Economic Rehabilitation scheme, for the purpose of providing self- employment to the beneficiaries of gas victims under "Mukhyamantri Swarojgar Yojna" (Chief Minister Self Employment Scheme) which include Rs.1.00 crore for component of appropriate/relevant training necessary administrative approval in this regard was accorded by the Department to the GoMP to implement the scheme.

Environmental Rehabilitation

7.16 Out of Rs.50 crore allocated for providing clean drinking water to the gas victims, GoMP utilized the entire fund for providing safe drinking water in gas affected area.

Environmental Remediation of the erstwhile Union Carbide India Ltd. (UCIL) Plant site

7.17 As per Union Cabinet's decision taken in the year 2010, the GoMP would be responsible for undertaking disposal of hazardous wastes and remediation of the erstwhile UCIL plant at Bhopal. As per cabinet's decision, an Oversight Committee was constituted in the Ministry of Environment, Forests and Climate Change to provide oversight and support to the GoMP in taking the necessary remedial actions. Hon'ble Supreme Court is seized with the issue of disposal of UCIL waste in the matter of SLP (Civil) No.9874 of 2012 UoI vs. Alok Pratap Singh and others. Ministry of Environmental, Forests and Climate Change is complying with the orders issued by the Hon'ble Supreme Court then and there. As per the directions given by the Hon'ble Supreme Court, 10 MT of erstwhile UCIL waste was successfully incinerated at Common Hazardous Waste Incinerator at Pithampur, Madhya Pradesh by Central Pollution Control Board (CPCB) during August 13-18, 2015.

7.18 For disposal of remaining 337 MT (approximate) of hazardous waste lying at UCIL factory site. CPCB has assisted the GoMP for preparation of Request for Proposal (RFP) documents for inviting competitive bids for hiring operators of common Hazardous Waste Incinerator (TSDF's) for disposal of the remaining waste. The floating of tender for procurement of incineration services is under process by the GoMP. GoMP will come out with a proposal for remediation of contaminated sites in and around UCIL premises.

Curative Petition

7.19 On the direction of the Cabinet, a Curative Petition No.345-347 was filed in December 2010 by Union of India v/s Union Carbide Corporation (UCC), USA, Dow Chemicals, USA and Others claiming enhanced compensation from UCC and/or successor companies of UCC, by seeking a review of the Court's earlier judgment of 1989, settling the compensation amount at US $470 million. The compensation claimed in the Curative Petition is due to the difference between the number of cases assumed by the Hon'ble Supreme Court at the time of passing the orders for settlement in 1989 and the actual number of cases awarded by the Office of the Welfare Commissioner, Bhopal Gas victim, Bhopal. The petition also claims reimbursement of costs incurred by the Government of India for various rehabilitation measures for victims and the amount required for environmental remediation. The case is yet to be listed for the hearing.

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Chapter -8

IMPROVING THE QUALITY OF CHEMICALS & PETROCHEMICALS & TRADE INTELLIGENCE

8.1 Chemicals & Petrochemicals produced domestically and imported may contain impurities & may be hazardous to human safety, health & environment. These products while in use may not be meeting technical characteristics prescribed in the BIS standards, presently being voluntary in nature. It is therefore of paramount importance to improve quality of Chemicals/Petrochemicals produced in the country as well as to monitor the imported chemicals. With this objective, Department has initiated an exercise to make the standards of Chemicals/Petrochemicals as mandatory to ensure that both the exporters of such chemicals to the country and domestic manufacturers meet the BIS quality parameters. Such Chemicals/Petrochemicals shall bear the standard mark under a licence to be obtained from Bureau of Indian Standard. This mechanism shall help in improving quality of these products as some countries dump poor quality and spurious Chemicals/Petrochemicals in the country, which do not meet the quality parameters laid down by BIS Standards as at present.

8.2 Hence this Department has initiated steps to make standards mandatory in public interest under section 16 of the Bureau of Indian Standard Act 2016 for:

(i) Protection of human, animal or plant health
(ii) Safety of the environment
(iii) Prevention of unfair trade practices
(iv) Protection of National Security

8.3 With these measures manufacturers and importers have to comply BIS (Conformity Assessments) Regulation, 2018. Any person who contravenes the provisions of this Order is punished under the provisions of section 29 of the BIS Act, 2016. As per the provisions of mandatory standards, the manufacturers of above chemicals must conform to BIS standards and bear the Standard Mark under license from BIS. This includes any imported material, for which the exporter based on foreign country has to apply for BIS license under Foreign Manufacturers Certification Scheme (FMCS).

8.4 Accordingly Department has issued Quality Control Orders (QCOs) for making BIS standards mandatory for 35 chemicals & petrochemicals so far.

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Chapter – 9

PUBLIC SECTOR UNDERTAKINGS

HINDUSTAN ORGANIC CHEMCIALS LIMITED (HOCL)

9.1. 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. HOCL has a subsidiary company, namely Hindustan Fluorocarbons Limited (HFL), located at Rudraram, Telangana, details regarding which are given further in this chapter.

9.2 HOCL's authorised and paid up share capital is Rs.370 crore and Rs.337.27 crore (comprising of Rs.67.27 crore equity and Rs.270 crore preference shares) respectively. Govt. of India holds 58.78% of the equity of the company and the preference shares in full. HOCL is listed on the Bombay Stock Exchange (BSE).

9.3 Following globalization and liberalisation of the Indian economy in the early 1990's resulting in competition from international players, HOCL incurred losses for the first time in 1997-98. Due to continued losses leading to negative net worth by 2003-04, the company was referred to erstwhile Board for Industrial & Financial Reconstruction (BIFR) in February, 2005. Based on the recommendations of Board for Reconstruction of Public Sector Enterprises (BRPSE), Govt. approved a revival package for the company on 9th March, 2006 providing (i) cash infusion of Rs.270 crore by way of preference share capital (redeemable) for repayment of high interest bonds, bank loans and implementation of VRS and (ii) continuation of Govt. of India guarantee of Rs.100 crore for full term of 10 years to be utilised to liquidate high cost debt. After implementation of the revival package, the company made profits during 2006-07 and 2007-08 and came out of BIFR.

9.4 However, the company again suffered losses in 2008-09 and 2009-10 mainly due to recessionary trend in the market as an effect of global meltdown. Though it earned profit during 2010-11, the situation worsened thereafter with losses during 2011-12 and 2012-13 mainly due to withdrawal

of anti-dumping duties on its main products phenol and acetone. In order to enable the company to tide over its liquidity problems, the Govt. on 1st August, 2013 approved postponement of redemption of Rs.270 crore preference shares issued to the Govt. of India (date of allotment 24.01.2008), which was due for redemption from 2011-12 onwards, to 2015-16 onwards. The Govt. guarantee of Rs.100 crore was also further extended up to August, 2017.

9.5 Further, Govt. guarantee of Rs.150 crore was provided to HOCL in July, 2014 for issue of bonds by the company for meeting its working capital requirement and payment of liabilities towards raw material suppliers, employee dues, etc. However, the global fall in the prices of petroleum products at that time caused severe crash in the prices of Phenol and Acetone and the company faced difficulties in selling the products at profitable rates and generating adequate working capital. This led to frequent shutting down of operations at both Kochi and Rasayani units thereby further aggravating the financial crisis of HOCL. Due to continuous losses and shortage of working capital, the company was not able to pay regular salary and statutory dues to the employees during 2015 to 2017. Following implementation of restructuring plan for HOCL (refer para 9.8 below), the Rasayani unit has been closed down. The Kochi unit resumed operations from July, 2017 and is being operated regularly since then.

Financial Performance

9.6 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.***		

* After including other non-operational income of Rs.115.71 crore from disposal of assets of Rasayani unit, reversal of excess provisions etc., HOCL earned total revenue of Rs.587.70 crore.

** Net Profit for the year 2018-19 restated to Rs.70.88 crore after rectification of deferred tax expenses during the year 2019-20.

\# After including other non-operational income of Rs.21.94 from disposal of assets, HOCL earned total revenue of Rs.321.95

9.7 During 2020-21 (upto September, 2020), the company achieved turnover of Rs.186.20 crore and incurred loss of Rs.13.00 crore, as per provisional unaudited results. The company's operations were adversely affected during first half of 2020-21 due to production loss following COVID-19 related nationwide restrictions and price reduction of finished products which resulted in estimated reduction in turnover of around Rs.44.58 crore and revenue loss of Rs.14.72 crore.

Restructuring plan of HOCL

9.8 The Government of India on 17.05.2017 approved a restructuring plan for HOCL involving closing down operations of all the non-viable plants at Rasayani unit of HOCL, except N_2O_4 plant to be transferred to ISRO on 'as is where is' basis, with about 20 acres of land and employees associated with the plant. The N_2O_4 plant is of strategic importance as it is the only indigenous source of N_2O_4which is used as liquid rocket propellant by ISRO in the space launch vehicles. Financial implication of the restructuring plan is Rs.1008.67 crore (cash) which is to be met partly from sale of 442 acres HOCL land at Rasayani to Bharat Petroleum Corporation Ltd. (Rs.618.80 crore) and the balance through bridge loan from the Govt. The funds are to be used to liquidate the various liabilities of the company, including payment of outstanding salary and statutory dues of employees and repayment of Govt. guaranteed bonds of Rs.250 crore, and for giving VRS/VSS to the Rasayani unit employees except those retained as skeletal staff. The bridge loan amount, along with other Govt. liabilities of the company, is to be repaid to the Govt. from the disposal of remaining unencumbered land and other assets of Rasayani unit.

9.9 Status of implementation of restructuring plan of HOCL (as on 31.10.2020) is as follows:

- All plants of Rasayani unit, except N_2O_4 plant, have been closed down and disposed of. Closure of the unit under the provisions of Industrial Disputes Act, 1947 has also been approved by the Ministry of Labour & Employment.
- N_2O_4 plant has been transferred to ISRO along with 20 acres land and 131 employees associated with plant. The plant is being entirely operated by ISRO.
- Out of 442 acres land at Rasayani to be sold to BPCL, 289.69 acres have been sold for which HOCL received Rs.401.50 crore (net of TDS).
- Sale of 85.27 acres out of the additional 242 acres (+/- 10%) land approved by the Govt. for sale to BPCL has also been completed for consideration of Rs.135.81 crore (net of TDS).
- Lease transfer of 0.25 acre plot at Khargar to NALCO completed for consideration of Rs.12.96 crore (net of TDS).
- Panvel land (7 acres) was put up for e-auction on 24.4.2019 but no bid/offer was received. Further action will be taken by HOCL after NOC for sale of the land is received from State Govt.
- BPCL has submitted Expression of Interest for the remaining 250+ acres unencumbered land at Rasayani but final offer is awaited. In September, 2020, Mumbai Metropolitan Region Development Authority (MMRDA) has also submitted EoI for purchase of land at Rasayani and Panvel.
- All the 10 flats at Nestle Apartments (Mumbai), closed down plants and utility blocks have been successfully e-auctioned through MSTC.
- Partially completed tank farm at JNPT has been handed over to JNPT for which HOCL has received Rs.16.38 crore from JNPT.
- All the Rasayani unit employees have been separated through VRS/VSS except skeletal staff (7) for HOCL's corporate office and some VRS optees temporarily retained for implementing the

restructuring plan. 23 employees who did not opt for VRS were transferred to the Kochi unit. The outstanding salary and statutory dues of the employees of both Rasayani and Kochi unit have been cleared.

- Bridge loan of Rs.360.26 released by the Govt. in Aug.-Sept. 2017 has been utilized by HOCL to redeem the two Govt. guaranteed bonds totalling Rs.250 crore and for part payment of priority statutory dues (Rs.110.26 crore).

9.10 After implementation of the restructuring plan, Phenol/Acetone plant at Kochi unit, resumed regular operations from July 2017. This enabled HOCL Kochi unit to achieve net turnover of Rs.472 crore (Rs.223 crore in 2017-18) and net profit of about Rs.22 crore (net loss of Rs.65.24 crore in 2017-18) during the FY 2018-19. HOCL has repaid outstanding Govt. of India loans (principal) of Rs.26.85 crore during 2019-20 and Rs.10.56 crore in 2020-21 (as on 31.10.2020). Outstanding guarantee fees dues of Rs.8.50 crore for the period 2013-14 to 2017-18 has also been settled by the company in September, 2020.

9.11 However, the reduction in selling price of Phenol & Acetone (main revenue earning products of Kochi unit) due to huge imports/dumping of both these products in to India adversely impacted the company's financials in 2019-20 resulting in reduced turnover of Rs.300 crore and net loss of Rs.94.68 crore. In order to prevent dumping, the domestic Phenol manufacturers, including HOCL, have represented to the DGTR, M/o Commerce & Industry, for imposition/continuation of levy of anti-dumping duty/safeguard duty as per WTO Guidelines. The anti-dumping petition against Phenol imports from USA and Thailand has been favourably considered by DGTR and recommendation for imposing provisional anti-dumping duty has been forwarded by DGTR to the Ministry of Finance for issuing the necessary notification.

Disposal of land under restructuring plan

9.12 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 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.

HINDUSTAN FLUOROCARBONS LTD. (HFL)

9.13 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. The company started production in the year 1987 and is engaged in the manufacture of Poly Tetra Fluoro Ethylene (PTFE) and of Chloro Di Fluoro Methane (CFM-22). PTFE is extensively used in chemical, mechanical, electrical and electronic industries and has strategic applications in defence and aerospace sectors. CFM-22 is sold directly as a refrigerant gas and also as feed stock for production of PTFE.

9.14 Authorised and paid up share capital of HFL is Rs.21 crore and Rs.19.61 crore respectively. HOCL (Promoter Company) holds 56.40% of the equity share capital and balance is held by the public (39.11%) and Andhra Pradesh Industrial Development Corporation (4.43%). HFL is listed on the Bombay Stock Exchange (BSE).

9.15 HFL started making losses from its inception in 1987-88 resulting in erosion of its net worth and reference to erstwhile BIFR in 1994. A rehabilitation package for HFL under the operating agency M/s IDBI was approved by BIFR on 03.12.2007. Total cost of rehabilitation package was Rs.19.28 crore which did not involve infusion of any Govt. funds. Following implementation of the rehabilitation package, HFL made marginal profits from 2007-08 to 2012-13. However, the company did not come out of BIFR as its net worth remained negative. HFL again suffered loss of Rs.24.82 crore in 2013-14 mainly on account of provisioning for 1997 and 2007 wage revision arrears and reduction in sales realization. Thereafter, the company has continued to suffer losses mainly on account of reduction in sales realisation. Despite the 2007 rehabilitation package, net worth of the company has remained negative.

Financial Performance

9.16 Financial performance of HFL 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	Net profit / (Loss)
2015-16	39.63	(11.11)
2016-17	38.06	(6.33)*
2017-18	43.08	(4.82)*
2018-19	45.86	(4.78)*
2019-2020	36.96	(4.12)*
Net worth (as per Ind AS which includes revaluation of land and other assets) as on 31.3.2020: (-) ***Rs.47.32 crore***		

* As per the new accounting standard Ind AS

9.17 During 2020-21 (up to September, 2020), the company achieved turnover of Rs.3.61 crore and suffered loss of Rs.18.24 crore, as per the provisional unaudited balance sheet. The reduced turnover and increase in losses is due to the shutting down of plant/unit as per the CCEA decision dated 22.01.2020 for closure of the company as given in the following paragraphs.

Closure of HFL

9.18 HFL manufactures CFM-22/HCFC-22 and sells most of it directly as refrigerant gas since its conversion to PTFE is not financially viable for the company due to uneconomic plant capacity and old technology. Under the Montreal Protocol, HFL's HCFC-22 non-feedstock production quota is only about 392 MT per calendar year which was enhanced to 1100 MT during the last 3 calendar years (2017 to 2019). For the current calendar year (2020), HCFC-22 production quota of only 283 MT was allotted by Minister of Environment, Forest & Climate Change (MoEFCC) as per the requirements of Montreal Protocol. With the reduced HCFC-22 quota in 2020, HFL's operations would have become unsustainable and it would have been forced to shutdown the plant after April-May, 2020.

9.19 In view of the poor financial situation and non-viability of HFL's existing operations, the CCEA in its meeting on 22.01.2020 approved this Department's proposal for shutting down the operations of the plant/unit of HFL and closure of the company. In brief, salient features of the approved closure plan of HFL are as follows:

- All employees (except skeletal staff) to be separated through VRS/VSS as per DPE guidelines; non-VRS opting employees to be retrenched as per Industrial Disputes Act.
- GoI interest free loan of Rs.77.20 crore to be given to HFL for settling immediate closure related liabilities, including VRS/VSS expenditure, and to meet administrative expenses of skeletal staff.
- Appointment of NBCC as Land Management Agency to facilitate land disposal subject to Telangana Govt.'s decision to purchase the land.
- Appointment of MSTC for disposal of plant/machinery and movable assets through e-auction.
- Loan of Rs.77.20 cr. and other GoI dues of HFL are to be repaid from sale proceeds of land and other assets; loans/dues remaining unpaid due to insufficient sale proceeds to be written off/ waived.
- Tentative timeline for completing all closure related formalities is 400 days.

9.20 After receipt of interest free loan of Rs.73.70 crore as advance from the Contingency Fund of India (CFI) sanctioned by the Ministry of Finance in May, 2020, for settlement of immediate closure related liabilities of HFL, necessary action was initiated for closing down the company's operations. As on 31.10.2020, total of 64 employees have been relieved through VRS/VSS after payment of their terminal and outstanding dues. 12 employees are presently temporarily retained as skeletal staff for implementing the closure plan. Separation of 19 non-regular employees is pending as a case filed by them in 2010 in Labour Court for regularization of their services is

sub-judice. The company has cleared the outstanding sum in the cash credit account with SBI and also settled water supply dues. Settlement of other dues of suppliers/contractors/electricity etc. are in progress. While regular plant operations have been stopped since July, 2020, final shut down and disposal of plant/machinery is to be considered up after plant audit by World Bank consultants (for securing funding from UN Multi Lateral Fund through the MoEFCC for plant closure).

9.21 For disposal of HFL's land at its plant site (approx. 126 acres), it was decided in a joint meeting held between this Department and Telangana Govt. on 18.10.2019 that feasibility of transfer of the land to TSIIC at the rate/value determined by Collector, Sangareddy, will be considered by the State Govt./TSIIC. If TSIIC is not interested in taking over the land, then State Govt. will give NOC to HFL for disposal of the land as per GoI guidelines for industrial purposes only. Decision of the State Govt. is still awaited. Matter is being followed up by this Department at the highest levels with the Telangana Govt. for expediting their decision.

HIL (INDIA) Ltd.

9.22 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.

9.23 The company acquired the new name of HIL (India) Ltd. with effect from 20.03.2018 as the old name viz. Hindustan Insecticides Ltd., was not reflecting the entire gamut of diversified business activities of the company. At the same time, the new name retains the association with its established brand name of HIL.

9.24 The authorized and paid up share capital of HIL is Rs.100 crore and Rs.91.33 crore respectively. 100% of its shares are held by the Govt. of India.

9.25 HIL is the sole supplier of DDT to the National Vector Borne Disease Control Programme (NVBDCP) of the Ministry of Health and Family Welfare, Government of India. The company diversified into agrochemicals in the late 1970s to ensure supply of quality pesticides at reasonable prices to the agricultural sector. Today it has a range of technical and formulation grade pesticides to meet the varied requirements of the farming community.

9.26 To further consolidate its position, HIL in 2012-13 ventured into seed production and marketing business. The company has been recognized as a national level seed agency by the Ministry of Agriculture and Farmers Welfare for production and marketing of certified seeds for crops and vegetables. The company actively participated in seed production and supply of seed minikits of high yielding varieties under National Food Security Mission (NFSM), National Mission on Oil Seeds and Oil Palms (NMOOP) and Mission on Integrated Development of Horticulture (MIDH) as National Level Seed Agency. In FY 2019-20, the company supplied 21,460 seed minikits of oilseed crops and 49,950 seed minikits of pulse crops worth Rs.4.04 crore. Turnover from seed business during FY 2019-20 was Rs.55.50 crore.

9.27 In order to strengthen the seed infrastructure, HIL has set up a seed testing laboratory at its R&D complex, Gurugram, and is constructing seed godowns and seed processing plant at Bhatinda unit with financial assistance from Ministry of Agriculture & Farmers Welfare, which will be additional income avenue for the company in near future. In near future, the seed testing laboratory will be upgraded for commercialised benefits apart from in house seed testing.

9.28 In 2015-16, with a vision to become one stop shop for all the agricultural inputs needs of farmers, HIL further diversified into fertilizers trading business. It has been inducted by the Department of Fertilizers as an agency to import fertilizers under Nutrient Based Subsidy Scheme. After the successful commissioning of water soluble fertilizer (NPK 19:19:19) plant of 1800 MTPA at Bathinda in 2016-17 under brand name 'HILGOLD', the company has started commercial production of HILGOLD at the other two units (Rasayani and Kochi) also with capacity of 3000 MTPA each. The company achieved a turnover of Rs. 168.66 crore in FY 2019-20 as against Rs.131 crore from supply of fertilizers during 2018-19. HIL has also started trading of bio-pesticides and bio-fertilizers.

Financial Performance

9.29 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***		

9.30 TThe company's operations were adversely affected during 2019-20 due to production loss following COVID-19 related nationwide restrictions which resulted in reduced turnover and profitability. The decline in net profit for 2019-20 was also due to almost 47% reduction in DDT order quantity by NVBDCP and reduction in seed sales. During current FY 2020-21 (up to Sept. 2020), the company has achieved gross turnover of Rs.144.54 crore and net profit of Rs.1.16 crore, as per provisional unaudited result. The half-yearly performance has also been impacted due to COVID-19 lockdown related restrictions.

Exports

9.31 HIL achieved exports of Rs.12.68 crore in FY 2019-20 as against Rs.10.12 crore during the year 2018-19. The company exported DDT, Malathion Technical and Agrochemicals to countries in Africa and Latin America during the year. In the current FY 2020-21, HIL has achieved exports of around Rs.31 crore (as on 31.10.2020). HIL is striving to give more emphasis to exports in the coming years.

New initiatives and projects of HIL

9.32 With a view to widen the product profile and reduce the company's dependence on DDT revenue, several new initiatives and projects have been taken up / planned by HIL to diversify its operations. Some of these initiatives/projects are given below:

i. HIL has signed MoUs with other public sector fertilizer companies namely National Fertilizers Limited (NFL), FACT, BEC Fertilizers and IFFCO for supply of neem coated UREA, DAP and NPK to HIL's business network across the country. The company has also entered into marketing tie-ups with Single Super Phosphate (SSP) manufacturers in the country for the supply of SSP to the company's business network.

ii. HIL has entered into MoU with UNIDO and IPFT for scaling up the commercial production of neem based products like coil, cream, suspension concentrate etc. with the financial support of UNIDO (USD 1.33 million i.e. Rs. 9.78 Crore).

iii. Board has approved the BT Larvicide under UNIDO assistance of USD 1.83 million (Rs. 13.7 crore)

iv. The company is setting up a Long Lasting Insecticidal Nets (LLIN) manufacturing facility at its Rasayani Unit with an initial capacity of 50 lakh nets per annum under the UNIDO's project "Development and Promotion of Non-POP alternative to DDT". Full scale operation to start in Jan 2021.

v. The company carried out training programs in 2019-20 for farmers in about 14 states of the country on safe and judicious use of pesticides and adoption of integrated pest management practices. Around 4,500 farmers have been trained under this programme.

vi. The company has taken initiative to set up Kisan Samadhan Kendras (KSKs) in various states to provide all agro inputs to farmers like agrochemicals, seed & fertilizers, along with advisory

services on crop solutions & management, agribusiness opportunities, awareness & guidance to avail Govt. subsidy & welfare schemes etc., to enhance their economic status. The Company has opened 43 KSKs during the FY 2019-20.

vii. In view of the COVID-19 pandemic, HIL has launched products for hand hygiene like alchohol based sanitisers and is in process of further diversifying into sanitisation activities and long-term disinfectant/anti-microbial solutions in the market.

viii. HIL is making efforts to enter into **Joint Venture with Indian agrochemical companies** for making the industry self-reliant and self-dependent in line with the GoI's "MAKE IN INDIA" initiative and "ATMANIRBHAR BHARAT ABHIYAN" through indigenous production of intermediates and agrochemicals and to reduce import dependency and dependence on any single market.

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Chapter-10

AUTONOMOUS INSTITUTIONS

Central Institute of Petrochemicals Engineering & Technology (CIPET)

10.1 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.

10.2 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.

1. ACADEMIC AND SKILL DEVELOPMENT PROGRAMME

(a) Long term Professional Skill development Programs:-

10.3 CCIPET conducts 13 different long term training programs viz. Diploma, Post Diploma, Post Graduate Diploma, Undergraduate, Post Graduate and Ph.D. programs with varying level of entry qualification. The Undergraduate, Postgraduate & Doctoral programs are offered at CIPET:IPTs in affiliation with respective State Technical Universities. Admission to UG/PG/Ph.D programmes are carried out as per the norms and guidelines of respective state affiliating university. Diploma level programmes are offered at CIPET:CSTSs and students for these programmes are admitted through all India CIPET CBT-JEE 2020.

10.4 Due to Covid-19, online classes were conducted to complete the syllabus of 2019-20 batch students of UG/PG and Diploma/Post Diploma/Post Graduate Diploma courses and semester examinations for final year and running batches of Diploma/Post Diploma/Post Graduate Diploma courses were conducted through online mode and results were declared.

(b) Short Term Vocational Skill development Training Programme

10.5 In line with the "Skill India Mission" of Govt. of India, CIPET also focuses on Skill development training programs in the entire gamut of Plastics Engineering & Technology. In line with National Skills Qualifications Framework (NSQF) norms & guidelines, at present CIPET is conducting 37 National Skills Qualifications Committee (NSQC) approved programs in the field of Plastics Engineering & Technology.

10.6 Majority of the skill development programs are sponsored by various State / Central Govt. departments / agencies with the sole objective of uplifting the living standards of underprivileged / unemployed youth through gainful employment in leading plastics & allied industries in India and abroad. During the year 2020-21 (upto December, 2020), CIPET has trained 7,947 candidates through short term skill development programmmes.

II TECHNOLOGY SUPPORT SERVICES

10.7 CIPET offers Technology Support Services (TSS) in the entire spectrum of Plastics Engineering & Technology. TSS forms an integral portfolio of CIPET and highlights its core competency by offering high quality services to customers in the areas of Tooling, Precision Machining, Design and Manufacturing of Moulds & Dies, CAD / CAM / CAE services, plastics product manufacturing through state-of-the-art Processing machinery and Testing and Quality Control of Plastics Materials and Products. CIPET also offers Consultancy and Advisory Services in the entire gamut of Plastics Engineering & Technology.

10.8 During the year 2020-21 (upto December, 2020), 50,145 nos. of technical support assignments were undertaken which include job works, mould orders, testing and consultancy services

10.9 Pre delivery inspection (PDI) of Plastics products as well as metallic pipes (CI/DI/ GI/ MS etc.) and fittings are also undertaken by CIPET.

III RESEARCH & DEVELOPMENT ACTIVITIES:

10.10 Three well established R&D wings of CIPET viz., (i) Advanced Research School for Technology & Product Simulation (ARSTPS) at Chennai and (ii) Laboratory for Advanced Research in Polymeric Materials(LARPM) at Bhubaneswar and (iii) Advanced Polymer Design & Development Research Laboratory (APDDRL) at Bengaluru have been consistently contributing in applied research for industries.

10.11 During the year 2020-21 (upto December, 2020), 29 nos. of Research Projects have been undertaken and 70 Research Publications in scientific peer-reviewed have been published in

International Journals; 06 New Innovative Technologies have been patented and Technologies have been transferred;

10.12 The major Research projects undertaken by CIPET:

- Technology for 3D printing of bifunctional, biomimetic scaffolds for bone tissue regeneration and tumor therapy - DST, New Delhi (Scheme: SEED).
- High performance nanofiber based Zwitter ionic polymer electrolytes for safe all solid state lithium ion battery applications - DST, New Delhi (Scheme: INSPIRE – Faculty).
- Device Architecture for Improved Optoelectronic Properties of Polymer Light Emitting Diode (PLED) – DST, New Delhi (Scheme: INSPIRE – Fellow).
- Development of Indigenous Floating System for Installation of Solar PV Panels in Water bodies – DST, New Delhi (Scheme: SERI)
- Translational Research on Biomaterials for orthopedic and Dental Application, DBT, New Delhi.
- Design, Development and Supply of Patient Bed for Magnetocardiography - IGCAR, Kalpakkam.

V FINANCIAL PERFORMANCE:

10.13 During the financial year 2020-21, CIPET is committed to generate income of Rs.330.00 crore with the budgeted revenue expenditure of Rs.270.00 crore. CIPET has enriched the 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.

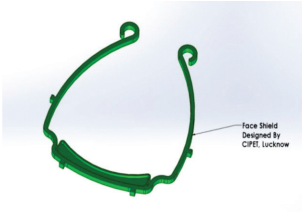
V MAJOR CONTRIBUTIONS

10.14 CIPET has so far contributed Rs.85.50 Lakhs to various Local bodies / Municipal Corporations / State Govt. authorities, to mitigate the plight being faced by the poor / downtrodden and migrated labourers by way of providing food and shelter in the wake of lock down enforced by Govt. of India as a result of spread of Corona Virus (COVID-19).

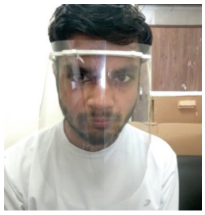
10.15 The main building and the hostel premises of CIPET at various locations were used by Local Authorities as quarantine centres during the pandemic period and few buildings were still in the control of the Local Authority.

Some of the initiatives taken by CIPET in the development of PPE Kits

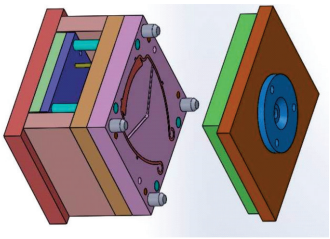
- Supply of Face Shield to King George Medical University, Lucknow and Police Control Room, Lucknow by CIPET:IPT-Lucknow :



Product Design



3D Printing



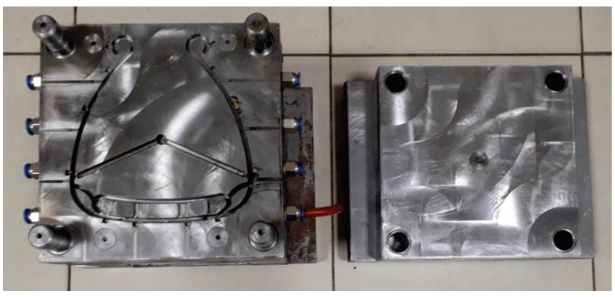
Mould Design

Mould Development

Actual Product

Product Validation

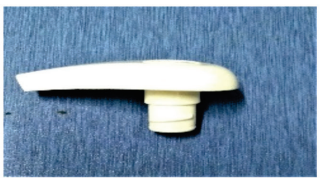
- Design and development of Mould and production of Head Band for Face Shield Mask (Part of PPE kit) by CIPET:CSTS-Bhopal :



Mould for Head Band of Face Shield Mask

Head Band of Face Shield Mask

- Designed and Developed various components for Sanitizer bottles for the benefit of local MSME sectors by CIPET: CSTS-Baddi:

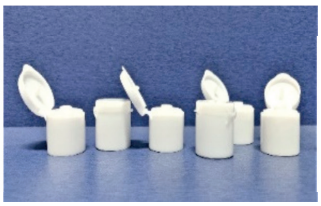


Sanitizer Bottle Nozzle

Sanitizer Bottle Cap

Sanitizer Spray Pump

Final Product



Sanitizer Flip Cap

Final Product

Preform

Final Product

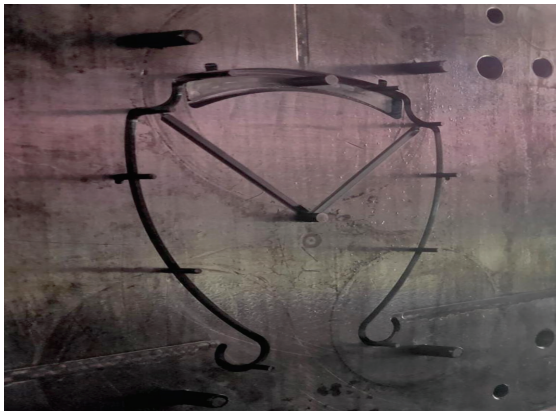
- Face Sheild development by CIPET:IPT-Kochi :

- PPE Kit Testing Lab: CIPET:IPT-Bhubaneswar established PPE Kit testing Lab – NABL accredited.


PPE kits – Testing @ CIPET, NABL accredited Laboratory

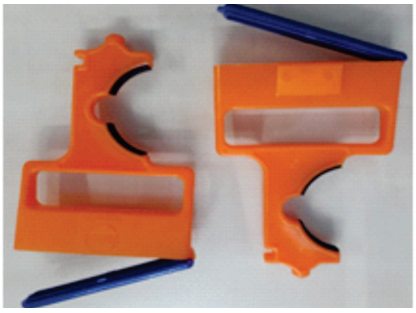
- Development of Personal Protective Equipment (PPE) - Polycarbonate safety shield (visor) by CIPET : CSTS, Murthal:


- Development of Single Cavity Injection Mould for Head Band of Protective Face Shield Mask - M/s Axiom Technology, Jaipur (CIPET-Jaipur)

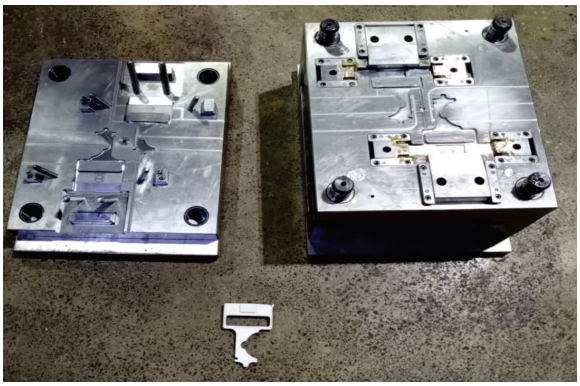



- Design & development of Anti-COVID Hand Tool for M/s Indian Oil Corporation Limited (I.O.C.L.) Research & Development Centre, Faridabad

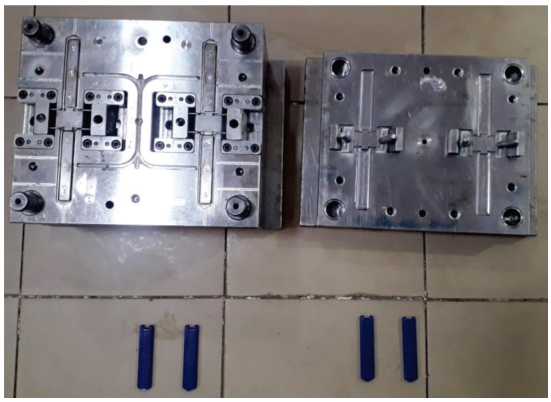
10.16 The Anti- COVID Hand Tool is used to avoid human body contact for various applications like opening/closing of door/table drawers/car door, to operate push buttons of Machine Control panel/ATM/lift etc. The body is having pocket to store sanitized paper/wipes and locking with cap. It is also having buckle at belt for easy carrying. The rubber strips is fixed at body for gripping.




10.17 The Anti-COVID Hand Tool product consists of cap and body which are made from HomoPolypropylene 1110 Gradeplastic material. The mass production of Anti- COVID Hand Tool is being processed on injection molding machine (Make: JSW, Capacity: 110 Tonnage) at processing department.



2 Impression injection Mold for Body



4 Impression injection mold for cap

Study of Top 2% of the Global Scientists:

10.18 Director General, Prof. (Dr.) S. K. Nayak has been featured as one of the top 2% of the Global Scientists in the field of ***Polymers*** in a study by ***Prestigious Stanford University, USA*** based on the databases of Standardised Indicators, Composite Citation Index, h-index, co-authorship adjusted HM-index and Citations to papers in different authorship positions.

VI SEMINAR / WORKSHOPS

10.19 Webinar on **"Impact and Implications of Covid 19 on plastic industry and way forward"** was organised by FICCI in association with CIPET and Plastindia Foundation (PIF) on 16th July

2020. Webinar was inaugurated by **Shri Mansukh Mandaviya,** Hon'ble Minister of State for Shipping (Independent Charge) and Minister of State for Chemicals & Fertilizers, Govt. of India in the presence of senior officials from Govt. of India. Around 1200 persons from plastic industries have participated in the webinar including faculties and students of about 400 across CIPET Centres.

10.20 The Hon'ble Minister of State (Independent Charge), Ministry of Ports, Shipping and Waterways and Hon'ble Minister of State, Ministry of Chemicals and Fertilizers **Shri Mansukh Mandaviya** chaired a **webinar on "Plastic Recycling and waste management in India"** to understand the current scenario of plastic waste and recycling in the country organised on **08th December 2020** by the Department of Chemicals and Petrochemicals to get the feedback on the issues, coordinated by the Central Institute of Petrochemicals Engineering and Technology (CIPET) under the Department in association with FICCI and Material Recycling Association of India (MRAI).

VII SWACHH BHARAT ABHIYAN

10.21 In accordance with the observance of 'Swachhta Pakhwada', CIPET has organized a webinar on 'Swachhta' in association with Department of Chemicals & Petrochemicals (DCPC) on 15th September 2020 which was inaugurated by Shri. R K Chaturvedi, Secretary (C&PC), GoI. Around 680 participants from Public Sector Undertakings and Autonomous Bodies under the Department of Chemical & Petrochemicals, Govt. of India had participated.

10.22 CIPET, Head Office and its centres have organized Swachh Bharat Abhiyan activities on monthly basis. The students and staff have undertaken cleanliness activities in the Institute premises including shop floor, hostel premises & surrounding areas and also, organized awareness rallies in the adjoining areas highlighting the importance of hygiene and cleanliness. CIPET Head Office and its Centres observed Swachhta Pakhwada Fortnight from 01.09.2020 to 15.09.2020.

VIII IMPLEMENTATION OF OFFICIAL LANGUAGE

Hindi Pakhwada:

10.23 Hindi Diwas was organized at all CIPET Centres on 14th September, 2020 and Hindi Pakhwada was organized from 14th September, 2020 to 28th September, 2020. During the event, several competitions in Hindi viz, Vocabulary, Essay Writing, Word translation and Poem Writing were organized for all Officers/ Employees at all CIPET Centres.

10.24 Hindi Workshop on **"Official Hindi and Correspondence"** was organized on 25.09.2020 at CIPET:IPT-Chennai for all officials of CIPET Head Office.

Webinar on 'Swachhta' organized by CIPET in association with DCPC,on 15th Sept 2020

Central Institute of Plastics Engineering & Technology (CIPET)
सेंट्रल इंस्टिट्यूट ऑफ प्लास्टिक्स इंजीनियरिंग एंड टेक्नोलॉजी (सिपेट)
Department of Chemicals & Petrochemicals,
Ministry of Chemicals & Fertilizers,
Goverment of India

A Webinar on:

"SWACHHTA"

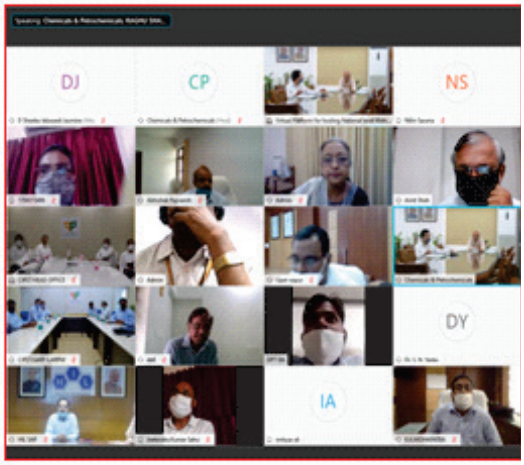
September 15, 2020 | Tuesday | Timing: 10:30 to 12:00 (Hrs.) | Cisco Webex

Program Schedule

S.No.	Time (Hrs.)	Inauguration
1.	10:30 to 10:35	Welcome of the Dignitaries: Panel Experts by Mr. S. Ilangovan, Principal Director (TSS), CIPET (Moderator)
2.	10:35 to 10:40	Inaugural Address by Smt. Godhuli Mukherjee, Economic Advisor, Dept. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India
3.	10:40 to 10:45	Keynote Address by Shri Rajesh Kumar Chaturvedi, IAS Secretary, Dept. of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India
		Technical Session
4.	10:45 to 11:00	Swachhta: Role of Individual and Importance in Daily Life by Mr. Mathew Jose, Founder & CEO, Paperman Foundation, Chennai
5.	11:00 to 11:15	Waste Collection and Segregation: First step towards Swachhta by Mr. Imteyaz Ali, Marketing Specialist, Sarthak Sanstha, Bhopal.
6.	11:15 to 11:30	Waste Management and Disposal : Essential for Swachhta by Dr. P. Parthasarathy, Managing Director, E-Parisaraa Pvt. Ltd., Bengaluru
7.	11:30 to 11:45	Plastic Waste Management: Contribution towards Swachhta Abhiyan by Mr. S. Sugumar, Former Principal Director, CIPET
8.	11:45 to 11:55	Panel Discussion (Q&A) by Experts
9.	11:55 to 12:00	Vote of Thanks by Dr. Lalit Guglani Principal Director (ASI), CIPET

Everyone must be his own Scavenger — Mahatma Gandhi
स्वच्छता ही सेवा

Click here to Register



Hindi Pakhwada organised at CIPET

Vigilance Awareness Week :

10.25 As per the directives of Central Vigilance Commission (CVC) "Vigilance Awareness Week" observed at all CIPET centres from 27th October to 02nd November, 2020 with the theme "Satark Bharat, Samriddh Bharat (Vigilant India, Prosperous India)" and all employees took "Integrity Pledge".

Institute of Pesticide Formulation Technology (IPFT)

Introduction :

10.26 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, Ministry of Chemicals & Fertilizers, Government of India. 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. The institute has established a healthy rapport with the Indian Agrochemical Industries and has been able to successfully transfer technologies for safer, efficient and environment friendly formulations. IPFT 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.

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 in the qualification and usefulness of pesticide scientists working in the agrochemical area.
- Continuing education through specialized training for pesticide personnel.

Purpose to Setup

10.27 To minimize the risks and disadvantages of conventional formulations, IPFT was set-up to develop various user & environment friendly new generation pesticide formulations and related activities for safety of user, farmers and environment. IPFT is the only Institute of its kind in the country for helping the Indian Agro-chemical Industries in the field of pesticide formulations development. It has emerged as a reputed institute among the pesticide formulation and analytical R & D Centres of India. IPFT has always been at the forefront of developments in pesticide formulations and analytical technologies.

10.28 Pesticides in pure chemical form (technical grade) cannot be applied directly because of very high toxicity and complex physico-chemical properties. The technical grade pesticides are converted into a ready to use state (formulation), in which they can be diluted with water and small quantity may be homogeneously distributed over large target area. The formulated

products are suitably applied by practical methods to produce desired efficacy on the target pests.

Organizational Setup

10.29 IPFT has a well defined Organizational structure comprising of a Governing Body which is the supreme decision taking body. Governing Body meets annually and takes critical policy decisions related to the Projects, Budget, Manpower and General Management of the Lab. For day-to-day financial and administrative control, the Institute has a Finance & Administrative Committee (F&AC) headed by Additional Secretary & Financial Advisor, Ministry of Chemicals & Fertilizers and Governing Body headed by Secretary (C&PC), DCPC, New Delhi. The Committee meets as and when required to clear the issues related to Finance & Administration of the Institute. The Institute has a Research Advisory Board to undertake new projects and the same is headed by ADG(PP), DAC, New Delhi.

Functional Division

10.30 IPFT is served by four major Functional Divisions, namely, Formulation Division, Analytical Division, Bio-Science Division and a Pilot Plant Division. The Institute carries out In – house, Grants–In–Aid and industry sponsored projects.

Formulation Division Activities

10.31 The main objective of this Division is to develop user and environment friendly new generation pesticide formulations. Having the required expertise and infrastructural facilities, Formulation Division is working on the advancement of pesticide formulation research & development. This Division has developed more than 60 formulation technologies, most of which have been successfully transferred to large and medium scale pesticide industries in India and abroad for commercialization.

10.32 The Division assists the pesticide industry personnel in producing safe and environment friendly pesticide formulations by enhancing their knowledge through training and seminars. The Division provides consultancy services to the industries on pesticide formulations. Division also has developed various bio-botanical pesticide formulations as a safe alternative to synthetic pesticides.

Analytical Division Activities

10.33 The Analytical Division is an accredited laboratory under ISO/IEC 17025:2005 and is a core division associated with all the activities of the institute. The Division is accredited for

chemical testing of pesticides (Technical & Formulations), Pesticide residues in various food matrices and chemical warfare agents and their precursors and degradation products.

10.34 The Laboratory is fully equipped with the state-of-the-art analytical instrument such as GC, HPLC, GC-MS, LC-MS/MS, UV-VIS, GC-MS/MS and Semi-Preparative HPLC for undertaking the analysis of pesticides, their formulations and residues in various matrices. The Laboratory is also recognized/certified by BIS for the testing of pesticide formulations as per IS specifications. The institute participates in the Proficiency testing programmes for the analysis of CWC related compounds conducted by the OPCW (Organization for the Prohibition of Chemical Weapons), The Hague, The Netherlands.

Biosciences Division Activities

10.35 The major thrust of the division is to evaluate the different pesticide formulations developed by this institute for their commercial viability, as in house services, through well equipped bio-assay laboratory, green house/glass house and experimental field trials. Additionally, the division is also actively engaged in developing registration data packages of various pesticides as per Central Insecticide Board/Registration Committee protocols for the pesticide industry for their new formulations through sponsored projects. The division is recognized by Central Insecticide Board/Registration Committee for generation of data on bio-efficacy, phytotoxicity, phytotonicity, compatibility, effect of pesticides on natural enemies of pests and residual aspects of pesticides.

10.36 TECHNOLOGIES DEVELOPED AND TRANSFERRED TO MSME UNIT

(i) Disinfectant Spray for surface applications:

The surfaces like door handles, chair armrest, computer keyboard & mouse, taps etc. are foreseeable routes that may transmit microbes to the individuals through direct or indirect contact. IPFT has developed, Disinfectant Spray formulation for the surface applications. The formulation is volatile and evaporates slowly after disinfecting the surface and does not leave any stains, odour etc. on the surface. The formulation is anti-corrosive to the surfaces. This alcohol based formulation containing botanical antimicrobials will be effective in prevention from various communicable diseases and COVID-19.

(ii) Vegetables & fruits Decontaminant formulation:

The vegetables & fruits are basic food commodities and necessary component of daily nutrition. The microbes and pesticide residues may persist on the surface of raw vegetables and fruits. The vegetables and fruits contaminated with microbes and pesticide residue may pose health hazards to human beings. IPFT has developed water-based formulation for decontamination of vegetables & fruits from pesticide residue and microbes. The

decontamination procedure using the formulation is simple; formulation is added into water and vegetables or fruits are soaked in the diluted solution for few minutes and rinsed with fresh water. The technology is economic and effective for prevention from various diseases and COVID-19. Both these technologies have been transferred to Premium Bio-Naturals Pvt. Limited, NOIDA (an MSME unit) for commercialization.

10.37 Monitoring of Pesticide Residues at National Level sponsored by Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India

IPFT is serving as one of the 32 centres of the above entitled national level project. As per the mandate of the project a total no. of 62 samples comprising of Cereals, Vegetables, Fruits, Milk and Water are collected from three locations of Haryana (Faridabad, Bahadurgarh & Palwal) in monthly frequency. Analysis results show an average contamination percentage of 10.5%, out of which approximately, 1.5% of samples are found to be above the documented FSSAI (MRL).

10.38 Monitoring of Pesticide Residues at various districts of Rajasthan sponsored by Govt. of Rajasthan

In the above entitled project, a MOU has been signed between IPFT and RSSOCA for execution of the project. RSSOCA, Jaipur is involved in sampling and IPFT is involved in sample analysis and interpretation. Samples of fruits, vegetables, seed spices, cereals and oil seeds etc are sent by RSSOCA to IPFT for pesticide residue analysis. Till date more than 13000 samples have been analysed in the project. During the period of report approximately 1000 samples have been analysed. Out of 12,931 samples, pesticides were detected in 12.79% samples and 1.50% samples were above MRL (FSSAI). Total 61 types of different commodities like spices, cereals, fruits and vegetables were analysed for the presence of pesticide residues. The pesticides were detected in 30.47% of spices, 16.44 % fruits and vegetables, 14.19% of oil seeds, 9.82% cereals and 9.04% of pulses. 2.51% samples of pulses, 2.03% of spices, 1.49% of cereals and 0.79% of oil seeds were above the MRL (FSSAI). In case of fruits and vegetables samples monitored, pesticides detected were below the FSSAI (MRLs) and safe to the consumers. Chlorpyriphos, malathion, deltamethrin and cypermethrin were most frequently detected pesticides in the samples.

10.39 Monitoring of Pesticide Residues at various districts of Rajasthan sponsored by Govt. of Rajasthan (PGS)

A MOU has been signed between IPFT and RSSOCA for Participatory Guarantee Scheme (PGS) to estimate the pesticide residues in organically produced agricultural commodities like fruits, vegetables, seed spices, cereals and oil seeds etc. Till date 3000 samples have

been received at the Lab and a provisional report of 2015 samples has been submitted to the sponsoring agency. Out of 2015 samples, pesticides were detected in 29% samples and 0.05 % samples were found above the documented FSSAI (MRL).

10.40 Monitoring of Pesticide Residues in various fruits, vegetables and environmental matrices. Directorate of Horticulture, Govt. of Haryana

In the above entitled study, Directorate of Horticulture, Govt. of Haryana, samples of fruits, vegetables, soil and water are sent by the sponsoring agency. During the period of report, 50 samples have been analysed. Samples are received from various locations of Haryana. Analysis results showed an average contamination percentage of approximately 33% and nearly 18% of samples were reported with pesticide contamination above the MRL value.

10.41 Patents Filed

S. No.	Title	Inventors	Filing No.	Applications of invention
1	Compositions For Concentrated Aqueous Suspension of Entomopathogenic Fungus	Smriti Kala, Amrish Agrawal, Jitendra Kumar, Krishna Kant, B. K. Mishra	202011038977	Aqueous suspension of bio-pesticideverticilliumlecaniiis effective in controlling wide range of agricultural insects, particularly for spices crops. The formulation minimizes pesticide residue problem in crop products.
2	Insecticidal Oil Dispersion Compositions 0f Shisham (DalbergiaSissoo) Leaf Extract	Smriti Kala, Amrish Agrawal, Jitendra Kumar, Krishna Kant, B. K. Mishra	202011038991	The oil dispersion formulation ofsisham leaf, extract produces good bio-efficacy against various agricultural insects including Aphids of seed spices crops. The formulation is effective & safer alternative to synthetic pesticides.
3	Biopolymer Based, Matrix Delivery System Compositions For Long Term Delivery of Agrochemicals Into Soil	Nusrat,Natish Kumar, Amrish Agrawal, P.K. Patanjali, Jitendra Kumar	202011038993	The natural polymer based formulation impregnated with insecticides, soil nutrients, fertilizers is suitable for soil application. It absorbs water from irrigation/ rain and slowly delivers water and active ingredients into soil for insect control and promoting plant growth

Accreditation, Certification and Recognitions

10.42 NABL Accreditation (as per ISO/IEC: 17025: 2017):

Analytical labs of IPFT are continued to maintain its NABL accreditation with 168 no. pesticides residues in cereals, pulses, food grains, fruits, vegetables, spices, milk etc. Analytical labs are also accreditated for pesticide formulation analysis and CWC related chemicals analysis. Application for Surveillance Audit has been evaluated and accepted by NABL. Letter has been received for continuation of accreditation. Validity of NABL accreditation has been extended till June 03, 2021.

10.43 Bureau of Indian Standards (BIS) recognition:

The laboratory is recognized by the Bureau of Indian Standards (BIS) as per Lab Recognition Scheme for the testing of pesticide formulations. The accreditation is valid till June 06, 2021.

10.44 CIB & RC Recognition :

IPFT is continued to maintain its recognition status from CIB & RC for conducting Bio-efficacy field trials, household pesticides and pesticide residue analysis.

10.45 Recognition of IPFT as GLP certified laboratory:

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, bioefficacy & 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. Only two Government labs namely National Institute of Pharmaceutical Education and Research (NIPER), Mohali and Indian Institute of Toxicology Research (IITR), Lucknow are GLP certified for toxicological studies. 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 especially for small and medium scale and also for multinationals industries. Besides the data generated from public sector laboratory will be reliable and acceptable. 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. IPFT is in the process of implementation of OECD compliant quality management systems and preparing for the Pre-assessment visit by National GLP Compliance Monitoring Authority (NGCMA).

IUPAC Conference

10.46 IUPAC International Conference on Agrochemicals Protecting Crops, Health and Natural Environment – Discovery and development of synthetic and natural products for health and pests management was held during 7-10 January, 2020, New Delhi, India. The conference was jointly organised by IPFT, ICAR, DCPC and SPSA. The conference provided a platform to scientists of different disciplines, industries and stakeholders to discuss latest trends and discoveries in the field of agrochemicals and phyto-medicines, deliberate on important issues of agricultural research, and present views as policy inputs to the planners, decision/ opinion makers at various levels. The conference comprised of a number of plenary and keynote lectures by the world's leading scientists, reviewing the principal theme areas of the conference. Besides new compounds, new concepts and newer uses, the conference covered other traditional areas of research such as pest diseases management, invasive pests, weed and resistance management, exploring biodiversity for botanical and bio-pesticides, genetically modified crops, nutraceuticals, as well as research into effects on human health, risk management, eco-toxicology, and remediation strategies. All the staffs and scientific staff of the institute actively participated for the successful organising of the conference. Total 23 papers and posters were presented by research scholars and scientific staffs of the Institute.

Skill Development / Training :

10.47 IPFT conducts skill development and other training courses for various stakeholders in chemical/ agrochemical sector. Some of the courses offered at IPFT are: Basic Techniques of Pesticide Formulations; QA/QC of pesticides and their formulations; pesticide application technology; pesticide residue analysis; basic principles of GC, HPLC, GC-MS, GC-MS/MS, LC-MS/MS; Advanced Training on GC, HPLC, GC-MS, GC-MS/MS, LC-MS/MS, LCHR-MS, Biotech application in biological pesticides, laboratory and field evaluation of new molecules and pesticides for agriculture and public health sectors; and integrated pest management. IPFT contributes towards farmer's field days and farmers meetings with significant impact under development of rural agriculture and intensive crop management. Research scholars/ students/ executives from Indian universities/ pesticide industries come to IPFT for taking hands on training in the above mentioned areas. During the period of report, one student attended industrial training for 45 days.

Awareness And Extension Activities :

10.48 IPFT has been creating awareness and doing extension activities for farmers through the following activities:

- Identifying and adopting villages for educating the farmers in Pesticide Application Technologies.
- Conducting survey and obtaining feedback on latest pests problems.
- Educating farmers about organic farming and propagating the use of indigenous techniques/ traditional knowledge.
- Dissemination of information among farmer community for judicious use of pesticide through various platforms.

Activities under Swach Bharat Mission:

10.49 Routine activities of the cleanliness and protection of environment were undertaken though no major activities alike previous years has been taken due to pandemic and in compliance of the protocol notified for COVID-19.

10.50 On the occasions of birth anniversary of Rashtrapita Mahatama Gandhi on 02.10.2020, a programme was organized at the campus of the IPFT, which was inaugurated by Shri Mansukh Mandavia, Hon'ble Union Minister of State, Ministry of Shipping (Independent Charge) and Ministry of Chemicals and Fertilizers as Chief Guest in the august presence of Shri R.K. Chaturvedi, Secretary, Department of Chemicals and Petrochemicals, Shri K.N. Jha, Joint Secretary (PC), Department of Chemicals and Petrochemicals and many other senior officials of the Department. As a part to commemorate the legacy of the Rashtrapita Mahatama Gandhi a cleanliness and tree plantation drive by all Hon'ble Guests were undertaken in the campus along with employees of the Institute.

Participation of Hon'ble Union MoS, Shri Mansukh Mandavia in Swachhta Activity on the occasion of Birth Anniversary of Rashtrapita Mahatama Gandhi.

Tree Plantation by Hon'ble Union MoS, Shri Mansukh Mandaviaon the occasion of Birth Anniversary of Rashtrapita Mahatama Gandhi

Chapter – 11

PROMOTIONAL ACTIVITIES AND MAJOR EVENTS

INDIA CHEM 2021

11.1 To promote the Indian Chemicals and Petrochemicals Industry, Department of Chemicals and Petrochemicals in collaboration with FICCI have been organizing the "India Chem" event biennially since 2000. These events provide a platform to the Indian Chemical and Petrochemical Industry to showcase its potential to an international audience.

11.2 Chemical industry in India is a diversified industry, covering more than 80,000 commercial products. The chemical industry is the mainstay of industrial and agricultural development of the country and provides building blocks for several downstream industries such as textiles, papers, paints, soaps, detergents, pharmaceuticals, vanish etc.

11.3 The most important objective behind organizing the India Chem series is to highlight the investment possibilities in the country's chemical industry and give a fillip to "Make in India" initiative of the Government of India. Leading companies from all over the world predominantly from Iran, China, Japan, United Kingdom, Spain, USA, Germany, Italy, Brazil, Turkey and South East Asian countries are participating as exhibitors, delegates and visitors

11.4 With initiatives like **"Make in India"** program gaining steam, investments, innovation and infrastructure are going to be the major thrust areas for chemical industry players. The current per capita consumption of chemical products in India is about 1/10th of the world average, indicating that the demand potential is yet to be realized. It is expected that with growth in per capita income, the chemical industry will grow at even a faster rate and is likely to double by 2025.

11.5 Keeping in view the growth & potential of export in the specialty chemicals and petrochemical, Department of Chemicals and Petrochemicals, Government of India and Federation of Indian Chambers of Commerce and Industry (FICCI) will jointly organize the 11th edition of INDIA CHEM during 17-19 March, 2021 at New Delhi. The theme of the event is "India: Global Manufacturing Hub for Chemicals and Petrochemicals".

11.6 India Chem, the flagship event of the Department, is one of the largest composite events of the industry in the Asia-Pacific region and this comprises of an International Conference and Exhibition. In line with the previous edition, concurrent events during India Chem 2021 will include Global CEOs Round Table, Conclaves on Indian Chemical; Petrochemical Industry; Agro-chemical Industry, Process, Plant Machinery, Pumps & Valves, Forum of India – EU; India – US;

India – Japan on Chemicals & Petrochemicals and Buyer-Seller Meet. The event is expected to witness 300 + national and international exhibitors, 15000+ business visitors. This event will showcase tremendous potential and supportive government policy for sustainable growth in the sector and provide a platform for investors, both domestic and international and other stakeholders to interact and forge alliances. This mega event will highlight the investment potential in Indian Chemicals & Petrochemicals Industry especially in Petroleum, Chemical and Petrochemical Investment Regions (PCPIRs) to transform India into a global manufacturing hub.

CHEMICAL PROMOTION DEVELOPMENT SCHEME (CPDS)

11.7 Chemical Promotion Development Scheme (CPDS) is being implemented since 1997 in the Chemical Division of DCPC under Plan Head of Account. The objective of CPDS is to facilitate growth and development of Chemicals and Petrochemicals Industry by creation of knowledge products through studies, survey, data banks, promotional material etc. and dissemination of knowledge through conduct of seminars, conferences, exhibition etc. to facilitate development of these sectors. The Scheme also aims to incentivize research and innovation by awarding outstanding efforts in the field of chemicals and petrochemicals.

11.8 The aim of the Scheme is basically to extend soft support in the form of Grants-in-Aid (General) to various organisations/ industry associations, etc. to conduct workshops, seminars, studies, etc. to obtain necessary inputs for enabling the Department to firm its views on various policy matters relating to the Chemical and Petrochemical sector.

11.9 Industry Associations, PSUs and Autonomous Bodies viz. DMAI, AMAI, FICCI, CII, ICC, CIPET, IPFT, HIL etc. organise small events on the themes which are useful for the development of Indian Chemical & Petrochemical Industry. Few small programmes periodically organised on Plastic waste management, Green Chemistry, chemical safety and security rating system, safe handling of Chlorine and Chlorine containers, status of implementation of Health, Safety, Security and Environment in MSME sector, Chlor-Alkali Industry etc. are some of the noteworthy events. Mega events such as India Chem, Conference on Advancements in Polymeric Materials (APM), National Awards, PCPIR Conference are organised under CPDS.

11.10 The funds utilised under CPDS during last three years is as under:

(Rs. in Crore)

Year	Fund Utilized
2017-18	1.35
2018-19	2.38
2019-20	2.93

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Chapter – 12

GENERAL ADMINISTRATION

Organisational Set Up Of the Department

12.1 The main activities of the Department are policy making, sectoral planning, promotion and development of chemical and petrochemical industries. The administrative and managerial oversight of Public Sector Undertakings engaged in the manufacture of various chemicals and petrochemicals, as well as Autonomous Bodies engaged in these sectors are some of the other major functions of the Department.

12.2 The Department is headed by a Secretary to the Government of India who is assisted by an Additional Secretary & Financial Adviser, one Additional Secretary, One Joint Secretary, One Economic Adviser (presently vacant) , one Deputy Director General and one Chief Controller of Accounts (Organisation chart at Annexure IV).

12.3 The status of employment of Scheduled Castes/Scheduled Tribes/Physically handicapped in the main Secretariat of the Department, as on 30.11.2020 is as under:-

Employment of scheduled castes/ scheduled tribes/ physically handicapped in the main secretariat of the department

Group	Total No. of posts	Scheduled Castes	Scheduled Tribes	Physically Handicapped
A	35	3	2	0
B	68	8	1	0
C	78	10	3	1
TOTAL	**181**	**21**	**6**	**1**

12.4 Officers in Group 'A' include officers on deputation from All India Services, Central Services, officers belonging to Central Secretariat Service and Technical posts of the Department. Placements in posts of Group B and C is done on the basis of nominations made by the Department of Personnel & Training, Department of Official Language and Ministry of Statistics & Programme Implementation.

Record Management

12.5 The Parliament has enacted "The Public Records Act, 1993" to regulate the management, administration and preservation of public records of the Central Government. The Central

Government has also made rules to carry out the provisions of the Act. In terms of the provisions contained in Section 6(1) of the Act, the Under Secretary in-charge of General Administration has been nominated as Records Officer in the Department. A modernized Record Room of the Department is located in Udyog Bhawan.

Use of Hindi in Official Work

12.6 To ensure compliance with the statutory provisions & Presidential Orders on the Official Language Policy of the Union in the Department & in its' attached & subordinate offices, there is a Hindi Section. The work of the Hindi Section is supervised by Deputy Director (OL) under the overall guidance of Senior Economic Advisor.

12.7 Hindi Pakhwada was organized in the Department from 7th to 21st September, 2020. During the Pakhwada, five competitions on Hindi Essay Writing, Noting & Drafting, Translation, Hindi Poetry Recitation & Hindi Essay Writing exclusively for MTSs were held through online medium.

12.8 Departmental Official Language Implementation Committee's meetings were held through video conferencing under the chairpersonship of Senior Economic Advisor respectively on 07.07.2020 and 29.09.2020. The progress made in the use of Hindi in the Department was reviewed in these meetings and suggestions for further improvement were adopted for implementation. In these meetings status of Hindi correspondence including noting in Hindi were also discussed.

12.9 Official Language related inspection of six Sections/Divisions were carried out within the Department in March, 2020 & suggestions were given to the Officers/Officials present during the inspections for increasing the use of Hindi & also to overcome the difficulties being faced by them in use of Hindi.

12.10 A Hindi workshop was organised in the Department on 10.09.2020 through video conferencing. The subject of the workshop was "Options for Hindi Typing". In this workshop, 16 Officers were provided practical information on available easy options for Hindi typing.

12.11 Documents like Annual Report, Performance Budget, Demand-for-Grants, Parliament Questions & Assurances, Papers of Department related Parliamentary Standing Committee & report of Comptroller and Auditor General, Cabinet notes, papers of updating the Departmental website etc. were issued in bilingual form as per the Section3(3) of the Official Language Act, 1963. All letters received in Hindi were replied to in Hindi as per the Rule 5 of the Official Language Rules, 1976. Efforts were made to progressively increase the use of Hindi in day-to-day official work as laid out in the Annual Programme of the Department of Official Language.

12.12 During the year, Quarterly Progress Reports of Hindi were compiled on the basis of the inputs received from different Sections of the Department & were sent to the Department of Official

Language for inclusion in their database. Reports received from attached and subordinate offices were reviewed and deficiencies found therein were suggested for rectification.

Activities of the Vigilance Set up

12.13 The Department has a Chief Vigilance Officer (CVO) to look into the complaints against the employees of the Department as well as Board Level Officers of the Public Sector Undertakings (PSUs) and organisations under its administrative control. Presently, the Additional Secretary (Chemicals) is holding the charge of CVO in the Department and assisted by a Director, Under Secretary and a Vigilance Section.

12.14 'Vigilance Awareness Week' 2020 was organised during the period 27th October, 2020 to 2nd November, 2020 with the theme "सतर्क भारत, समृद्धभारत – Satark Bharat, Samriddh Bharat (Vigilant India, Prosperous India)". The observance of the Vigilance Awareness Week commenced with the administering the Integrity Pledge at 1100 hrs on 27 October, 2020 by the Secretary (C&PC) to the Officers of and above the level of Deputy Secretary in his Chamber and by the respective Branch Officers to the Officers and staff of their Sections in view of the Covid-19 guidelines/SOPs in vogue.

12.15 To encourage Officers and staff of the Department as well as general public to take e-pledge, a hyperlink was provided for the relevant link on the CVC website, on the Departmental website.

12.16 Pursuant to the directions of CVC, Officers at the appropriate levels in the Department as well as in PSUs and Autonomous Bodies under this Department participated in the Webinar organised by CBI on "सतर्कभारत, समृद्धभारत – Satark Bharat, Samriddh Bharat (Vigilant India, Prosperous India)" which was inaugurated by Hon'ble Prime Minister of India.

12.17 Good quotations/ tag lines on vigilance awareness were shared by various officers of the Department on social media platforms viz. Facebook, Tweeter, etc.

12.18 All the PSUs and Autonomous Organisations under the administrative control of the Department also organised 'Vigilance Awareness Week' starting with undertaking the Integrity Pledge its officers and staff.

Gender Equality

12.19 In compliance of The Sexual Harassment of Women at Workplace (Prevention, PROHIBITION and Redressal) Act, 2013 the Department has constituted an Internal Complaints Committee for redressal of complaints relating to sexual harassment of women. The Committee is functional since June 2002. Constitution of the ICC on Sexual Harassment of Women at Workplace was

uploaded on the website of the department in order to spread awareness about the Committee. One complaint box has been placed at 2nd Floor, A Wing near Gate No. 2 for the convenience of women employees.

Rights of Persons with Disabilities

12.20 The Rights of Persons with Disabilities Act, 2016 aims to uphold the dignity of every person in the society and prevent any kind of discrimination. All efforts are made that persons with disabilities have easy access to the physical environment and other facilities and services. The Information and Facilitation Centre of the Department has been set up specifically on the ground floor in Shastri Bhawan enabling easy and obstacle free accessibility for such persons. Senior officers of the Department are available to attend to the problems of persons with disabilities.

12.21 Department of Chemicals & Petrochemicals is the cadre controlling authority in respect of 06 Technical posts in Group 'A', 5 posts of Staff Car Driver, 2 posts of Sr. Gestetnor Operator, 1 post of Dispatch Rider and 48 posts of Multi Tasking Staff (MTS) in Group 'C'. The post of MTS Group 'C' in this Department has been identified for the post suitable for following categories of disabilities covered under Section 34(1) of the RPWD Act, 2016 :-

(a) Blindness and low vision
(b) Deaf and Hard of hearing
(c) Locomotor Disability (OA, OL, OAL, BL, BA) including leprosy cured, cerebral palsy, dwarfism, acid attack victims and muscular dystrophy.
(d) Autism, Intellectual Disability, specific learning disability and mental illness.
(e) Multiple Disabilities from amongst (a) to (d) including deaf-blindness.

Observance of 'SWACHHATA PAKHWADA' in the Department

12.22 During the 'Swachhata Pakhwada 2020 which was observed from 1.9.2020 to 15.9.2020, the Department of Chemicals & Petrochemicals and the CPSEs / Autonomous Bodies under its administrative control undertook various swachhata activities like cleaning of office complexes / factories / labs / toilets / premises as well as displaying banners and posters on cleanliness. Due to the situation of pandemic, while observing the swachhata activities every care was taken of including maintaining of social distancing. A Webinar on Swachhata was also organized on 15.9.2020 by the Department through CIPET. The officers / officials of the Department and the officials of all PSUs / ABs took active participation in the Webinar.

12.23 The following days/week were observed in the Department on the respective dates. Secretary of the Department administered pledge to the officers on these occasions:-

Sadbhavana Day Pledge	**20th August**
Swachhta Pledge	1st September
Hindi Pakhwada	11th September
Swachhta Hi Sewa	2nd October
Vigilance Awareness week	27th October
Rashtriya Ekta Divas	31st October
Constitution Day	26th November

Procurement Through Government E-Market (GEM):

12.24 The Department made full utilization of the Government's E-procurement platform by procuring items it consume through GeM. As a result, the value of goods procured through Gem for the period from 01.04.2020 till 30.11.2020 is Rs 156.13 Lakh against the procurement value of Rs 201.68 Lakh during the previous Financial Year

Organization Of A Workshop On Capacity Building On Gem Procurement And Holding Of Regular Meetings Of Scogem To Discuss Gem Related Issues.

12.25 A workshop is being organized in the Department under the Chairmanship of Joint Secretary on 15.01.2021 for imparting training to the officers / officials handling procurement in the Department as well as in all PSUs / ABs under the administrative control of Department of Chemicals and Petrochemicals, with a view to train them on all aspects of procurement through GeM. During the workshop, officers from GeM will also reply to the queries and inform about various aspects of GeM related issues to the participants.

Automation of Office

12.26 With effect from May 1, 2020 the Dept has discontinued processing on physical file and works on E-office only. This has enabled the Dept to work mostly from home even during the strictest Lockdown period due to Covid-19 pandemic. In this regard, the Dept has also prepared a detailed SoP for Work from Home. Towards implementation of digital India, e-HRMS has been implemented in this Department. The digitization of service records have been completed and the leave module is fully operational in this Department.

Fight against The Spread of Covid-19 Pandemic

12.27 The Department has put in place effective measures to fight the further spread of global

pandemic known as Covid-19 while also ensuring that the work of the department continues even during the strictest Lockdown period. The following actions were taken:-

i. DO's and Don'ts issued by M/o Health and Family Welfare are widely disseminated to all the employees as well as PSUs/ABs under the Dept with a request for further dissemination to all their family members.
ii. To reduce physical contact, employees have been encouraged to work from home and this was facilitated by arranging access to E-office at residences of officer upto ASO level. At the same time, in order to keep the office work going, skeletal staff have been deputed to office on functional need basis.
iii. A Covid-19 detection drive was organized twice at Shastri Bhavan, led by Shri R.K Chaturvedi, Secretary, DCPC most of the officers and staff, including consultants, sanitary workers, DEOs, drivers etc voluntarily joined the drive and gave their samples. This has resulted in detection of some covid19+ve cases, who are all asymptomatic but carriers of the virus and hence contributed in breaking the chain of spread to some extent.
iv. The Department has also constituted a Covid-19 Response Team to provide assistance to the employees of the Deptt., wherever possible, to supplement the efforts of the affected staff and their families, over and above the benefits officially admissible to them.
v. All staffs and officers have been provided with masks and sanitizers. All rooms of the Department as well as the staff car along with hired vehicles are sanitized thoroughly on regular basis from 20-3-2020 to till date. Department has installed UV machine in the Department for sanitization of all document and other items (i.e. mobile, pen key receipt etc). The Department has installed sanitizers dispenser at various place in the Department and refilled them whenever required.
vi. The employees of the Department and CPSEs/ABs have contributed **Rs.59.56 lakhs** to the PM CARES Fund. This includes a CSR contribution of **Rs. 10 lakhs** from HIL, one of the CPSEs. Each and every employee of the Department and CPSEs/ABs has contributed to the Fund, quite a few of them more than just one day's pay. In addition, Central Institute of Plastic Engineering and Technology (CIPET) Centers have together donated **Rs.85.50 lakhs** to various Local Bodies, Municipal Corporations and State Governments. Another CPSE (Hindustan Organic Chemicals Limited) has already committed to contribute one day's pay to Chief Minister's relief fund (Kerala) of approximately **Rs.16.19 lakhs.**
vii. Till date (i.e. December 28, 2020) the Department has not lost any of its officers and staff due to the pandemic

Establishment of new Cells

12.28 The Department has recently set up Project Development Cell (PDC) and Investment Promotion Cell (IPC) for the development of Investible projects, and have since hired 6 Consultants for the same. They have all reported for duty to the Department.

Departmental Dashboard

12.29 The dashboard of the Department has created with individual User-ID and Password for all the officials of DCPC, PSUs and Autonomous Bodies (ABs) concerned for respective indicators so that monthly information can be updated for each indicator by the concerned Divisions/ ABs/ PSUs. To avoid the delay in updating the data by the concern divisions the dashboard was technically linked with the websites of PSUs and ABs as well with the help of web-services so that the monthly updating will be reflected automatically on the Department dashboard.

MAKE IN INDIA

12.30 The Cabinet in its meeting held on 24th May, 2017 approved the "Policy of Provide Preference to Make in India in Public Procurement". Department for Promotion of Industry and Internal Trade (DPIIT) has issued a Public Procurement (Preference to Make in India) Order, 2017 which mandates all Government Agencies to accord Preferences to Make in India in Public Procurement. The policy aims to boost domestic value addition by providing preferential market access and reliable demand to the domestic manufactures in public procurement. The Department of Chemicals & Petrochemicals has been identified as the nodal Department for implementing the provisions related to procurement of goods and services related to 'Chemical' sector.

12.31 Department has issued Public Procurement (Preference to Make in india) order 2020 for procurement of 55 chemicals, petrochemicals, Pesticides and Dyestuff viz. (i)Titanium Dioxide (ii) Red Phosphorus (iii)Menthol (iv)Aluminum Fluoride (v)Polyester Staple Fibre fill (vi)Polypropylene Staple Fibre (vii)Polyester Industrial Yarn (viii)Polystyrene (ix)Styrene Acroylonitrile (x)Mixed Xylene (xi)Malathion (xii)Quinalphos (xiii)Phosphamidon (xiv)Phorate (xv)Acephate (xvi) Triazophos (xvii)Deltamethrin (xviii)Permethrin Tech (xix)Imidacaloprid Tech (xx)Hexaconazole (xxi) 2,4-D (xxii)Thiamethoxam Technical (xxiii)Pendimethalin (xxiv)Metribuzin (xxv)Isoproturon (xxvi)Zinc Phosphide (xxvii)Oil Soluble (Solvent Dyes) (xxviii) Soda Ash (xxix) Caustic Soda (xxx) Carbon Black (xxxi) Formaldehyde (xxxii) Liquid Chlorine (xxxiii) Acetic Anhydride (xxxiv) Nitrobenzene (xxxv) Acetaldehyde (xxxvi) Ethyl Acetate (xxxvii) Polyester Filament Yarn (xxxviii) Polyester Staple Fibre (xxxix) Expandable Polyestyrene (xxxx) Polyester Chips/PET Chips (xxxxi) Butadiene (xxxxii) Benzene (xxxxiii) D.D.V.P. (xxxxiv) Monocrotophos (xxxxv) Fenvalerate (xxxxvi) Cypermethrin (xxxxvii) Chlorpyriphos (xxxxviii) Lambda Cyhalothrin (xxxxix) Glyphosate (xxxxx) Azo Dyes (xxxxxi) Acid Direct Dyes (other than Azo (xxxxxii) Disperse Dyes (xxxxxiii) Optical Whitening Agents (xxxxxiv) Organic Pigment (xxxxxv) Reactive Dyes on 01.06.2020.

Redressal of Public Grievances

12.32 An internal grievances redressal machinery functioning in this Department, attends to all the public grievances. During the period 01.01.2020 to 31.12.2020, 641 public grievances were

received in this Department. These were attended to promptly. The rate of redressal of Public Grievances in this Department is about 99%. The Deputy Director General has been nominated as Nodal Officer of Public Grievances of the Department. The name, designation, room number, telephone number, etc. of the Nodal Officer in Public Grievances has been displayed on the website of the Department (http://chemicals/gov.in). A Public Grievance Officer has been nominated in each Division as the Nodal Officer who monitors the progress of the redressal of public grievances relating to respective Divisions.

Right to Information Act, 2005

12.33 Under the provisions of the Right to Information Act, 2005, a RTI Cell has been set up in the Department to coordinate the RTI-related work. This Section collects, transfers the application seeking information under the RTI Act, 2005 to the Central Public Information Officers / Public Authorities concerned with the subject matter and submits quarterly returns regarding receipt and disposal of the RTI applications/appeals to the Central Information Commission.

a) All Under Secretary/ Section Officer has level officers have been designated as Central Public Information Officers (CPIOs) under section 5(1) of the Act, according to the subjects being handled by them.

b) All Director /Deputy Secretary level officers have been designated as Appellate Authorities in terms of section 19(1) of the Act, in respect of Under Secretaries/ Section Officers working as CPIOs with them.

c) To facilitate the receipt of applications under the RTI Act, 2005, a provision has been made to receive the applications at the Reception Counter of the Department. The applications so received are further forwarded by the RTI Cell to the CPIOs/Public Authorities concerned.

d) During the year 2020-21 i.e from 01.01.2020 to 31.12.2020, 220 RTI applications and 8 RTI First Appeals were received in this Department. These were promptly transferred / forwarded to the concerned public authorities/CPIOs for providing information to the applicants.

e) As per para 1.4.1 of DoPT's guidelines issued vide their O.M. No. 1/5/2011-IR dated 15.4.2013, this Ministry has been disposing all RTI applications, appeals and replies of CPIOs and appellate authorities through the portal.

Advisory Forum and Development Committee for Chemicals & Petrochemical Sector

12.34 Advisory Forum and the Development Committee for Chemicals & Petrochemicals sector constituted by this Department to provide a platform to the Industry Associations for raising their grievances and problems are continuously facilitating sustainable development and growth of Chemicals & Petrochemicals sector, studying various facets of the chemical industry, examining major policy issues and making recommendations for enhancing Indian/Foreign investment and global competitiveness. During 2020-21, till date, one Development Committee meeting and one Advisory Forum meeting were held on 27th May, 2020 and 25th June, 2020 respectively. All the issues raised by the Industry Associations were addressed and action initiated with the concerned Departments/Ministries to resolve with the inter-ministerial issues.

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Annexure – I

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR CHEMICALS

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production					CAGR
	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8	9	10
1. Alkali Chemicals									
SODA ASH	3464.00	3489.00	3614.00	2583.01	2613.42	2989.57	3048.19	3069.43	**4.41**
CAUSTIC SODA	3335.94	3397.34	3700.34	2503.96	2594.50	2742.31	2925.35	3136.94	**5.80**
LIQUID CHLORINE	2474.20	2535.25	2774.73	1714.82	1800.67	1899.41	2069.11	2250.43	**7.03**
Total	**9274.14**	**9421.59**	**10089.07**	**6801.78**	**7008.58**	**7631.30**	**8042.65**	**8456.80**	**5.60**
2. Inorganic Chemicals									
ALUMINIUM FLUORIDE	25.60	25.60	25.60	9.51	8.14	7.51	5.70	5.05	**-14.64**
CALCIUM CARBIDE	112.00	112.00	112.00	83.47	85.02	87.30	83.17	81.34	**-0.65**
CARBON BLACK	640.00	696.00	696.00	469.56	535.27	530.36	546.39	500.15	**1.59**
POTASSIUM CHLORATE	4.60	4.60	28.60	0.41	0.01	0.35	0.70	16.18	**151.25**
TITANIUM DIOXIDE	82.50	82.50	82.50	58.53	58.46	57.82	57.06	49.49	**-4.11**
RED PHOSPHORUS	1.68	1.68	1.68	0.84	0.77	0.88	1.03	1.03	**5.36**
HYDROGEN PEROXIDE	165.85	145.85	218.63	153.08	148.87	157.02	156.45	122.84	**-5.35**
POTASSIUM IODATE	0.00	0.00	1.20	0.00	0.00	0.00	0.00	0.51	
CALCIUM CARBONATE	**282.35**	**231.55**	**371.55**	**226.13**	**216.33**	**217.25**	**213.33**	**286.83**	**6.13**
Total	**1314.58**	**1299.78**	**1537.75**	**1001.53**	**1052.87**	**1058.48**	**1063.83**	**1063.41**	**1.51**
3. Organic Chemicals									
ACETIC ACID	159.62	141.62	142.05	157.91	158.51	157.07	153.80	167.86	**1.54**
ACETIC ANHYDRIDE	115.43	113.33	119.18	92.99	94.82	97.09	95.47	74.15	**-5.50**
ACETONE	47.14	47.14	47.14	24.96	26.79	32.87	40.74	36.27	**9.79**
PHENOL	76.75	76.75	76.75	40.42	43.57	53.45	65.39	57.85	**9.37**
METHANOL	474.30	474.30	474.30	162.62	176.96	260.49	271.93	176.05	**2.00**
FORMALDEHYDE	411.30	411.30	411.30	242.09	244.19	248.23	226.61	260.41	**1.84**
NITROBENZENE	112.05	112.05	129.45	68.37	69.71	71.41	68.80	61.14	**-2.76**
MALEIC ANHYDRIDE	6.40	6.40	7.66	3.54	3.53	3.31	4.56	5.02	**9.15**
PENTAERYTHRITOL	13.72	15.76	15.76	13.97	14.01	14.10	14.99	15.21	**2.15**
ANILINE	54.10	54.10	54.10	39.40	41.45	41.88	37.85	25.44	**-10.36**
CHLORO METHANES	219.92	279.25	279.25	220.18	221.51	222.43	285.53	296.91	**7.76**
ISOBUTYLBENZENE	13.80	13.80	16.80	7.24	6.92	8.95	9.70	9.44	**6.86**

(Figures In 000' MT)

ONCB	30.00	30.00	30.00	19.26	22.55	24.90	23.70	19.84	**0.74**
PNCB	30.00	48.40	48.40	31.27	34.19	37.78	36.07	31.90	**0.50**
MEK	10.00	10.00	10.00	5.75	6.54	6.40	7.00	9.83	**14.35**
ACETALDEHYDE	163.01	151.01	151.01	58.96	60.46	65.74	61.89	77.10	**6.94**
ETHANOLAMINES	17.76	17.76	17.76	13.25	13.11	13.20	16.70	15.39	**3.82**
ETHYL ACETATE	526.63	517.83	562.06	360.40	371.27	411.49	440.56	473.39	**7.06**
MENTHOL	33.65	33.65	33.65	14.73	14.54	13.68	6.24	7.44	**-15.68**
ORTHO NITRO TOLUENE	19.00	20.69	44.80	11.52	13.80	14.39	16.89	25.98	**22.53**
Total	**2534.57**	**2575.12**	**2671.41**	**1588.83**	**1638.44**	**1798.85**	**1884.42**	**1846.62**	**3.83**
4. Pesticides and Insecticides									
D.D.T.	6.34	3.14	6.34	2.09	2.26	1.27	1.37	1.10	**-14.80**
MALATHION	3.80	3.20	3.80	2.04	2.26	3.29	4.39	3.79	**16.74**
DIMETHOATE	1.45	1.45	1.45	1.44	1.37	1.18	1.26	1.45	**0.16**
D.D.V.P.	33.62	33.62	33.62	7.22	8.13	8.13	9.14	0.00	**-100.00**
QUINALPHOS	2.20	2.20	2.20	0.84	1.29	1.18	0.89	0.86	**0.50**
MONOCROTOPHOS	13.94	13.84	13.94	5.48	6.58	5.50	5.30	5.82	**1.48**
PHOSPHAMIDON	2.00	2.00	2.00	0.13	0.09	0.11	0.00	0.00	**-100.00**
PHORATE	12.40	12.40	12.40	5.92	5.91	7.02	5.85	0.00	**-100.00**
ETHION	2.20	2.20	2.80	1.72	2.11	2.38	1.32	2.13	**5.50**
FENVALARATE	3.60	3.60	4.96	0.56	0.53	0.74	0.70	0.67	**4.73**
CYPERMETHRIN	24.43	25.10	23.83	8.53	7.88	8.25	10.95	10.87	**6.25**
ACEPHATE	18.97	17.50	20.50	16.58	16.27	18.27	19.63	21.08	**6.19**
CHLORPYRIPHOS	18.48	18.08	13.60	6.87	5.87	7.98	7.14	6.50	**-1.37**
TRIAZOPHOS	3.36	3.36	3.36	1.72	2.37	1.54	0.89	0.00	**-100.00**
TEMEPHOS	0.25	0.25	0.25	0.08	0.08	0.10	0.08	0.15	**16.99**
DELTAMETHRIN	0.62	0.73	0.79	0.38	0.37	0.55	0.68	0.69	**15.72**
ALPHAMETHRIN	0.50	0.49	0.48	0.23	0.10	0.32	0.34	0.44	**17.35**
PROFENOFOS TECHNICAL	10.50	10.50	10.50	6.85	10.50	9.95	12.45	12.36	**15.89**
PRETILACHLOR TECHNICAL	2.58	4.24	4.24	1.94	2.58	3.60	3.63	3.07	**12.11**
LAMBDA CYHALOTHRIN	2.60	2.60	2.85	0.42	0.74	1.14	0.62	2.30	**53.11**
PHENTHOATE	0.90	0.90	0.90	1.11	1.14	1.32	1.53	1.41	**6.05**
PERMETHRIN TECH	1.67	1.67	1.80	1.30	1.10	1.53	1.86	1.22	**-1.55**
IMIDACALOPRID TECH	1.13	0.20	0.15	0.20	0.18	0.34	0.10	0.02	**-43.77**

(Figures In 000' MT)

CAPTAN & CAPTAFOL	3.43	3.43	3.43	2.12	1.79	1.76	1.93	1.46	**-8.85**
ZIRAM(THIO BARBAMATE)	0.70	0.70	0.70	0.51	0.60	0.72	0.76	0.63	**5.70**
CARBENDZIM(BAVISTIN)	0.98	0.98	0.78	0.24	0.13	0.03	0.02	0.00	**-100.00**
MANCOZAB	82.39	84.70	84.70	66.38	78.48	70.25	69.33	60.88	**-2.14**
HEXACONAZOLE	1.08	1.20	1.70	0.62	0.46	0.59	0.50	0.75	**4.89**
METCONAZOLE	0.75	0.75	0.75	0.39	0.35	0.40	0.34	0.21	**-14.59**
2, 4-D	27.00	27.00	27.00	18.46	23.36	25.83	24.24	22.56	**5.14**
BUTACHLOR	0.50	0.50	0.50	0.00	0.00	0.00	0.00	0.00	**-100.00**
ETHOFUMESATE TECHNICAL	1.43	1.43	1.65	0.50	1.04	1.29	1.04	0.79	**12.07**
THIAMETHOXAM TECHNICAL	3.10	3.75	4.55	1.92	2.51	3.28	5.57	6.15	**33.86**
PENDIMETHALIN	4.50	4.70	6.00	2.82	4.04	3.78	2.82	2.75	**-0.58**
METRIBUZIN	1.20	1.35	1.95	0.91	1.12	0.88	1.92	2.65	**30.68**
TRICLOPYR ACID TECH	0.30	0.30	0.30	0.30	0.28	0.15	0.13	0.13	**-18.56**
ISOPROTURON	6.25	6.25	6.00	1.95	0.13	0.00	0.00	0.00	**-100.00**
GLYPHOSATE	12.92	12.87	12.92	6.96	6.35	6.29	6.68	5.91	**-4.00**
DIURON	3.72	3.72	6.00	1.26	3.68	3.26	3.62	3.40	**28.27**
ATRAZIN	0.50	0.50	1.20	1.21	1.90	2.25	1.48	1.73	**9.33**
ZINC PHOSPHIDE	1.92	1.92	1.92	1.50	1.31	1.40	1.26	1.32	**-3.22**
ALUMINIUM PHOSPHIDE	4.74	4.74	4.74	5.75	6.40	4.77	4.91	4.91	**-3.84**
DICOFOL	0.15	0.10	0.15	0.09	0.09	0.08	0.05	0.01	**-42.89**
Total	**325.09**	**324.16**	**333.69**	**187.52**	**213.72**	**212.70**	**216.70**	**192.15**	**0.61**
5. Dyes and Pigments									
AZO DYES	21.14	21.14	21.14	9.82	9.98	11.04	9.05	8.54	**-3.43**
ACID DIRECT DYES(OTHER THAN AZO)	34.90	40.90	40.90	20.57	19.86	21.15	24.13	22.75	**2.55**
DISPERSE DYES	67.21	67.21	75.01	43.57	41.35	46.72	55.24	61.94	**9.19**
INGRAIN DYES	1.44	0.00	0.00	0.30	0.00	0.00	0.00	0.00	**-100.00**
OIL SOLUBLE (SOLVENT DYES)	3.60	3.60	3.60	2.20	2.23	2.07	2.29	2.41	**2.34**
OPTICAL WHITENING AGENTS	40.80	41.16	67.68	24.70	23.77	23.21	29.30	20.74	**-4.27**
ORGANIC PIGMENT	87.04	87.04	88.36	61.31	63.74	73.34	73.94	75.08	**5.20**
PIGMENT EMULSION	5.41	5.41	5.41	9.67	10.61	10.16	9.78	9.69	**0.05**
REACTIVE DYES	186.69	194.69	195.73	106.23	120.96	151.91	151.38	156.71	**10.21**

(Figures In 000' MT)

SULPHUR DYES (SULPHUR BLACK)	8.25	8.25	8.25	9.55	10.07	7.32	7.54	7.45	**-6.04**
VAT DYES	2.86	3.04	2.86	1.44	1.52	1.65	1.78	2.13	**10.17**
SOLUBILISED VAT DYES	0.13	0.13	0.13	0.03	0.02	0.02	0.00	0.00	**-100.00**
FOOD COLOURS	0.00	0.00	0.00	0.71	0.75	0.78	0.79	0.67	**-1.33**
NAPTHOLS	0.90	0.90	0.90	0.00	0.00	0.00	0.00	0.00	
INORGANIC PIGMENTS	18.05	18.05	18.05	14.19	15.41	17.88	16.29	16.12	**3.25**
Total	**478.42**	**491.52**	**528.02**	**304.28**	**320.27**	**367.25**	**381.51**	**384.22**	**6.01**
TOTAL CHEMICALS									
(1+2+3+4+5)	**13926.79**	**14112.17**	**15159.94**	**9883.95**	**10233.88**	**11068.57**	**11589.11**	**11943.20**	**4.84**

Source: The source of Production and Installed Capacity of Chemicals and Petrochemicals products (which are monitoring by Statistics & Monitoring Division (S&M) of DCPC) is MPRs received from manufacturers under large and medium scale units only.

Note: Some Pesticides and Dyes manufacturing units supply combined Installed Capacity.

Annexure-II

PRODUCT-WISE INSTALLED CAPACITY & PRODUCTION OF MAJOR PETROCHEMICALS

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production					CAGR
	2017-18	2018-19	2019-20	2015-16	2016-17	2017-18	2018-19	2019-20	
1	2	3	4	5	6	7	8	9	10
A : BASIC MAJOR PETROCHEMICALS									
1. SYNTHETIC FIBRES / YARN									
ACRYLIC FIBRE (AF)	107.00	107.00	107.00	105.87	95.39	90.97	99.45	102.90	**-0.71**
POLYESTER STAPLE FIBREFILL	69.00	69.00	69.00	51.05	53.65	51.33	52.99	49.89	**-0.57**
NYLON FILAMENT YARN	24.62	24.62	58.52	37.25	40.91	40.01	46.62	48.29	**6.70**
NYLON INDUSTRIAL YARN/TYRE CORD	90.50	90.50	152.02	94.87	103.56	107.59	109.55	99.75	**1.26**
POLYESTER FILAMENT YARN	2765.81	2827.42	2719.79	2179.00	2200.91	2283.41	2316.43	2520.33	**3.71**
POLYESTER STAPLE FIBRE	1256.56	1256.56	1350.46	1039.65	1056.00	1005.30	931.44	1027.49	**-0.29**
POLYPROPYLENE FILAMENT YARN	3.60	3.60	3.60	3.47	3.39	3.15	2.36	2.52	**-7.70**
POLYPROPYLENE STAPLE FIBRE	32.13	30.93	30.93	27.04	24.56	22.24	20.74	18.82	**-8.67**
POLYSTER INDUSTRIAL YARN	21.50	21.50	21.50	15.38	16.33	15.04	14.83	14.73	**-1.07**
Elastomeric/ Spandex Filament Yarn	8.50	8.50	8.50	4.81	4.70	6.18	7.08	8.06	**13.78**
Group Total	**4379.22**	**4439.63**	**4521.31**	**3558.39**	**3599.40**	**3625.20**	**3601.48**	**3892.78**	**2.27**
2. POLYMERS									
1. Linear Low Density Polyethylene (LLDPE)	No separate Capacity			1204.57	1318.26	1290.05	1581.22	2994.03	**25.56**
2. High Density Polyethylene (HDPE)	No separate Capacity			1317.15	1520.04	1578.38	1597.68	1897.57	**9.56**
LLDPE/HDPE (Combined) *	**3348.10**	**3348.10**	**5158.10**	**2521.72**	**2838.30**	**2868.42**	**3178.90**	**4891.59**	**18.02**
LOW DENSITY POLYETHYLENE	160.00	160.00	560.00	200.03	201.76	185.66	193.05	613.29	**32.32**
POLYSTYRENE (PS)	471.00	471.00	471.00	308.58	311.35	301.58	292.86	291.72	**-1.39**

(Figures in 000'MT)

POLYPROPYLENE (PP)	4514.00	4514.00	4933.80	4284.42	4253.39	4350.20	4779.02	4982.82	**3.85**
EXPANDABLE POLYSTYRENE	126.30	128.70	133.30	86.20	96.77	103.91	108.27	110.68	**6.45**
POLY VINYL CHLORIDE (PVC)	1493.00	1493.00	1498.00	1437.89	1461.53	1466.08	1488.40	1513.59	**1.29**
Group Total	**10112.40**	**10114.80**	**12754.20**	**8838.84**	**9163.10**	**9275.85**	**10040.50**	**12403.69**	**8.84**
3. SYNTHETIC RUBBER									
STYRENE BUTADIENE RUBBER	271.00	271.00	271.00	124.80	167.33	193.97	228.64	227.83	**16.24**
POLY BUTADIENE RUBBER	114.00	114.00	100.00	113.93	117.09	113.63	122.23	130.25	**3.40**
ETHYL VINYL ACETATE	15.00	15.00	15.00	2.41	0.00	0.00	0.00	0.00	**-100.00**
NITRILE BUTADIENE RUBBER	25.30	25.30	25.30	0.39	0.35	0.05	0.00	0.00	**-100.00**
GROUP TOTAL	**425.30**	**425.30**	**411.30**	**241.53**	**284.78**	**307.66**	**350.87**	**358.08**	**10.34**
4. SYNTHETIC DETERGENT INTERMEDIATES									
LINEAR ALKYL BENZENE (LAB)	547.40	547.40	544.79	377.20	447.65	451.53	454.82	413.50	**2.32**
ETHYLENE OXIDE (EO)	140.00	140.00	135.00	188.31	216.06	291.30	232.34	301.18	**12.46**
GROUP TOTAL	**687.40**	**687.40**	**679.79**	**565.51**	**663.71**	**742.82**	**687.16**	**714.68**	**6.03**
5. PERFORMANCE PLASTIC									
NYLON-6	No separate Capacity			20.22	20.37	19.47	20.50	40.84	**19.22**
NYLON 6,6	No separate Capacity			1.23	1.17	1.08	1.02	0.73	**-12.20**
NYLON-6/ NYLON 6,6 (Combined) **	**28.20**	**28.20**	**68.50**	**21.44**	**21.54**	**20.56**	**21.52**	**41.57**	**18.00**
ABS RESINS	140.00	156.00	210.00	117.01	117.77	145.23	148.18	136.46	**3.92**
POLYMETHYL METHACRYLATE	3.50	3.50	3.90	1.47	0.29	0.02	0.00	0.00	**-100.00**
STYRENE ACRYLONITRILE (SAN)	148.00	148.00	148.00	98.68	99.24	114.69	131.76	133.79	**7.91**
POLYESTER CHIPS/PET CHIPS	**2607.66**	**2607.66**	**2468.50**	**1452.93**	**1548.70**	**1424.60**	**1271.09**	**1344.70**	**-1.92**
POLY-TETRAFLUORO-ETHYLENE (PTFE)	**19.80**	**19.80**	**20.30**	**8.75**	**11.73**	**13.72**	**16.24**	**15.11**	**14.64**
GROUP TOTAL	**2947.16**	**2963.16**	**2919.20**	**1700.27**	**1799.27**	**1718.81**	**1588.79**	**1671.63**	**-0.42**

(Figures in 000'MT)

TOTAL BASIC MAJOR PETROCHEMICALS									
(I+II+III+ IV+V)	**18551.48**	**18630.29**	**21285.80**	**14904.54**	**15510.25**	**15670.34**	**16268.79**	**19040.86**	**6.31**
B : INTERMEDIATES									
1. FIBRE INTERMEDIATES									
ACRYLONITRILE (ACN)	41.00	41.00	24.00	1.94	0.00	0.00	0.00	0.00	**-100.00**
CAPROLACTUM	120.00	120.00	120.00	86.30	86.96	85.97	92.56	84.06	**-0.65**
MONO ETHYLENE GLYCOL (MEG)	1153.40	1153.40	1868.10	1158.97	1110.50	1132.65	1159.76	2007.78	**14.73**
PURIFIED TEREPHTHALIC ACID (PTA)	3873.00	3873.00	3873.00	3431.78	3390.56	3492.44	3404.93	3267.07	**-1.22**
GROUP TOTAL	**5187.40**	**5187.40**	**5885.10**	**4678.98**	**4588.01**	**4711.06**	**4657.25**	**5358.91**	**3.45**
2. BUILDING BLOCKS									
Olefins									
BUTADIENE	433.00	433.00	552.00	343.45	347.36	332.38	385.76	481.01	**8.79**
ETHYLENE	4446.50	4446.50	7147.30	3727.39	4021.73	4222.68	3831.89	6466.75	**14.77**
PROPYLENE	4803.42	4803.38	5190.38	4456.69	4425.21	4457.91	4639.53	4887.62	**2.33**
GROUP TOTAL	**9682.92**	**9682.88**	**12889.68**	**8527.53**	**8794.29**	**9012.97**	**8857.18**	**11835.39**	**8.54**
Aromatics									
BENZENE	1566.35	1566.35	1721.35	1332.59	1332.04	1318.03	1414.56	1346.24	**0.26**
MIXED XYLENE	898.33	898.33	898.33	269.35	296.03	271.35	249.05	269.63	**0.03**
ORTHOXYLENE	420.00	420.00	420.00	499.51	444.88	447.76	406.30	386.39	**-6.22**
TOLUENE	288.27	288.27	288.27	115.74	126.76	106.94	141.14	140.16	**4.90**
PARAXYLENE (PX)	3131.70	3131.70	3131.70	3266.36	3161.30	3194.52	3331.81	2782.33	**-3.93**
GROUP TOTAL	**6304.65**	**6304.65**	**6459.65**	**5483.55**	**5361.02**	**5338.60**	**5542.87**	**4924.74**	**-2.65**
TOTAL INTERMIDATES									
FIBRE INTERMEDIATES AND BUILDING BLOCKS (1+2)	**21174.97**	**21174.93**	**25234.43**	**18690.06**	**18743.32**	**19062.62**	**19057.29**	**22119.04**	**4.30**
C : OTHER PETRO-BASED CHEMICALS									
DIETHYLENE GLYCOL	83.30	83.30	132.90	114.24	108.24	105.70	107.41	167.74	**10.08**
DIACETONE ALCOHOL	9.50	9.50	9.50	0.00	0.00	0.21	4.07	6.04	
ETHYLENE DICHLORIDE	593.20	593.20	593.20	277.35	282.57	282.35	339.20	345.29	**5.63**
BUTANOL	26.00	26.00	26.00	11.08	12.47	17.39	21.69	16.44	**10.37**

(Figures in 000'MT)

2-ETHYL HEXANOL	55.20	55.20	55.20	44.41	45.59	56.64	58.89	48.75	**2.36**
VINYL CHLORIDE MONOMER	541.30	541.30	541.30	790.71	791.26	777.98	803.62	874.47	**2.55**
PBT**	-	-	-	0.50	0.61	0.58	1.29	6.25	**87.90**
POLY CARBONATE**	-	-	-	0.17	0.15	0.09	0.12	0.11	**-10.80**
PROPYLENE OXIDE	36.00	36.00	36.00	25.59	29.34	36.00	35.12	34.56	**7.80**
PROPYLENE GLYCOL	20.00	20.00	20.00	13.65	16.35	17.64	19.13	19.51	**9.34**
POLYVINYL ACETATE RESIN	17.34	17.34	17.34	0.00	0.00	0.00	0.00	0.00	
UNSATURATED POLYSTER RESIN	0.00	0.00	34.00	0.00	0.00	0.00	0.00	16.44	
METHYL METHACRYLATE	4.38	4.38	4.38	2.28	0.54	2.83	3.99	1.71	**-6.99**
ISO-BUTANOL	2.80	2.80	2.80	1.86	1.96	2.23	2.21	1.71	**-2.01**
C4-RAFFINATE	291.60	291.60	291.60	428.64	437.17	339.20	380.26	413.33	**-0.91**
PHTHALIC ANHYDRIDE	349.05	349.05	401.91	305.78	296.07	290.01	275.07	269.64	**-3.10**
VINYL ACTATE MONOMER	30.00	30.00	30.00	0.00	0.00	0.00	0.00	0.00	
ISOPROPANOL	70.20	70.20	70.20	71.18	72.47	71.83	58.27	60.51	**-3.98**
POLYOL	141.63	141.63	146.76	71.80	78.72	79.43	82.13	81.75	**3.30**
GROUP TOTAL	**2271.49**	**2271.49**	**2413.09**	**2159.22**	**2173.50**	**2080.10**	**2192.46**	**2364.23**	**2.29**
TOTAL PETRO-CHEMICALS (A+B+C)	**41997.93**	**42076.70**	**48933.31**	**35753.82**	**36427.08**	**36813.06**	**37518.55**	**43524.13**	

Note: * Combined Installed Capacity of both LLDPE & HDPE.

Note : **Combined Installed Capacity of N-6, N6,6, PBT and Poly carbonate

Source: The source of Production and Installed Capacity of Chemicals and Petrochemicals products (which are monitoring by Statistics & Monitoring Division (S&M) of DCPC) is MPRs received from manufacturers under large and medium scale units only.

Annexure-III

Chemicals Under Rotterdam Convention

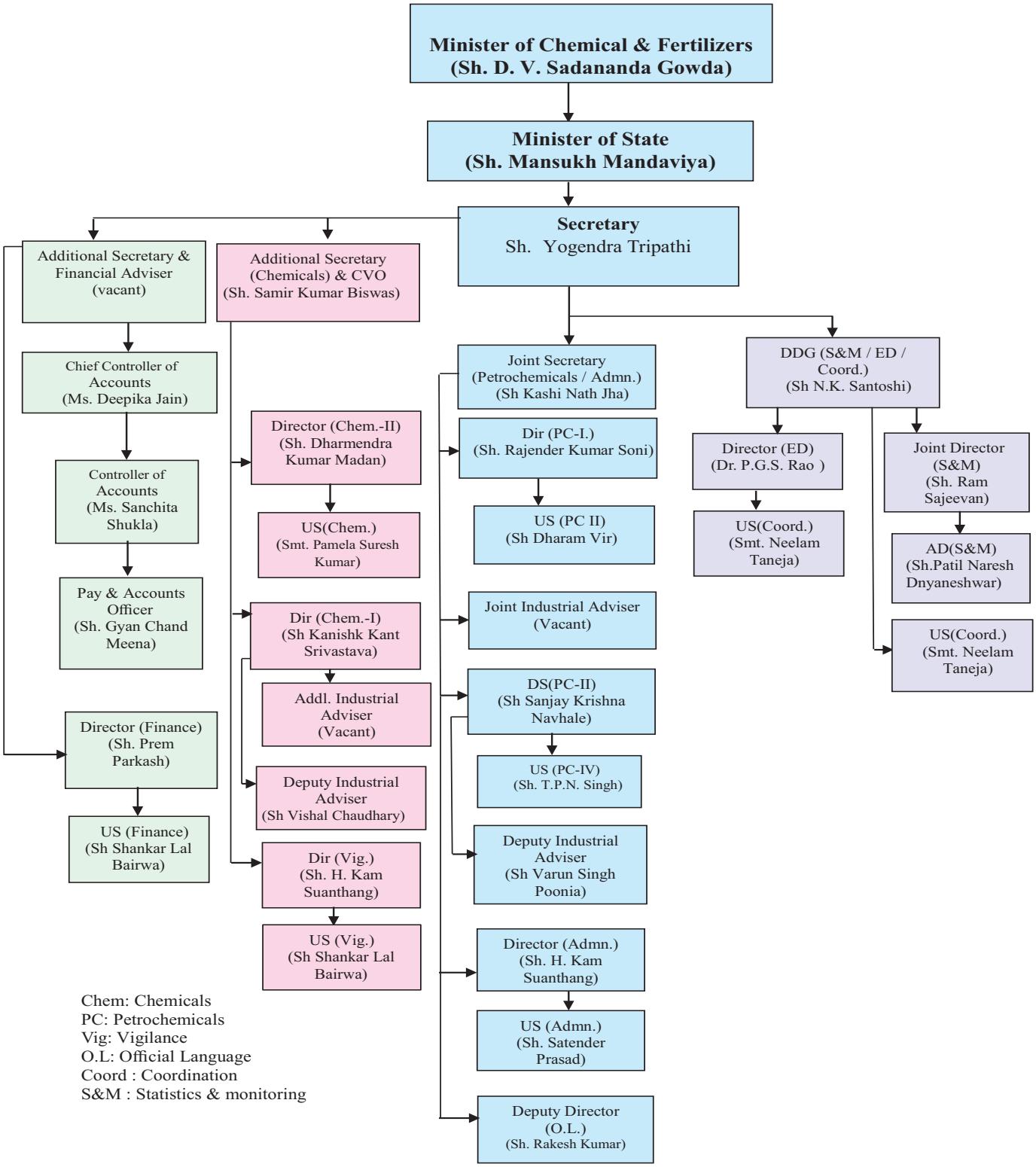
There are a total of 52 chemicals listed in Annex III, 35 pesticides (including 3 severely hazardous pesticide formulations), 16 industrial chemicals, and 1 chemical in both the pesticide and the industrial chemical categories.

S. No.		
1.	2,4,5-T and its salts and esters	Pesticide
2.	Alachlor	Pesticide
3.	Aldicarb	Pesticide
4.	Aldrin	Pesticide
5.	Azinphos methyl	Pesticide
6.	Binapacryl	Pesticide
7.	Captafol	Pesticide
8.	Chlordane	Pesticide
9.	Chlordimeform	Pesticide
10.	Chlorobenzilate	Pesticide
11.	DDT	Pesticide
12.	Dieldrin	Pesticide
13.	Dinitro-ortho-cresol (DNOC) and its salts (such as ammonium salt, potassium salt and sodium salt)	Pesticide
14.	Dinoseb and its salts and esters	Pesticide
15.	1,2-dibromoethane (EDB)	Pesticide
16.	Endosulfan	Pesticide
17.	Ethylene dichloride	Pesticide
18.	Ethylene oxide	Pesticide
19.	Fluoroacetamide	Pesticide
20.	HCH (mixed isomers)	Pesticide
21.	Heptachlor	Pesticide
22.	Hexachlorobenzene	Pesticide
23.	Lindane (gamma-HCH)	Pesticide
24.	Mercury compounds including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds	Pesticide
25.	Monocrotophos	Pesticide
26.	Parathion	Pesticide
27.	Pentachlorophenol and its salts and esters	Pesticide

28.	Toxaphene (Camphechlor)	Pesticide
29.	Tributyl tin compounds	Pesticide/ Industrial
30.	Dustable powder formulations containing a combination of : benomyl at or above 7 per cent, carbofuran at above 10 per cent, thiram at or above 15 per cent	Severely hazardous pesticide formulation
31.	Methyl-parathion (Emulsifiable concentrates (EC) at or above 19.5% active ingredient and dusts at or above 1.5% active ingredient)	Severely hazardous pesticide formulation
32.	Phosphamidon (Soluble liquid formulations of the substance that exceed 1000 g active ingredient/l)	Severely hazardous pesticide formulation
33.	Actinolite Asbestos	Industrial
34.	Anthophyllite asbestos	Industrial
35.	Amosite Asbestos	Industrial
36.	Crocidolite asbestos	Industrial
37.	Tremolite asbestos	Industrial
38.	Commercial octabromodiphenyl ether (including Hexabromodiphenyl ether and Heptabromodiphenyl ether)	Industrial
39.	Commercial pentabromodiphenyl ether (including tetrabromodiphenyl ether and pentabromodiphenyl ether)	Industrial
40.	Perfluorooctane sulfonic acid, perfluorooctane sulfonates, perfluorooctane sulfonamides and perfluorooctane sulfonyls	Industrial
41.	Polybrominated biphenyls (PBBs)	Industrial
42.	Polychlorinated biphenyls (PCBs)	Industrial
43.	Polychlorinated terphenyls (PCTs)	Industrial
44.	Tetraethyl lead	Industrial
45.	Tetramethyl lead	Industrial
46.	Tris (2,3 dibromopropyl) phosphate	Industrial
47.	Carbofuran	Pesticide
48.	Trichlorfon	Pesticide
49.	Short Chain Chlorinated Paraffins (SCCP)	Industrial
50.	Methamidophos	Pesticide
51.	Phorate	Pesticide
52.	Hexabromocyclododecane	Industrial

Annexure-IV

ORGANISATIONAL CHART OF DEPARTMENT OF CHEMICALS & PETROCHEMICALS (As on 28.01.2021)



Chem: Chemicals
PC: Petrochemicals
Vig: Vigilance
O.L: Official Language
Coord : Coordination
S&M : Statistics & monitoring

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