36	*STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2012-13)* *FIFTEENTH LOK SABHA*

MINISTRY OF CHEMICALS AND FERTILIZERS

(DEPARTMENT OF CHEMICALS AND PETROCHEMICALS)

PRODUCTION AND AVAILABILITY OF PESTICIDES

THIRTY-SIXTH REPORT

LOK SABHA SECRETARIAT

NEW DELHI

August, 2013/ Shravana 1935, (Saka)

CC&F.No.36

REPORT

STANDING COMMITTEE ON CHEMICALS AND FERTILIZERS (2012-13)

(FIFTEENTH LOK SABHA)

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

PRODUCTION AND AVAILABILITY OF PESTICIDES

Presented to Lok Sabha on 06 August 2013

Laid in Rajya Sabha on 07 August 2013

LOK SABHA SECRETARIAT
NEW DELHI

August, 2013/ Shravana 1935, (Saka)

CONTENTS

COMPOSITION OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2011-12)

Shri Gopinath Munde - Chairman	
MEMBERS LOK SABHA	
2.	Shri Prabhatsinh Pratapsinh Chauhan
3.	Shri K. D. Deshmukh
4.	Smt. Paramjit Kaur Gulshan
5.	Shri Yashbant N.S. Laguri
6.	Shri Baidya Nath Prasad Mahato
7.	Shri Sakti Mohan Malik
8.	Shri O.S. Manian
9.	Shri Kamlesh Paswan
10.	Shri N. Peethambara Kurup
11.	Shri Ponnam Prabhakar
12.	Shri Ashok Kumar Rawat
13.	Shri Sivakumar alias Ritheesh
14.	Shri Tufani Saroj
15.	Shri Suresh Kumar Shetkar
16.	Shri Raju Shetti
17.	Shri Adagooru Viswanath
18.	Shri Om Prakash Yadav
19.	Vacant
20.	Vacant
21.	Vacant
RAJYA SABHA	
22.	Shri Biswajit Daimary
23.	Shrimati Naznin Faruque
24.	Shri A.A. Jinnah
25.	Shri Brijlal Khabri
26.	Shri Parshottam Khodabhai Rupala
27.	Shri Raghunandan Sharma
28.	Dr. C.P. Thakur
29. [&]	Shri Dilipbhai Pandya
30.^	Prof. Anil Kumar Sahani
31. [#]	Vacant

SECRETARIAT

1. Shri C.S. Joon - Joint Secretary
2. Shri Anil Kumar Srivastava - Additional Director
3. Smt. Emma C. Barwa - Under Secretary

& Nominated w.e.f. 17.09.2011.
 # Vacancy arisen due to demise of Shri Silvius Condpan, MP (RS) w.e.f. 10 October 2011.
^ Nominated w.e.f. 04.05.2012.

COMPOSITION OF THE STANDING COMMITTEE ON CHEMICALS & FERTILIZERS (2012-13)

Shri Gopinath Munde - Chairman	
MEMBERS LOK SABHA	
2.	Shri S. Alagiri
3.	Shri Gajanan D. Babar
4.	Shri P.P. Chauhan
5.	Shri K.D. Deshmukh
6.	Shri Sher Singh Ghubaya
7.	Shri Sk. Nurul Islam
8.	Shri Sakti Mohan Malik
9.	Shri Paswan Kamlesh
10.	Shri Amarnath Pradhan
11.	Shri Ashok Kumar Rawat
12.	Shri Tufani Saroj
13.	Shri Suresh Kumar Shetkar
14.	Shri Raju Shetti
15.	Shri G.M. Siddeshwara
16.	Shri D. Venugopal
17.^	Shri Sai Prathap Annayyagari
18.*	Vacant
19. #	Vacant
20.	Vacant
21.	Vacant
RAJYA SABHA	
22.	Shri Biswajit Daimary
23.	Shrimati Naznin Faruque
24.	Shri A.A. Jinnah
25.	Shri Brijlal Khabri
26.	Shri Dilipbhai Pandya
27.	Shri Raghunandan Sharma
28. %	Vacant
29. ^	Vacant
30. ^#	Vacant
31.	Vacant

SECRETARIAT

1.	Smt Rashmi Jain	-	Joint Secretary
2.	Shri U.B.S. Negi	-	Director
3.	Shri Anil Kumar Srivastava	-	Additional Director
4.	Smt. Emma C. Barwa	-	Under Secretary

** Shri P. Balaram Naik appointed as a minister of state*
#Shri Vitthalbhai Hansrajbhai (LS) has resigned w.e.f. 03 .01.2013
^ Shri Sai Prathap Annayyagarin (LS) nominated w.e.f. 09.01.2013.
% Dr. Vijay Mallya (RS) has resigned w.e.f. 26.02.2013
^ Shri K.C. Tyagi (RS) nominated w.e.f. 07.03.2013.
^ Shri Pyarimohan Mohapatra (RS) has resigned w.e.f. 22.03.2013
 # Shri K.C. Tyagi (RS) has resigned w.e.f. 01.04.2013

INTRODUCTION

I, the Chairman, Standing Committee on Chemicals and Fertilizers (2012-13) having been authorised by the Committee to submit the Report on their behalf, present this Thirty-Sixth Report on the subject 'Production and Availability of Pesticides' of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals).

2. The subject, 'Production and Availability of Pesticides' was taken up by the erstwhile Committee on Chemicals and Fertilizers (2011-12) for examination and report. The erstwhile Committee also took oral evidence of the representatives of the Department of Chemicals and Petrochemicals in their sittings held on 07 August, 2012 and 22 August, 2012.

3. The Committee (2012-13) considered and adopted the Report at their sitting held on 25 July, 2013.

4. The Committee wish to express their thanks to the Officers of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals) and other Ministries/ Departments for furnishing the written replies and other material/ information and for appearing before the Committee to tender their evidence in connection with the examination of the subject. The Committee also express their thanks to the previous Committee for their work on the subject.

5. For facility of reference and convenience, the observations / recommendations of the Committee have been printed in bold letters at the end of the Report.

New Delhi;

02 August, 2013
11 Shravana, 1935 (Saka)

GOPINATH MUNDE
Chairman,
Standing Committee on
Chemicals and Fertilizers

REPORT

CHAPTER – I

INTRODUCTORY

Pesticide is a broad term that defines all chemical substances used to control insects, weeds, fungus and pests on plants, vegetables, and animals. Pesticides and Fertilizers have contributed significantly towards India's green revolution thereby making the country self reliant in food.

1.2 Pesticides are of three major categories, viz. herbicides (for control of weeds); insecticides (for control of insect pests in farms, homes and in public places); and fungicides (for control of fungal diseases).

1.3 Pesticides is a deregulated sector. The country is by and large self sufficient in the production of technical pesticides and their formulations. India is a net exporter of pesticides. The pesticides industry is governed by the provisions of the Insecticide Act, 1968 which is administered through the Department of Agriculture and Cooperation, Ministry of Agriculture. Central Insecticides Board and the Registration Committee are the agencies under the Department to regulate the manufacture, distribution, export, import, ban and usage of pesticides. Insecticide Act is enforced by the State Governments. The Department of Chemicals and Petrochemicals plays the role of a facilitator for the growth of the Industry.

1.4 When the Committee asked as to whether any study has been conducted regarding the extent to which agriculture production has increased by the use of pesticides, the Department of Chemicals and Petrochemicals in its written reply stated as under:

> "Every year in India, pests and diseases eat away, on an average, 20-30% of food, worth about Rs. 45000 crore, produced by the farmers. World over, the damage by fungi to rice, wheat and maize alone costs $60 billion per year and the Fungal diseases destroy 125 million tones of rice, wheat, maize, potatoes and soyabeans each year. Stemming fungal diseases alone in the world's five most important crops could feed more than 600 million people. It is, therefore, essential to control the pests and diseases through Primary Plant Protection for providing sufficient food security to the growing population of the country. (Source: Agriculture Today: The National Agriculture Magazine, July 2012).
>
> "Green Revolution" during the 1960s and 1970s, has considerably increased the crop production and made India self-sufficient in food. It is mentioned that apart from High Yielding Seeds, chemical fertilizers, irrigation; pesticides played a very important role in enabling the Green Revolution. However, it is difficult to segregate the contribution, exclusively made by pesticides.
>
> Availability of safe & effective pesticides and their judicious use by the farming community is critical to a sustained increase in agricultural production and

productivity. Pesticides are also useful in health programmes for controlling vectors, responsible for diseases like malaria."

Role of the Department

1.5 In their written reply, the Department of Chemicals and Petrochemicals elaborated their role as a 'facilitator', as under:-

> "The Department of Chemicals and Petrochemicals' role on the pesticides sector is limited to being a facilitator for the growth of the industry. The term 'facilitator' here indicates that the Department undertakes to put in place an enabling policy framework, covering policy, planning, development and regulation of Chemicals, for providing a conducive environment for the growth and development of the Chemical industry, including pesticides. The Department also takes up inter-ministerial coordination with different Ministries and Departments to sort out any issues that may hinder the progress in this direction."

1.6 While, highlighting the inter-ministerial nature of responsibilities on issues relating to the pesticides sector, the Department of Chemicals and Petrochemicals in their written reply stated as under:-

> "…With a view to prevent risk to human health, animals and environment, the manufacture, import, sale, transportation, distribution and use of pesticides are governed under the provisions of the Insecticide Act, 1968, which is administered through Ministry of Agriculture, Department of Agriculture and Cooperation (DAC) and not by Department of Chemicals and Petrochemicals. The other vital issues of pesticides industry such as prevention of use of spurious pesticides, quality standards, testing, review of use of pesticides, to create awareness about judicious use of pesticides among the farmer community are also looked after by the DAC. Central Insecticides Board and Registration Committee which is the technical arm of DAC, looks after registration of pesticides in the country. Setting up of new testing laboratories in the country and to fix maximum residue limits (MRL) is also handled by DAC. Ministry of Agriculture has prepared Pesticides Management Bill to address various vital issues affecting growth of pesticides sector. Thus, though as per Government of India (Allocation of Business) Rules, 1961, Department of Chemicals & Petrochemicals has been allocated the subject insecticide excluding the administration of Insecticides Act, 1968. Practically, all vital issues of pesticides sector are looked after by Department of Agriculture and Cooperation.
>
> Time bound grant of licences, grant of registration for new pesticides molecules, accreditation of private laboratories to function as Central Pesticide Laboratories (CPL), elaborate procedure for drawal of pesticide samples and making punishments more stringent for misbranded, sub-standard and spurious pesticides are the main concerns of this segment. All these issues are dealt with by Department of Agriculture & Cooperation."

1.7 When the Committee asked to provide details regarding the demarcation of responsibilities between the Department of Chemicals and Petrochemicals (DCPC) and the Department of Agriculture and Cooperation (DAC) on the issue of production and

availability of Pesticides, the Department of Chemicals and Petrochemicals in their written reply explained as under:-

> "Under the Rules of Business, insecticides (excluding administration of the Insecticides Act, 1968) is assigned to the Department of Chemicals & Petrochemicals (DCPC). On the other hand, protection against pests and prevention of plants diseases and administration of the Insecticides Act, 1968 are subjects assigned to the Department of Agriculture and Cooperation (DAC). From the above, it is clear that while production of pesticides (which term has been used interchangeably with insecticides under the Insecticides Act, 1968) is the responsibility of the DCPC, while registration of pesticides, their standards, residue levels, etc. is the responsibility of DAC."

1.8 While commenting on the nature of division of responsibilities between the two Departments, the Secretary of the Department of Chemicals and Petrochemicals stated during the evidence as under:-

> "I would very briefly mention as to where we stand. One of the points which has been raised by the hon. Committee itself is that which Department does it belong to; is it the Department of Chemicals and Petrochemicals or the Ministry of Agriculture and various people who are supposed to be concerned about it. We have brought out the reply here. Under the Rules of Business, there is some responsibility for the Department of Chemicals and Petrochemicals; the Ministry of Agriculture is in charge of the use of the Insecticide Act 1968, which is probably going to be replaced by the Pesticides Act. They are also in charge of prevention of plant diseases. So, there is a division of responsibility.
>
> As far as production is concerned – whether we produce it in Hindustan Insecticides Ltd. (HIL) or whether it is produced in a public/private company under our control – production is the responsibility of Department of Chemicals. So, availability of pesticides at a particular place is definitely our responsibility. But, in respect of the use of that particular pesticide – whether the pesticide helps in the plant protection; what type of pesticides will help which plants and which crop; which one is used for rice and which is used for cotton – all these things come under the domain of the Ministry of Agriculture."

1.9 On being enquired by the Committee about the coordinative mechanisms that exist between the Department of Chemicals and Petrochemicals and the Department of Agriculture and Cooperation regarding the pesticides sector, in their written reply, the Department of Chemicals and Petrochemicals stated as under:-

> "Registration before manufacture (production) of pesticides is mandatory under Section 9 of the Act. A representative of the Department of Chemicals and Petrochemicals has been a member of the Registration Committee (RC), a Technical Executive Body, constituted by the Department of Agriculture and Cooperation (DAC) under Section 5 of the Act to register pesticides. The same member is also a member of the Central Insecticides Board (CIB), the Apex Advisory Body under the Act to advise the Central and State Governments on technical issues arising out of administration of the Act. Besides, there is an Inter-ministerial Committee to resolve issues requiring intervention of Ministries concerned. A representative of MoCF is a member on this Committee too. Therefore, a proper co-ordination mechanism exists among the two Ministries."

1.10 Further, according to the Department of Chemicals and Petrochemicals, the Department of Agriculture and Cooperation is in the process of amending the Insecticides Act, 1968, to be replaced by Pesticides Management Act (PM Act). When the Committee desired to know the issues which were sought to be addressed in the proposed amendment, the Department of Chemicals and Petrochemicals in its written reply stated as under:-

> "Pesticides Management Bill has been introduced by the Department of Agriculture and Cooperation. It is under consideration of the Rajya Sabha since October, 2008. Some major concerns, it seeks to redress are as under:-
>
> i. Revision of definition of pesticides to cover all substances intended to be used as pesticides.
> ii. Provision for suspension and/or cancellation of registration to empower the Registration Committee (RC) to suspend and/or cancel registration, which is hitherto not available.
> iii. Provision for data protection to encourage faster introduction of new pesticide molecules for the benefit of the farming community.
> iv. Provision for registration of pesticides only after fixation of tolerance limits (Maximum Residue Limits) under Food Safety & Standards Act, 2006 for monitoring pesticide residues on the crops on the pests of which it is intended to be used.
> v. Provision for restricted movement of pesticides, registered only for the purpose of export.
> vi. Provision for improvement in the licensing procedure, qualification for licensees and exemption from licensing for retail sale of household pesticides for easy availability to the consumer.
> vii. No 'Stop Sale' of pesticides by Pesticide Inspectors without permission of a Magistrate.
> viii. Powers of Pesticide Inspectors to Customs Officers for checking illegal imports of pesticides.
> ix. Clarity in the procedure for sampling and testing of samples for monitoring quality of pesticides.
> x. Mandatory accreditation of laboratories testing pesticides for monitoring their quality.
> xi. Classification of offences and provision of penalties commensurate with the gravity of offence.
> xii. Provision for 'Compensation' in case a pesticide fails to perform.
> xiii. Provision for time-bound disposal of obsolete pesticides."

1.11 When the Committee desired to know the opinion of the Department of Chemicals and Petrochemicals regarding the desirability, or otherwise, of bringing all issues relating to pesticides under one Ministry, in their written response, the Department has stated as under:-

> "Present system of demarcation of responsibilities among Ministries concerned is working well keeping in view the mandate of respective Ministries/Departments."

1.12 On being enquired by the Committee as to whether any mechanism has been devised for District/ State-wise assessment of demands for various pesticides in country, the Department in its written reply stated as under:-

"The Department of Chemicals and Petrochemicals (DCPC) is responsible for the production of pesticides. These are produced not just in the Central PSU of Hindustan Insecticides Ltd. (HIL), which comes under the administrative control of the DCPC but also several private sector manufacturers. HIL has information regarding the demand for their pesticides in various regions of the country. However, they do not maintain data to assess the demand District-wise or State-wise. Such data would be available with the State Agriculture Departments. The DCPC has not devised any mechanism for District/State-wise assessment of demand."

1.13 When the Committee asked as to whether the Department has any proposal to evolve any mechanism to assess the demand of pesticides in the country, the Department in its written reply stated as under:-

"DCPC, under the Rules of Business Allocation, is responsible for the production of pesticides, whereas all other issues relating to the pesticides are assigned to the DAC, including the administration of the Insecticides Act, 1968. Under the provisions of the Insecticides Act, quality control, monitoring of the pesticides production units is carried out by the Central/State Agriculture Departments.

Every year, well before the commencement of the agricultural seasons, viz. Kharif and Rabi, the Rural Agricultural Extension Officers of the Agriculture Department(s), in every block, collect the requirements of agricultural inputs such as, seeds, fertilizers, pesticides, various other agricultural chemicals including growth promoters, soil conditioners, growth regulators, herbicides and hormones, mineral nutrients and agricultural implements of each village at the grass root level. After compiling the above requirements of all the villages under their jurisdiction, they transmit the same to the block level agricultural officers. The block level agricultural officers after compilation of the requirements of all the villages further transmit the same to the Deputy Director of Agriculture at the District headquarters. After further processing and compilation, the same data is then transmitted to the Director, Agriculture, at the State level, who in turn compiles the data for the entire State. Every State Government, after due deliberation, firms up its requirements of various inputs and transmits the same to the Ministry of Agriculture, Government of India, which then finally compiles and consolidates the data for the entire country.

As the Agriculture Department(s) have their own elaborate machinery/network of agriculture centers and offices which collect data and disseminate information in this regard, setting up a similar kind of network for collection of the consumption data of pesticides will be a duplication. Further, the present system is working smoothly."

1.14 When the Committee observed that the Department has virtually no monitoring role over pesticides, the Department in their written reply stated as under:

"As per the existing rules of Business Allocation, administration of the Insecticides Act, 1968 is assigned to the Department of Agriculture and Cooperation (DAC). Accordingly, the Registration Committee is constituted by the DAC and they are responsible for all issues relating to quality control, monitoring pricing etc. and this arrangement is working smoothly. Any change in the present arrangement will require amendment to the Rules of Business Allocation as well as the Insecticides Act, 1968."

CHAPTER - II

PRODUCTION, EXPORT, IMPORT, CONSUMPTION AND PRICING OF PESTICIDES

The total value of annual production of pesticides in the country is about Rs. 8000 crore, out of which pesticides worth Rs. 6000 crore is consumed in the country and the rest is exported. Technical Pesticides are produced in the country by about 60 companies and their formulations are produced by about 500 units. The production figures of Pesticides (Technical) for 2010-11 and 2011-12 are 1,11,000 tonnes and 1,20,000 tonnes respectively. For 2012-13 (up to September, 2012), the production figure is 60,000 tonnes.

Production of Pesticides

2.2 As per the information furnished by the Department, year-wise and category-wise production figures of various types of pesticides in the country for the last three years are as under:-

MAJOR GROUPS / PRODUCTS	**(000 MTS)**		
	2009-10	**2010-11**	**2011-12**
PESTICIDES AND INSECTICIDES			
D.D.T.	3.61	3.09	3.62
MALATHION	0.62	0.64	0.70
PARATHION (METHYL)	0.00	0.00	0.00
DIMETHOATE	0.96	1.12	0.69
D.D.V.P.	3.12	3.13	4.18
QUINALPHOS	0.99	1.01	0.99
MONOCROTOPHOS	5.74	8.60	8.60
PHOSPHAMIDON	1.00	0.03	0.06
PHORATE	2.00	2.63	2.33
ETHION	0.43	0.65	0.00
ENDOSULPHAN	2.80	1.73	0.02
FENVALERATE	0.53	0.08	0.05
CYPERMETHRIN	6.23	4.95	8.80
ANILOPHOS	0.00	0.00	0.00
ACEPHATE	10.83	12.84	14.60
CHLORPYRIPHOS	2.90	3.35	1.90
PHOSALONE	0.00	0.00	0.00
METASYSTOX	0.00	0.00	0.00
FENTHION	0.00	0.00	0.00
TRIAZOPHOS	1.00	1.58	0.70
LINDANE	0.00	0.00	0.00
TEMEPHOS	0.00	0.00	0.00
DELTAMETHRIN	0.02	0.00	0.32
ALPHAMETHRIN	0.00	0.51	0.32
FUNGICIDES			
CAPTAN & CAPTAFOL	0.00	0.00	0.90
ZIRAM(THIO BARBAMATE)	0.00	0.00	0.54
CARBENDZIM(BAVISTIN)	0.19	0.26	0.16
CALIXIN	0.00	0.00	0.00
MANCOZAB	31.49	26.05	12.40
COPPER-OXYCHLORIDE	0.00	0.00	0.00
HERBICIDES			
2, 4-D	0.00	0.00	0.00

MAJOR GROUPS / PRODUCTS	(000 MTS)		
	2009-10	2010-11	2011-12
BUTACHLOR	0.24	0.09	0.03
WEEDICIDES			
ISOPROTURON	2.91	3.90	2.50
GLYPHOSATE	1.70	2.28	0.96
DIURON	0.13	0.20	0.18
ATRAZIN	0.26	0.24	0.67
FLUCHLORALIN	0.00	0.00	0.00
RODENTICIDES			
ZINC PHOSPHIDE	0.33	0.42	0.39
ALUMINIUM	2.16	1.80	1.80
FUMIGANTS			
DICOFOL	0.02	0.04	0.08
Total	**82.19**	**81.22**	**68.49**

2.3 When the Committee asked about the major pesticides companies and their contribution to the national production in percentage including the types of pesticides produced by them, the Department of Chemicals and Petrochemicals provided the data in a tabular form as under:

Name of the company	Name of major pesticide manufacture	Production in Qty. as reported to DCPC (MTs)	Percentage of national production
United Phosphorus Ltd.	Acephate, Monocrotophos, Cypermethrin,D.D.V.P., Phorate, Mancozab, Aluminium Phosphide, Zinc Phosphide,	24137	35.23%
Sabero Organics Ltd. Gujarat	Mancozab, Monocrotophos, Acephate, D.D.V.P., Glyphosate, Chlorpyriphos	14688	21.45%
Gharda Chemicals Ltd.	Cypermethrin, Isoproturon,	5808	8.48%
Hindustan Insecticides Ltd.	Malathion, Monocrotophos, Endosulphan, Dicofol,, Butachlor,DDT	4858	7.09%
Rallis India Ltd.	Acephate	4401	6.42%

2.4 As per the information furnished by the Department, while there are only 230 registered pesticides in India, in the USA, the number is more than 1000 and for the EU, it is around 700. In the light of this, the Committee desired to know the reasons for the relatively small number of pesticides registered in India and whether this will have any adverse implication on agricultural productivity in the country. In this regard, the Department in its written reply stated as under:-

> "(a) Managing the pest problem with less number of pesticides is a good sign. Yet, efforts are being made to encourage introduction of more low volume and high efficiency pesticides. Provision of data protection for a limited period is a similar effort. As and when any application for grant of registration of such molecules is received, the same is examined for efficacy and safety before grant of registration.
>
> (b) The agricultural production and productivity depend on variety of factors like quality of seed, fertilizer, and other agricultural inputs, including pesticides, monsoon, adoption of good agricultural practices, etc; and is not directly linked to the number of registered pesticides. India has emerged as the second biggest agricultural economy in the world in spite of having lesser number of pesticide registrations."

2.5 When the Committee enquired as to whether pesticides are easily made available to the farmers and any problems in this regard, the Department in its written reply stated as under:-

> "Pesticides are easily available to the farmers through Government, Co-operative and private retail outlets across the country. The availability of pesticides to farmers is also ensured in the Zonal Conferences on Inputs for Rabi and Kharif, respectively, every year."

Export and Import

2.6 The indigenous capacity in pesticides sector is adequate to meet the domestic requirement of demand and exports. India is a net exporter of pesticides. The export destination markets are USA, UK, France, Netherlands, South Africa, Bangladesh, Malaysia and Singapore, etc. Some of the pesticides exported over the years include Parathion (Methyl), Cypermethrin, Endosulfan, DDT, etc. Exports consist mostly of patent products. The major manufacturers in the pesticide sector include M/s United Phospharus Ltd., M/s Syngenta, M/s Rallis India and M/s Hindustan Insecticides Ltd., a Public Sector Undertaking under the Government of India. The value of exports and imports during the last five years is given below.

Export and Import of Pesticides

(Rupees in Crores)

YEAR	EXPORT	IMPORT
2007-08	3143.11	902.92
2008-09	4979.22	1760.38
2009-10	5254.35	2225.96
2010-11	5205.51	2871.70
2011-12	6888.09	3400.90

(Source: DGCIS, Department of Commerce)

2.7 Regarding export and import of different pesticides during 2010 -2011, 2011-12 and 2012-13, the Department in its written reply provided the following data: -

EXPORT: **(Thousand Kilograms)**

S.No.	HS Code	Commodity	2010-11	2011-12	2012-13 (Apr.-Dec.)
1	38085000	Aldrin	3,552.19	1,017.47	408.26
2	38089111	Aluminium Phosphate (E.G. Phostoxin)	2,157.61	1,969.32	1,785.93
3.	38089113	D.D.V.P(Dimethyl- Dichloro-Vinyl-Phosphate)	929.17	1,128.68	364.96
4.	38089122	Methyl Bromide	14.00	155.48	79.02
5.	38089123	Dimethoate Technical	359.00	4.10	
6.	38089199	Other Insecticide Nes	37,925.30	42,939.68	30,464.40
7	38089290	Other Fungicide Nes	21,383.05	36,025.21	36,553.97
8	38089340	Plant-Growth Regulators	1,108.73	1,720.49	1,290.92
9	38089350	Weedicides and Weed Killing	4,632.24	4,222.37	2,589.95

		Products			
10	38089390	Other Herbicides-Anti-Sprouting Products	10,535.31	14,971.12	10,048.73
11	38089400	Disinfectants	1,305.27	8,768.64	6,097.92
12	38089910	Pesticides, Not elsewhere Specified or INC	22,282.81	27,282.76	23,763.73
		TOTAL	106184.68	140205.32	113447.79

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

IMPORT: **(Thousand Kilograms)**

S.No.	HS Code	Name of Pesticides	2010-11	2011-12	2012-13 (Apr.-Dec.)
1	38085000	Aldrin	1,053.10	1,034.18	687.97
2	38089111	Aluminium Phosphate (E.G. Phostoxin)	187.21	30.70	21.66
3.	38089113	D.D.V.P(Dimethyl-Dichloro-Vinyl-Phosphate)	44.62	23.50	
4.	38089122	Methyl Bromide	447.73	655.06	569.53
5.	38089123	Dimethoate Technical	58.40	151.60	130.00
6.	38089199	Other Insecticide Nes	17,256.91	18,388.41	13,820.87
7	38089290	Other Fungicide Nes	3,957.76	3,975.72	2,526.93
8	38089340	Plant-Growth Regulators	337.11	192.21	263.48
9	38089350	Weedicides and Weed Killing Agents	25.92	38.99	22.28
10	38089390	Other Herbicides-Anti-Sprouting Products	3,775.36	4,689.01	5,739.84
11	38089400	Disinfectants	144.10	98.15	747.58
12	38089910	Pesticides, Not elsewhere Specified or INC	650.79	2,339.74	876.48
		Total	**27939.01**	**31617.27**	**25406.62**

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

2.8 On being enquired by the Committee as to how the country is self sufficient in pesticides sector when the pesticides are also being imported, the Department, in their written reply, stated as under:-

> "It is true that India is importing pesticides. That alone does not mean that we are not self-sufficient. We are, in fact, exporting a larger quantity and value of pesticides. India is self-sufficient in the area of pesticides and they are made available to the farmers through Government, Cooperative and private retail outlets across the country. The availability of pesticides to the farmers is also ensured in the zonal conferences in inputs for rabi and kharif respectively every year.
>
> As regards import of pesticides, it is mentioned that as pesticides fall within the purview of the de-regulated sector, market forces decide the import and export based on commercial viability. This also indicates the presence of a good, vibrant and competitive market, which is taking place in India that also acts as a self-regulating mechanism against overcharging.
>
> It is mentioned that India also imports the latest patented pesticide products from various countries depending on the need and the market. For example, M/s United Phosphorous Ltd. is proposing to launch two insecticides by way of imports from the global product portfolio of Ishihara Sangy Kaisha of Japan."

2.9 In this context, the Secretary of the Department has stated during the evidence as under:-

> "We are exporting large quantities which show that in the international arena India has got a particular name in chemicals. We have a very good name in chemicals and pesticides which forms a part of the chemical sector."

Consumption of Pesticides

2.10 As regards state-wise consumption of pesticides in the country during 2007-08 to 2011-12, the Department furnished the following data in writing:-

CONSUMPTION OF PESTICIDES IN VARIOUS STATES DURING 2007-08 to 2011-12

M.T.(Technical Grade)

S.No.	States/UTs	2007-08	2008-09	2009-10	2010-11	2011-12
1	Andaman & Nicobar	-	6.24	14.00	-	
2	Andhra Pradesh	1541.00	1381.00	1015.00	8869.00	8529.00
3	Arunachal Pradesh	16.00	10.00	10.00	10.00	17.45
4	Assam	158.00	150.00	19.00	150.00	160.00
5	Bihar	870.00	915.00	828.00	675.00	655.00
6	Chandigarh	-	-	-	-	-
7	Chhattisgarh	570.00	270.00	205.00	570.00	510
8	Dadra & Nagar Haveli	-	-	-	-	-
9	Daman & Diu	-	-	-	-	-
10	Delhi	57.00	57.00	49.00	48.00	46.00
11	Goa	2.30	8.90	10.30	8.90	8.40
12	Gujarat	2660.00	2650.00	2750.00	2600.00	2540.00
13	Haryana	4390.00	4288.00	4070.00	4060.00	4050.00
14	Himachal Pradesh	296.00	322.00	328.00	328.00	315.00
15	Jammu & Kashmir	1248.00	2679.27	1640.00	1817.75	1711.13
16	Jharkhand	81.00	85.00	88.50	84.30	151.37
17	Karnataka	1588.00	1675.00	1647.00	1858.00	1272.00
18	Kerala	780.00	272.69	631.00	657.32	629.46
19	Lakshadweep	-	-	-	-	
20	Madhya Pradesh	696.00	663.00	645.00	633.00	850.00
21	Maharashtra	3050.00	2400.00	4639.00	8317.00	6723.00
22	Manipur	26.00	30.36	30.36	29.81	29.81
23	Meghalaya	6.00	-	6.10	10.33	9.42
24	Mizoram	44.00	44.25	39.05	3.91	0.39
25	Nagaland	5.00	17.83	13.58	-	15.00
26	Odisha	-	1155.75	1588.00	870.50	491.00
27	Pondicherry	41.00	39.00	39.29	39.29	39.78
28	Punjab	6080.00	5760.00	5810.00	5730.00	5690.00
29	Rajasthan	3804.00	3333.00	3527.00	3623.00	1652.00

30	Sikkim	6.00	2.68	4.22	-	
31	Tamil Nadu	2048.00	2317.00	2335.00	2361.00	1968.00
32	Tripura	27.00	38.00	55.00	12.00	30.06
33	Uttar Pradesh	7332.00	8968.00	9563.00	8460.00	8527.00
34	Uttaranchal	270.00	221.10	222.00	198.54	233.20
35	West Bengal	3945.00	4100.00	N/A	3515.00	3730.00
Grand Total		**41637.3**	**43860.07**	**41821.4**	**55539.65**	**50583.47**

Source: States/UTs (Zonal Conferences on Inputs (PP) Rabi 2011., * No cons. As Organic State

2.11 The Department of Chemicals and Petrochemicals informed the Committee that there are several pesticides banned or not registered in India but used in other countries. In this regard, the Committee desired to know details of pesticides which are banned in other countries/UN organizations but are still used in India. The Department, in its written reply stated as under:-

> "India does not use any products banned by the UN, however, the products like DDVP(Dichlorovos), Phorate are banned in certain countries, but used in India.It is mentioned in this connection that the requirement of pesticides will widely vary from country to country depending upon climate and crops grown. What is much needed in one country may not be required at all in other countries. It is for this reason that the Food and Agriculture Organisation (FAO) recommends:
>
> > "Developing countries should design [pesticides] regulatory procedures suited to their specific needs, and not to attempt to adopt all the elements of regulatory schemes used in developed countries…. The balance between risk and benefit will differ greatly under different socio economic conditions and it is important for each country to study its own priorities … it should not be influenced too much by decisions made elsewhere…."
>
> - FAO Guideline for Registration & Control of Pesticides (1985)
>
> > There are pesticides banned or not registered in India but used in other countries as no product is registered in all countries in the globe and use is generally governed as per local requirements. Products like Nicotine Sulfate which is banned in India for domestic consumption are used in Japan. Similarly, Aldicarb, Maleic hydrazide, Metoxuron banned in India, are used in US. Similarly India also uses certain pesticides banned in certain countries in the West as pest infestation is more due to tropical climate which calls for specific products."

2.12 Elaborating on the same issue in response to a query by the Committee during the evidence, a representative from the Department of Agriculture and Cooperation stated as under:-

> " Sir, there are 66 pesticides which are registered in India but are banned in some countries abroad and for each of these in the Department of Agriculture a Review Committee was set up consisting of experts. This has been going on over a period of time. They look at the data and thereafter make recommendations whether that should be continued, banned in this country or whether certain restrictions should be imposed on the use of that particular pesticide. There are

66 pesticides which are banned in some country or the other but are used in India."

2.13 In this context, the Secretary of the Department of Chemicals and Petrochemicals, during evidence, added as under:-

"The opposite is also true, which is what we have mentioned. There are pesticides which are banned in India but their consumption is allowed in Japan or USA…. The point is that there are some of these things which also depend upon the agro-climatic conditions. Of course, some of them are in a good number. The side effects on human beings are also very important. But it works both ways. It is not as though that we have to ban everything which is banned elsewhere. For example, nicotine sulphate which is banned in India for domestic consumption is used in Japan. Then, there are Aldicarb, Maleric hydrazide etc. which are banned in India but they are permitted in USA. So, there are individual items which you will have to see separately. They are reviewing that list and they are continuously revising this list."

Pricing System for Pesticides

2.14 On pricing system for pesticides, the Department in its written reply, stated as under:-

"Prices of pesticides are not regulated by the Government of India. They are determined by market forces of demand and supply. The Insecticides Act contains significant provisions which facilitate the registration of a large number of pesticides manufacturers and formulators, thereby enhancing competition in production and prices.

The consumption of chemical pesticides has declined from 75,033 metric tonnes in terms of technical grade in 1990-91 to 50583 metric tonnes in 2011-12. The use of bio-pesticides in the country has increased from 123 metric tonnes in 1994-95 to 8110 metric tonnes in 2011-12.

The availability of pesticides is reviewed with the States in the beginning of each cropping season in the Zonal Conferences in which representatives of pesticide industry are also invited. The indigenous production of pesticides is more than the domestic consumption. The pesticides in required quantities are normally available in States.

Further, Department of Agriculture and Cooperation, Government of India is providing subsidy/ funds to States for bio-pesticides and chemical pesticides under its schemes such as Macro Management Approach, National Food Security mission and Rashtriya Krishi Vikas Yojana.

2.15 On being enquired about the availability of pesticides at reasonable price in the country, the Secretary of the Department informed the Committee during the evidence as under:-

"The other point that I wanted to mention is with regard to the availability with which we have no problem at all. All types of pesticides which are used in India are actually available at fairly reasonable price. There is intense competition in the market. There are a number of small players unlike in the pharma industry,

where big international companies control a substantial part of the market. In India, in respect of pesticides formulation and production, even today a substantially small number of players play a very important role. That brings down the cost and that helps the farmers also. Of course, that increases the spurious pesticides and ineffective pesticides. So, our control has to be more vigilant; our mechanism also has to be more vigilant."

2.16 When the Committee enquired as to why the Department of Chemicals and Petrochemicals do not have any role in fixing and controlling the prices of pesticide, the Secretary of the Department during evidence replied as under:-

"Even with regard to pharmaceutical items, there are only certain items which are controlled. Ten to fifteen years ago, we have moved away from the control system for several items. We have no legal backing today for controlling the price. There is no Act in this regard.

There is no problem with regard to availability and at the cost at which these are being sold. The companies are in competition with each other to reduce the cost. It is actually a moot question whether you want to reduce it further but it is a larger issue and I am unable to comment on it today."

CHAPTER - III

INSTITUTIONS

HINDUSTAN INSECTICIDES LIMITED (HIL)

Hindustan Insecticides Limited (HIL) was incorporated in March 1954 for manufacturing and supplying DDT for the malaria eradication programme (NMEP), presently known as National Vector Borne Disease Control Programme (NVBDCP). In 1957, the company set up their second factory at Udyogamandal, near Cochin, for manufacture of DDT. The company set up a plant at Rasayani, Maharashtra in 1977 for manufacture of Malathion, an insecticide used in agriculture and public health. Today HIL has three manufacturing units located at Udyogamandal in Kerala, Rasayani in Maharashtra and at Bathinda in Punjab. All the manufacturing units of the company are ISO certified and comply with the requirements of International Standards of ISO 9001:2000, ISO 14001:2004 and ISO 18001:2007. The Corporate Office is ISO 9001 certified.

3.2 HIL has played a pivotal role on the public health front by keeping the dreaded disease like Malaria, Kala Azar, Dengue, Japanese Encephalitis etc at bay with the manufacture and supply of DDT. DDT is even today the most effective tool to control the mosquito vector that spreads these diseases. DDT which accounts for almost 48% of turnover is supplied only to the National Vector Borne Disease Control Programme of the Government of India. The Company has now emerged as a leading supplier of DDT to the Globe. UNIDO is buying DDT from HIL for supplying to Zimbabwe. HIL has also supplied DDT to South Africa, Namibia during 2011-12.

3.3 On the crucial role played by HIL in the pesticides sector, the Secretary of the Department of Chemicals and Petrochemicals commented during the evidence as under:-

> "…Hindustan Insecticides Ltd., as you would know, is the only public sector undertaking which makes pesticides in the country. There were two main things which they handle. One of course is DDT which they continue to handle. About 40 per cent of their turn over comes from the DDT and DDT is sold substantially for vector control to the Ministry of Health in India. They also export some quantities to Africa and some other countries which use DDT for various vector control programmes. On the other side, the major part of their production was Endosulfan. There is a lot of discussion on this. They have completely stopped the production of Endosulfan in the last one year. The hon'ble Supreme Court has directed that they stop it and get rid of the stock which they have done. In fact, the hon'ble Supreme Court has looked to us for advice – i.e., the Hindustan Insecticides Ltd., because there are other private players also – on what to do with Endosulfan which is already in use. Their entire production of Endosulfan is

wiped out. In 2011-12 they sold only very small quantities which were what was in stock. In spite of that, they have been able to maintain or increase their sales turn over which I think is very commendable. They have been able to do this by going in for other items, increasing their presence in other areas which I think is in the right track."

3.4 The details of production and export of different pesticides produced by HIL during the last three years as furnished by the Department of Chemicals and Petrochemicals in writing may be stated as under:-

DETAILS OF QUANTITY PRODUCED AND EXPORTED OF MAJOR PRODUCTS

Qty. in MT / KL

S.No.	Product	2009-10		2010-11		2011-12	
		Produced	Exp.	Produced	Exp.	Produced	Exp.
		Qty.	Qty.	Qty.	Qty.	Qty.	Qty.
1	Endosulfan Technical	1506.00	589.00	1729.00	414.00	159.00	74.00
2	Endosulfan 35%EC	872.00	148.00	1430.00	604.00	141.00	183.00
3	Mancozeb	800.00		691.00	12.00	716.00	114.00
4	Malathion Technical	469.00	10.00	536.00	8.00	643.00	
5	Malathion 25WP	824.00		569.00		670.00	
6	DDT Tech.	3610.00		3192.00		3637.00	
7	DDT 75% WP	14.00	42.00	425.00	420.00	378.00	393.00
8	DDT 50% WP	6706.00		5875.00		6427.00	
9	Monocrotophos Tech.	284.00		328.00		324.00	
10	Dicofol Tech.	21.00		36.00		81.00	
11	Acephate Tech.			7.00		74.00	
12	Chloropyriphos 20EC	566.00		550.00		511.00	
13	Cartaphydrochloride 4%G	614.00		381.00		586.00	

3.5 In response to the Committee's query regarding details of R&D activities undertaken by HIL during the last 3 years and the benefits accrued as a result thereof , the Department in its written reply stated as under:-

"At HIL the R&D Department of the company has been of great help in trouble-shooting various process problems in the manufacturing plants. Some major R & D activities, undertaken by the company are as follows:

i. Successful replacement of costlier kaolin clay in the process of manufacturing Malathion 25% WDP with Diatomaceous earth as a filler material.
ii. Development of a combination of cyclohexanone 60% and acetone 40% as a solvent for manufacture of Monocrotophos formulation in place of using only cyclohexanone which is a costlier solvent.
iii. The R & D Department continuously strives and makes efforts to bring down the cost of production by using cheaper alternatives without sacrificing the quality.
iv. The R & D Department also works on developing recipes for new molecules which are being introduced from time to time.
v. Currently the R&D is working on developing surfactants for DDT production so that the same can be manufactured in-house instead of procuring from the market."

3.6 According to HIL, they have ventured into alternative methods of disease vector control like manufacture of synthetic pyrethroids, etc., apart from looking at other emerging options *(HIL Annual Report p.9).* In this regard, the Committee desired to know details of such alternate methods of disease vector control and other emerging options taken up by HIL. In its written reply, the Department stated as under:-

> "Alternate methods of vector control are synthetic pyrethroids as indoor residual spray, Diflubenzuron and Temephos as larvicides,etc. The emerging option is Long lasting Insecticide treated mosquito nets (LLIN). The company is looking at sourcing Diflubenzuron and Temephos technicals from the market for formulation and marketing and is on the lookout for appropriate technology for taking up manufacture of LLIN."

3.7 According to the Department's *Annual Report 2012-13,* (*pp. 47-48)*, **"**The Company (HIL) has now emerged as a leading supplier of DDT to the Globe. The United Nations Industrial Development Organization (UNIDO) is buying DDT from HIL for supplying to Zimbabwe. HIL has also supplied DDT to South Africa, Namibia during 2011-12." In this regard, the Committee desired to have a detailed data showing export volumes of DDT to foreign countries during the last 3 years and the revenue generated out of this export. In its written reply, the Department provided the following data:-

DETAILS OF EXPORT OF DDT 75% wp

S.No.	Year	Quantity (MT)	Value(Rs. In lakh)
1.	2009-10	42	134
2.	2010-11	420	1298
3.	2011-12	393	1576

3.8 The Committee were informed by the Department that its DDT manufacturing plants are lying idle most of the time as there is only limited order for DDT from the Ministry of Health, which is the sole customer for the product. In view of this, the Committee desired to know whether any measures were taken to address this under-utilization of plant capacity. In this regard the Department, in its written reply stated as under:-

> "DDT can be used only for vector control. Hence, the Ministry of Health is the only customer within the country. They fix the quantity to be purchased every year, based on various parameters. If HIL has additional capacity, then these can only be exported. The export market is also limited as these countries can also use DDT only for vector control. Nevertheless, HIL is looking at export of DDT to improve the capacity utilization of the DDT plant as this facility cannot be utilized for manufacturing any other product."

3.9 According to HIL, the search for alternatives to the banned pesticide, Endosulfan, comes under the scope and purview of the Ministry of Agriculture and Co-operation. But

Endosulfan is being manufactured at HIL units which come under the scope and purview of the Ministry of Chemicals and Fertilizers (Department of Chemicals and Petrochemicals). In this regard, the Committee desired to know about the co-ordination mechanisms that exist between the two Ministries for searching out alternatives to Endosulfan and the details of the role assigned to the Department in the matter and the progress made therein so far. In their response, the Department, in its written reply stated as under:-

> "The Supreme Court, in Writ Petition (Civil) 213 of 2011, has passed an interim order on 13-05-2011, banning the production, use and sale of Endosulfan all over India till further orders. The Court also appointed a Joint Committee headed by the Director General of India Council of Medical Research (ICMR) and the Commissioner (Agriculture) to conduct a scientific study on the question whether the use of Endosulfan would cause any serious health hazard to human beings and would cause environmental pollution and *inter alia* recommend alternatives to Endosulfan. Meetings between Department of Agriculture and Cooperation, Indian Council of Medical Research (ICMR), Department of Chemicals & Petrochemicals, Ministry of Environment & Forest, Indian Council of Agricultural Research (ICAR), Indian Agricultural Research Institute (IARI), Pesticide and Endosulfan Manufactures Association are being held to discuss the issue of Endosulfan in pursuance of the decision of Hon'ble Supreme Court of India. The Department of Chemicals & Petrochemicals is closely involved in the task.
>
> As regards the progress made in the search for alternatives to Endosulfan, it is mentioned that the Joint Committee has submitted two interim reports to Hon'ble Supreme Court. In the reports, the Committee has also suggested Alternatives to Endosulfan. It is further submitted that several alternatives to 'Endosulfan', with a few exceptions, are available in the country, viz. Carbofuran, Carbosulfan, Chlorpyriphos, Fipronil, Lambdacyhalothrin, Phorate, Quinalphos, Methyl Parathion, Thiamethoxam, Monocrotophos, Thiacloprid, Triazophos, Imidacloprid, Phosphamidon+Imidacloprid, Cypermethrin + Quinalphos, Acephate+Fenvalerate, Deltamethrin, Profenophos, Phosphamidon, Azadirechtin, Emamectin Benzoate, etc.

3.10 The Committee asked for a list of pesticides produced by HIL which are facing ban imposed by the Kerala Government along with the mechanisms put in place to address the issues with the State Government, the Department, in its written reply stated as under:-

> "None of the products, currently being manufactured at the Udyogamandal Unit of HIL, are facing any sort of ban imposed by the State Government. However, products like Monocrotophos, Triazophos, Imidacloprid Profenophos, Atrazine, Chlorpyriphos, Tricyclazole, manufactured at other units, are prohibited for sale in Kerala.
>
> The ban imposed on the above products is applicable to all the manufacturers and not in particular to HIL. As the market for these products in Kerala is not much, the company is concentrating on selling these products in other States."

INSTITUTE OF PESTICIDE FORMULATION TECHNOLOGY (IPFT)

3.11 The Institute of Pesticide Formulation Technology (IPFT) was established in May, 1991 under the Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilizers as an autonomous institution. IPFT has established a healthy rapport with the pesticides industries and has been able to successfully transfer technology for safer, efficient and environment friendly formulations. IPFT consists of three major Divisions and a pilot plant. The Institute carries out both in-house and external projects.

3.12 The main objectives of IPFT as given in the Memorandum of Association of the Society are:

i. Development and production of state-of-the-art user and environment friendly pesticide formulation technology.
ii. Promotion of efficient application technologies suiting the existing requirements of the newer formulations.
iii. Information dissemination of safe manufacturing practices, quality assurances, raw material specification and sources.
iv. Analytical and consultancy services.
v. Fostering the improvement in the qualification and usefulness of pesticide scientists working in the agrochemical area.
vi. Continuing education through specialized training for pesticide personnel.

3.13 Elaborating on the nature of work done by IPFT, the Secretary of the Department of Chemicals and Petrochemicals stated during the evidence as under:-

> "The other public sector agency which works under us is IPFT. They are in the field of pesticide formulation. As you know, it is not just the production of pesticides which is very important; it is the way in which you deliver the pesticides and such other things which take care of insects etc., to the plants, how you deliver them so that it reduces the quantity to be used, that matter. The delivery system should be in such a way that it reduces the quantity to be used and also increases its effectiveness. The smaller the quantity you use, the smaller its exposure to the environment, the better it is. IPFT does research on this. There are a number of studies which the Department has been giving them. They have also had some internal problems in purchasing, spending money, etc. We are now getting rid of all those things and we hope this year they will be able to spend. You have given us a huge chunk as increase. The hon'ble Committee was kind enough to recommend the increase in the Plan expenditure to Rs.7 crore. We hope to spend Rs.7 crore this year to get more equipment."
>
> The Secretary further stated as under:-
>
> "We are already recognised internationally because under the Chemical Weapons Convention there is a system for testing chemicals which are banned or prohibited, which can be used as chemical weapons. There are only a few laboratories in the world which are recognised to test the presence of these. We are one of them and that is a credit as far as we are concerned."

3.14 As per the Department's *Annual Report for 2011-12 (p. 50)*, the Institute of Pesticide Formulation Technology (IPFT) has been given the status of a "Designated Lab" by the Organization for the Prohibition of Chemical Weapons (OPCW). As per the *Annual Report 2012-13* (p. 58), "IPFT also participated in 31st OPCW Proficiency Test held in April 2012, and its "Designation" Status has been continued for 2012 – 13 also. This is an international recognition and IPFT continues to be a member of the elite club of the few 'OPCW regulated labs' world over." When the Committee asked the Department about the benefits that will accrue to India in general and the pesticides sector in particular as a result of this recognition. In reply to this query, the Department in its written reply stated as under:-

> "The major benefits that will accrue to India by the 'Designation' of IPFT by the OPCW can be enumerated as follows:
>
> i. International Recognition for the analysis of CWC related chemicals.
> ii. Competence building for the sampling and analysis of samples drawn from the Indian industry particularly the pesticide industries, during the OPCW routine inspections.
> iii. In case of any challenge inspection, India can ask the samples to be analyzed in its own "Designated Lab"."

3.15 When the Committee enquired about the details regarding the project "Monitoring of Pesticides Residue at National Level" and "Pesticide Quality Control Laboratory", which are Government sponsored projects of IPFT, the Department in its written reply stated as under:-

> "(a) Monitoring of Pesticide Residue at National Level:
>
> IPFT is one of the 20 laboratories across the country participating in this project, which is run by the Indian Council of Agricultural Research (ICAR). The main objectives of this project are:
>
> i) To ensure that export consignments from India are not rejected due to presence of pesticide residues.
> ii) Determine the source of contamination of the commodity with harmful pesticides.
> iii) To develop National database for the pesticide residues for public health including systematic and controlled use of pesticides.
>
> Each laboratory analyses a fixed number of samples of vegetables, fruits,cereals, milk and water on monthly basis and submits the report to the Co-ordinator of the Nodal IARI Laboratory which in turn compiles, collates and analyses the data submitted by all the participating laboratories.
>
> (b) Pesticide Quality Control Laboratory:
>
> This project was taken up by IPFT from the Department of Chemicals and Petrochemicals, Ministry of Chemicals & Fertilizers, GOI in the year 2008. The main objective of this project was to get NABL Accreditation which has

since been obtained and the project has been successfully closed in March 2012."

3.16 The Committee further enquired about the details of the Integrated Pesticides Management (IPM). In response thereto, the Department in its written reply provided the following details about the Integrated Pesticides Management (IPM) and the role played by IPFT in promoting IPM practices in India:-

"Integrated Pest Management is a process involving sound solutions for treating and controlling pests. These solutions incorporate three basic steps: 1) inspection, 2) identification and 3) treatment. Treatment options vary from sealing cracks and removing food and water sources to pesticide treatments when necessary.

The activities being undertaken by IPFT comprise (i) development of user and environment friendly, cost effective pesticide formulation from synthetic and bio pesticides; (ii) their application to various crops; (iii) determination of the bio-efficacy and phyto-toxicity; (iv) the analysis of pesticide residue at various stages of pesticide applications in various crops and training to pesticide personnel and farmers. All these activities constitute the integrated pest management."

CHAPTER – IV

ISSUES AND CONCERNS

Quality Control

On the issue of quality control for pesticides, the Department in its written reply furnished after the evidence, stated as under:-

> "Insecticide Inspectors appointed by Central or State Governments take insecticide samples for analysis which is carried out by Insecticide Analysts appointed by Central or State Governments. At present, there are 68 State Pesticide Laboratories (SPTLs) in 21 States and 1 Union Territory with a total annual analyzing capacity of 68,240 samples.
>
> For the States, which do not have facilities for testing pesticides, or for the samples, which cannot be analyzed at State level, the facility of testing samples at Regional Pesticides Testing Laboratories (RPTLs), set up by the Central Government at Chandigarh and Kanpur, is also available. In case of dispute in analysis, the samples are referred to a Central Insecticides Laboratory (CIL), Faridabad. The Central Government is supplementing the efforts of the State Government by providing grant-in-aid for establishing new pesticide testing laboratories as per the requirement of the State Government based on quantum of pesticide produced and used in a particular State. In addition, training to the laboratory personnel is also imparted for carrying out pesticide analysis by the National Institute of Plant Health Management (recently registered as an autonomous society by converting the former National Plant Protection Training Institute), Hyderabad.
>
> Offences related to quality of Insecticides are defined under Section 3 (k) of the Insecticides Act, 1968 of the Department of Agriculture and Cooperation (DAC) and termed as 'Misbranded'. The act provides for two-pronged action – administrative, viz. suspension/cancellation of manufacturing, sale, distribution or stocking license, as the case may be, and legal action, which involves launching of prosecution in the court of law.

4.2 The Committee further enquired about the number of pesticide testing laboratories in the country. In this regard, the Department provided a list of all 71 pesticide testing laboratories that include 68 State Laboratories, 2 Regional Laboratories and 1 Central Laboratory, along with the financial Grant-in-Aid, provided to them by DAC, as under:-

PESTICIDES TESTING LABORATORIES IN STATES/UTs				
S. No.	**State/UTs**	**Number of Laboratories**	**Location**	**Target/Capacity of analysis/annum**
1	Andhra Pradesh	7	1. Rajendra Nagar	7500
			2. Guntur	
			3. Anantapur	
			4. Tadepalligudem	
			5. Warangal	
			6. Vishakhapatnam	
			7. Kurnool	
2	Arunachal Pradesh	1	Naharlagun	--
3	Assam	1	Guwahati	200

4	Bihar	1	Patna	600
5	Chhattisgarh	1	Raipur	500
6	Gujarat	2	1. Junagarh	2200
			2. Gandhinagar	
7	Haryana	4	1. Karnal	3300
			2. Sirsa	
			3. Rohtak	
			4. Punchkula	
8	Himachal Pradesh	1	Shimla	500
9	Jammu & Kashmir	2	1. Srinagar	850
			2. Jammu	
10	Karnataka	6	1. Bangalore	6800
			2. Bellary	
			3. Dharwad	
			4. Shimoga	
			5. Kotnoor	
			6. Mandya	
11	Kerala	1	Trivendrum	2000
12	Madhya Pradesh	1	Jabalpur	1500
13	Maharashtra	4	1. Pune	5000
			2. Amaravathi	
			3. Thane	
			4. Aurangabad	
14	Manipur	1	Mantripukhri	30
15	Mizoram	1	Neihbawih	--
16	Odisha	1	Bhubaneshwar	1100
17	Puducherry	1	Puducherry	500
18	Punjab	3	1. Amritsar	3900
			2. Ludhiana	
			3. Bhatinda	
19	Rajasthan	6	1. Jaipur	3500
			2. Bikaner	
			3. Udaipur	
			4. Kota	
			5. Jodhpur	
			6. Srigaganagar	
20	Tamil Nadu	15	1. Coimbatore	21850
			2. Kovilpatti	
			3. Erode	
			4. Madurai	
			5. Trichy	
			6. Aduthrai	
			7. Salem	
			8. Cuddalore	
			9. Kanchipuram	
			10. Nagapattinam	
			11. Dharmpuri	
			12. Vellore	
			13. Sivaganga	
			14. Theni	
			15. Thirunelveli	
21	Tripura	1	Agartala	160
22	Uttar Pradesh	4	1. Meerut	5000
			2. Lucknow(1)	
			3. Lucknow(2)	
			4. Varansi	
23	Uttarakhand	2	1. Rudrapur	600
			2. Srinagar (Pauri Garhwal)	
24	West Bengal	1	Midnapore	650

	TOTAL	68		68240
Regional Pesticide Testing Laboratories (RPTLs)				
25	RPTLs	2	1. Kanpur	1100
			2. Chandigarh	1100
Central Insecticides Laboratory (CIL)				
26	CIL	1	Faridabad	1600
Source: States/UTs (Zonal Conference on inputs/ Plant Protection)				

Status of Grants-in-aid to State Pesticides Testing Laboratories (Rs. in lakh)

Sl. No.	State/UT	Released							
		VIII	IX	03-04	04-05, 05-06	07-08	10-11	11-12	Total
1.	Arunachal Pradesh	-	-	-	45.0	-	-		45.0
2.	Andhra Pradesh	35.0	10.0	40.0	90.0-	-	-		175.00
3.	Assam	20.0	10.0	10.0	-	-	-		40.0
4.	Bihar	20.0	-	-	45.0	-	-		65.0
5.	Chattisgarh	-	-	-	45.0		-		45.0
6.	Gujarat	20.0	4.65	10.0	-	-	-		34.65
7.	Haryana	20.0	10.0	-	90.0	-	45.0	45.0	210
8.	Himachal Pradesh	45.0	5.0	10.0	-	-	-		60.0
9.	Jammu & Kashmir	20.0	-	-	-	-	-		20.0
10.	Jharkhand	-	-	-	45.0	-	-		45.0
11.	Karnataka	20.0	9.84	22.0	-	-	-		51.84
12.	Kerala	20.0	6.03	18.97	-	-	-		45.0
13.	Meghalaya	-	40.0	-	-	-	-		40.0
14.	Manipur	20.0	5.0	5.0	-	-	-		30.0
15.	Maharashtra	40.0	10.0	-	-	-	-		50.0
16.	Mizoram	-	-	-	30.0	-	-		30.0
17.	Madhya Pradesh	20.0	20.0	-	45.0	90.0			175.00
18.	Odisha	20.0	5.0	7.0	-	45.0			77.0
19.	Punjab	35.0	-	-	-	-	-		35.0
20.	Pondicherry	20.0	10.0	-	-	-	-		30.0
21.	Rajasthan	22.50	15.0	-	75.0	-	-	54.5	167
22.	Tamil Nadu	25.0	14.48	-	-	-	-		39.48
23.	Tripura	-	30.0	-	-	-	-		30.0
24.	Uttar Pradesh	25.0	6.56	40.0	-	-	-		71.56
25.	Uttaranchal	-	-	-	45.0	-	-		45.0
26.	West Bengal	20.0	-	6.03	-	-	-		26.03
	Total	**467.50**	**211.56**	**169.00**	**555.0**	**135.0**	**45.0**	**99.5**	**1682.56**

* Utilization certificate received on 14.02.2012 during Zonal conference. (Additional Points, annex. I and II)

4.3 When asked by the Committee as to whether one Central pesticide testing laboratory is adequate to serve the whole country, the Department in its written reply submitted after evidence stated as under:-

> "Central Insecticide Lab is a referral Laboratory. In case of dispute over results of an analysis done in any other laboratory, the samples are referred to the Central Insecticides Laboratory (CIL), Faridabad, for verification. For analysis of samples collected by pesticides inspectors there are 68 State Pesticide Laboratories (SPTLs) in 21 States and 1 Union Territory. For the States, which do not have facilities for testing pesticides, or for the samples, which cannot be analyzed at State level, the facility of testing samples at Regional Pesticides Testing Laboratories (RPTLs), set up by the Central Government at Chandigarh and Kanpur, is also available. The Central Government is supplementing the efforts of

the State Government by providing grant-in-aid for establishing new pesticide testing laboratories."

4.4 On being enquired about the sample testing system and the mechanism applicable for pesticides production units and the status of its functioning, the Department in its written reply submitted after evidence as under:-

"Under the Insecticides Act 1968, the testing of samples taken from the production unit is carried out by the insecticide inspectors. The Insecticide inspectors go out in the field and collect samples. They can also go into the factories and collect samples from the factory premises and then take it to the designated laboratories. There are 71 laboratories where the samples are taken. In 2011-12, about 50,400 samples in different States were collected by the Inspectors and taken to all these laboratories for testing. In 2010-11, 58,000 samples were collected. Every year, these samples are taken and analysed. Last year, 1100 samples out of 50,000 failed. They were found to be misbranded."

4.5 On being asked as to whether the existing pesticides testing laboratories are sufficient in view of the increased use of pesticides in the country, the Committee were informed during the evidence as under:

"There is obviously need to increase facilities and under the new proposed Pesticides Management Bill, there is an arrangement by which we can designate some more laboratories which have the necessary infrastructure and equipment and human resources to be designated as Insecticide laboratories."

4.6 According to the Department, the main issue of concern to the pesticides industry is large-scale usage of spurious pesticides in the market, which is primarily because of inadequate number of accredited pesticides testing laboratories and delays in pesticides registration process. In this regard when the Committee asked the Department about the steps taken or proposed to take to address these issues, the Department, in its written reply, stated as under:-

"The Insecticides Act, 1968 regulates the import, manufacture, sale, transport, distribution and use of insecticides. State Pesticide Testing Laboratories, Regional Pesticides Testing Laboratories (RPTLs) at Chandigarh and Kanpur and Central Insecticides Laboratory at Faridabad have been entrusted with the responsibility of quality control of pesticides.

There is a network of 68 State Pesticides Testing Laboratories (SPTLs) in 21 States and 1 UT with total annual capacity of 68,110 samples. For the States, which do not have facilities for testing pesticides, or for the samples, which cannot be analyzed at State level, the facility of testing samples at RPTLs, set up by the Central Government, is also available. In case of dispute in analysis, the samples are referred to the Central Insecticides Laboratory (CIL), Faridabad.

The Central Government is supplementing the efforts of the State Governments by providing grant-in-aid for establishing new pesticide testing laboratories as per the requirements of the State Government based on quantum of pesticide produced and used in a particular State. The National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation of all the pesticides

testing labs in the Centre and States is also in progress .Central Insecticides Laboratory, Faridabad and 2 RPTLs are NABL accredited.

In addition, training to the laboratory personnel is also imparted for carrying out pesticide analysis by the National Institute of Plant Health Management, Hyderabad.

Offences related to quality of insecticides are defined under Section 3 (k) of the Act and termed as 'Misbranded'. The act provides for two-pronged action – administrative, viz. suspension/cancellation of manufacturing, sale, distribution or stocking license, as the case may be, and legal action, which involves launching of prosecution in a court of law.

Ministry of Agriculture has launched a campaign against spurious pesticides with the help of State Governments, CIPMCs to target the defaulters. There are various provisions in the Insecticides Act, 1968 and Insecticide Rules, 1971, which can be invoked to take legal action against the defaulters. To check the manufacturing and sale of spurious pesticides, States are advised to conduct raids during those months when there is maximum consumption of pesticides, check existing premises of licensees, manufacturers of pesticides to ensure that they fulfill the minimum infrastructure conditions.

Also, under this Campaign, farmers are educated as to how to buy genuine pesticides for pest control. In pursuance to this, the Ministry of Agriculture has been issuing advertisements through the Directorate of Advertizing and Visual Publicity (DAVP) on regular intervals and during peak seasons of pesticide consumption.

4.7 Responding to the observation of the Committee about the absence of quality checking mechanisms at the pesticides factories and that under the present arrangement, the works of the pesticides testing laboratories start only when there is a complaint about spurious pesticides from the farmers, the Secretary of the Department of Chemicals and Petrochemicals during the evidence stated as under:-

"I agree with you. This is something which we are not doing and I acknowledge it. We are not going and testing samples. We are not doing it even for major manufacturers. But your point is well taken. Having the responsibility of the production of this, we should look at this but I find, as was mentioned by the Ministry of Agriculture, that they are doing some of it and the State Governments are also doing some of it. Now, I need to make an assessment and I have to go and see what they are doing. I will definitely come back to the Committee but allow me some time to make these assessments. I should not simply ignore what they are doing and say that there should be something set up."

The Secretary also added as under:

"I agree that there is a weakness on our part."

4.8 The representative from the Department of Agriculture and Cooperation (DAC) also responded during the evidence as under:-

"Under the Insecticides Act of 1968, there is a provision for designating insecticide inspectors. These are the people who go out in the field and collect

samples. They can also go into the factories and collect samples from the factory premises and then take it to the designated laboratories. There are 71 laboratories which I have mentioned. These are the laboratories where the samples are taken. For instance in 2011-12, 50,400 samples in different States were collected by the inspectors and taken to all these 68 laboratories that we have just now mentioned for testing. So in the year previous to that, another 58,000 samples were collected. Every year, these samples are taken and analysed. Last year, 1100 samples out of 50,000 failed. They were found to be misbranded. The Secretary just now mentioned that things that are mentioned on the label were not found in the samples."

4.9 When the Committee enquired about the number of samples, out of the 58000 samples, which were taken from the factory itself, the representative from the Department of Agriculture and Cooperation responded during the evidence as under:

"We do not have separate figures from where the samples are collected, whether it is from the factory premises or from the shop. We do not have that figure. But this is the total number of samples which these Inspectors had collected from different places."

4.10 When the Committee specifically asked the system of quality control practiced at HIL, a representative from HIL replied during the evidence as under:-

"We manufacture two ranges of products. One is the public health insecticides which we supply to various State Governments. There we have a Quality Control Officer posted by the National Vector-borne Disease Control Programme in our factory itself, who tests the quality before the product is despatched. That is the system we follow for products like Malathion, etc. Unless it is tested by the NVBDC Quality Control Officer, the product does not go out of the factory. That is with respect to DDT. With respect to the other agro-chemical products, the system is, we have a state-of-the-art quality control system in the factory itself to test the quality. Unless it is passed it does not go out. With respect to other aspects, I would like to highlight two things. One, Central Insecticide Board gives a registration. We have to apply for a manufacturing licence from the respective State. Once the manufacturing licence is issued, once the products starts getting manufactured, as the Joint Secretary was correctly saying, it comes under the ambit of the State Government and the State Pesticide Inspectors are free to come and take the samples from anywhere. This has two aspects. One is, in case the product gets misbranded, that is it does not meet the specifications, then two punishments are possible. One is the manufacturing licence of the company gets cancelled. Two, it is a criminal offence. The man who has certified the product, the Quality Control Officer, is legally proceeded against and it is a criminal offence. So, even if that particular person is retired, he has to attend the concerned case in the court and he becomes personally responsible for passing."

4.11 The Department also informed that while importing foodstuff from USA, EU etc., the imported consignments for pesticide residues are not tested by India, although they carry residues of pesticides not even registered in India. In this regard, when the Committee enquired about the mechanisms in place to check contamination of food products through pesticides residues and the findings thereto, the Department of Chemicals and Petrochemicals, in its written reply explained as under:

"This statement was made by CMD, HIL in his note, given directly to the Lok Sabha Secretariat. In this connection, it is pointed out that the Food Safety and Standards Authority of India has fixed maximum residue limits for pesticides on food. These limits are the same for locally produced food as well as those imported from abroad. One of the conditions for import of food stuffs is that the imported consignment satisfies all regulations, including maximum residue limits of pesticides. This is ensured through testing of the consignments by the Export Inspection Agency as well as other authorized testing agencies. It was not, therefore, correct to have given the impression that India does not test imported consignment of food stuff for pesticide residues. This error is regretted.

The Department of Agriculture and Cooperation, Ministry of Agriculture is regularly monitoring the pesticide residues in food commodities and environmental samples under the Central sector scheme, "Monitoring of Pesticide Residues at National Level". The scheme was initiated during 2005-06 and has 21 participating laboratories representing Ministry of Agriculture, Indian Council of Agriculture Research, Ministry of Health and Family Welfare, Ministry of Environment and Forest, Council of Scientific and Industrial Research, Ministry of Chemical and Fertilizer, Ministry of Commerce and State Agricultural Universities across the country.

The participating laboratories collect food commodities samples from various Agriculture Produce Marketing Committee (APMC) markets and Public Distribution Systems (PDS) and irrigated water and soil samples from agricultural fields across various parts of the country. The samples are analyzed for the presence of possible pesticide residues in various food commodities such as vegetables, fruits, cereals, spices, pulses, milk, butter, irrigated water, fish, meat, tea etc.

Since the inception of the scheme in October, 2006 till March, 2011; 16,688 samples of the vegetables (tomato, cabbage, brinjal, capsicum, okra and cauliflower) and 6,689 samples of fruits (apple, banana, grape, orange, pomegranate, guava and mango) have been collected and analyzed for the possible presence of pesticide residues across various parts of the country. Pesticide residues were detected in 2,539 (15.2%) samples of vegetables and 568 (8.5%) samples of fruits. 488 (3%) samples of vegetables and 62 (0.9%) samples of fruits were found to contain residues above their Maximum Residue Limit (MRL). Altogether, 23,377 of various vegetable and fruits were collected across the country and the residues were detected in 3,107 (13.3%) out of which 550 (2.3%) were found to contain residues above MRL.

During the period (October, 2006 to March, 2011) 51,044 samples in all of the various food commodities such as vegetables, fruits, cereals, spices, pulses, milk, butter, fish, meat, tea, honey etc. and environmental samples like soil and water were collected and analyzed. Pesticide residues were detected in 4,613 (9%) samples and out of which 761 (1.5%) samples were found to contain residues above MRL.

During the period April 2010 to March 2011, a total of 15,321 samples of food commodities, including water, have been analyzed. Residues were detected in 1044(6.8%) samples out of which188 (1.2%) samples were found to contain residues above MRL……

The pesticide residues data, generated under the scheme, are shared with the Directorate of Plant Protection Quarantine and Storage (DPPQ&S), Faridabad,

the respective State Agricultural Departments and concerned Ministries/ Organizations to initiate the corrective action for judicious and proper use of pesticides on crops with the help of integrated pest management approach.

Further, the Central Government has constituted a Committee in June 2012, under the Chairpersonship of a Deputy Director General of Ministry of Health, to frame a policy for periodic check to detect pesticides residues in vegetables and fruits."

Consumption and Effect of Pesticides

4.12 The Committee were informed that pesticides consumption in India is less than 1 kg/ha as against 4.5 kg/ha in USA and 11 kg/ha in Japan. When the Committee enquired about the relatively low pesticides consumption in India, the Department in its written reply stated as under:-

"Use of pesticides has to be strategic and according to the need of the pest problem. If the pest problem can be managed with lesser quantity of pesticide, it is a good sign. It also indicates that alternatives to use of pesticides, viz. IPM Approach, involving use of bio-pesticides and use of chemicals as the last resort, are working well. Functionaries of the Central and State Governments impart different kinds of training to farmers on different crops to popularize proper and safe use of pesticides, including use of newly introduced safer molecules. They also inform farmers that if pesticides are used as per the directions on their labels & leaflets, they are not likely to cause any adverse effects. Members of Pesticide Industry also adopt villages to popularize such uses…"

4.13 On being enquired about the effect of pesticides on human beings, the Department in their written reply stated as under:

"Findings of some research studies indicate the relationship between extent of pesticide use and signs and symptoms of illness. The reported problems may include excessive sweating, burning/stinging/itching of eyes, dry/sore throat, land excessive salivation, all more prevalent among sprayers.
As a precautionary measure, there is a need to raise farmers' trainings for their safe use and handling.
(*Source: Messers Chitra GA, Muraleedharan VR, Swaminathan T, Veeraraghavan D, Department of Humanities and Social Sciences, Indian Institute of Technology (Madras), Chennai, Tamil Nadu, India, Sep.2012).*"

4.14 On being enquired by the Committee as to whether the Department of Chemicals and Petrochemicals and the PSUs/organizations play any role in educating the farmers regarding application of pesticides, the Department in its written reply stated as under:-

"Department of Chemicals & Petrochemicals, as such does not directly play any role in educating the farmers regarding application of pesticides. This is a function assigned to the Agriculture Department, particularly of the States. However, PSUs (such as HIL) & Autonomous bodies (such as IPFT), on their own organize programmes on safe and judicious use of pesticides. During the last two years, HIL has organized programmes in 5 Districts of Assam, 2 Districts in Meghalaya, 3 Districts in Odisha, 5 Districts in West Bengal, 10 Districts in Chhattisgarh and Bihar. IPFT has also contributed in this regard by participating in events organized by ICAR and State Governments and reaching out to farmers through the electronic media."

4.15 About the affects of intensive use of pesticides on environment, the Committee were informed by the Secretary during the evidence as under:

> "...on all counts, the intensive use of pesticides is not very good. One it increases the crop, no doubt and secondly, it also affects the environment. It leaves a little trace there. So, it is better to use other material, a smaller quantity of more effective pesticides or effect better delivery, where you can spray the entire area and some of it will stick on the leaf and take effect. But some of it will go into the environment. So, how you deliver it, is also very crucial....."

4.16 When the Committee enquired about the alleged connection between some pesticides and cancer, the Department in its reply clarified the position as under:-

> "Pesticides are approved by the Registration Committee (RC) under the Department of Agriculture and Cooperation, constituted under Section 5 of the Insecticides Act, 1968, after evaluation of their efficacy and safety. Human life and environment are not affected by pesticides, if they are used as per information amended on label and leaflet. Label/ leaflets contain information on equipment to be used, dosage and directions for use and safety precautions for spraying of pesticides.
>
> In order to minimize the use of chemical pesticides for managing insect pests/ diseases attack, Government of India, Ministry of Agriculture, Department of Agriculture and Cooperation (DAC) is implementing a scheme "Strengthening and Modernization of Pest Management Approach in India" since 1991-92 by adopting Integrated Pest Management (IPM) as main plank of plant protection strategy in overall crop production programme. Under the ambit of IPM programme the Government of India has established 31 Central IPM Centres in 28 States and one UT. Under IPM, use of substances of organic origin like botanical and microbial Biopesticides are being advocated as alternatives to the chemical pesticides. However, no authoritative study is available in Department of Agriculture and Cooperation to establish a cause – effect relationship between pesticides and cancer.
>
> Findings of some research studies indicate that pesticides, such as maneb, mancozeb, methyl-parathion and carbaryl –used in the United States on a variety of crops, including nuts, vegetables and fruits, with repeated exposure, may increase the risk of skin cancer among farmers and other workers who apply them to crops.
>
> (Source: *A paper on "Farm pesticides linked to deadly skin cancer", by Mr. Gordon Shelter, Environmental Health News, 31 March 2010)*

4.17 On being enquired about its views on the alleged ill-effects of Endosulfan on human beings which led to its being banned by the Supreme Court, the Secretary of the Department during evidence replied as under:-

> "Sir, we are in charge of production. We have no idea on whether this actually affects the health of the human beings. The Indian Council of Medical Research and the Ministry of Health have given certain reports. The point which is made by the Ministry of Agriculture……..is that there is no correlation between the problems which have arisen in the human health aspects which are there and the use of Endosulfan. This is what the Ministry of Agriculture is saying. We have no

view as yet on this. The Supreme Court is trying to decide between these two. The matter is that there are people in Kerala and other places who have been seriously affected. It is well-known. The figures are already there. There has been lasting damage to the health. The question is whether this is as a result of endosulfan or not. That is the point which they are looking at. Very clearly, there are issues involved and we have also stopped production. I do not think the Supreme Court or anybody for that matter will come back and say that, okay, you can re-start production of Endosulfan. So, as far as we are concerned, the stopping of production by Supreme Court is a closed issue. We are prepared for the full closure. We will wind up that formulation unit. We have already wound it up, we are not doing anything there. We are concentrating on other production. We are trying to find alternatives which may be a little more expensive but which may be effective because there are other countries also which use the similar alternatives. There are other countries which still use endosulfan. But that does not matter. In India, if we are seeing that it is not possible, we will follow that. That is the point. Supreme Court order we have accepted, and the Government's point also we have accepted."

4.18 Elaborating further on the reported ill-effects of Endosulfan in the country , a representative from the Department of Agriculture and Cooperation (DAC) during the evidence stated as under:-

"We have received adverse reports of the effect of Endosulfan on human life from Kerala and parts of Karnataka. Last year, in the Agriculture Department, all the State Government representatives were called as also different agricultural universities and except for these two States, all other States mentioned that Endosulfan is a very safe pesticide; it affects a large number of insects; it is also very cost effective, and therefore, the use of Endosulfan should be permitted. As far as our stand in international conventions is concerned, we said that Endosulfan should be phased out; we have agreed with many other countries that this is perhaps a pesticide which raises some apprehensions regarding its effect on human beings, and therefore, it should be phased out, but over a period of time. Under the Stockholm Convention, we have allowed five years to phase out the pesticide which has been enlisted in Annexure A of that Convention. Endosulfan has been enlisted in Annexure A; and we have agreed to that. We are allowed specific exemption as some other countries have been allowed; and five years is what the international community has permitted us. When the Supreme Court asked the Department as to what our views would be on use of Endosulfan, we had set up a Committee, etc., and since no correlation has been established between Endosulfan and its effect on human health, therefore, we said that whatever quantities of raw materials of Endosulfan – technical and formulation; there are three different types of formulations that are registered now – should be allowed to be used and thereafter, no manufacturing should take place nor should any imports be allowed into the country. So, no further imports, phase out whatever we have, and that is the end of it. that is the present position as far as the Agriculture Department is concerned."

CHAPTER – V

OBSERVATION/RECOMMENDATION NO.1

The Committee note that pesticides have played a very important role in enabling the Green Revolution thereby making the country self-reliant in food. However, the availability of safe and effective pesticides and their judicious use by the farming community is critical to a sustained increase in agricultural production and productivity. According to the Department of Chemicals and Petrochemicals (DCPC), they play the role of facilitator for the growth of the industry. Presently, the country is self-sufficient in the production of technical pesticides and their formulations. The Committee further note that there is a demarcation of responsibilities between DCPC and the Department of Agriculture and Cooperation (DAC) with regard to pesticides. While protection against pests and prevention of plants diseases and administration of the Insecticides Act, 1968 are subjects assigned to DAC, the DCPC's responsibilities confine to issues relating only to the production of pesticides. All the vital issues of pesticides industry such as prevention of use of spurious pesticides, quality standards, testing, review of use of pesticides, creating awareness about judicious use of pesticides among the farmer community and setting up of new testing laboratories in the country and to fix maximum residue limits (MRL) are also handled by DAC. Apart from these two Central Departments, enforcement of the Act is also carried out by the respective State Governments. According to DCPC, the present division of responsibility is appropriate and is working well.

The Committee further note that DAC has prepared Pesticides Management Bill replacing the Insecticides Act, 1968, to address various issues affecting growth of pesticides sector. However, the Committee regret to note that the Bill is yet to be passed by the Rajya Sabha which is under their consideration since October, 2008. The very fact that the Bill is pending for over a period of 4 years, clearly shows the lack of will and the concerted and coordinated efforts on the part of all concerned including DCPC. Needless to say, there is a rising public concern in recent times over the unrestricted use of pesticides in agriculture sector and its impact on human beings, animals and the surrounding environment. The Committee are of the view that there is an urgent and imperative

need for a comprehensive legislation to govern all issues relating to pesticides effectively. The Committee, therefore, recommend that the Department should take up the initiative and coordinate with DAC and other concerned authorities to bring out a comprehensive legislation to govern all issues relating to pesticides. The Committee would like to know the efforts made by DCPC in this regard.

OBSERVATION/RECOMMENDATION NO. 2

The Committee note that indigenous production of pesticides is more than the domestic consumption and a large quantity of pesticides is being exported to foreign countries. However, the consumption of chemical pesticides has declined from 75,033 metric tonnes in terms of technical grade in 1990-91 to 50583 metric tonnes in 2011-12 and the use of bio-pesticides in the country has increased from 123 metric tonnes in 1994-95 to 8110 metric tonnes in 2011-12. According to the Department, managing the pest problem with less number of pesticides is a good sign and efforts are being made to encourage introduction of more low volume and high efficiency pesticides. The Committee also note that there are wide inter-state disparities in the consumption of pesticides. While States like Andhra Pradesh, Uttar Pradesh and Maharashtra recorded high consumption of pesticides during the year 2011-12, states like Jharkhand, Odissa, Himachal Pradesh, Uttaranchal and the north eastern states recorded very low consumption of the same during the said period. Though the consumption figures for States like Jharkhand and Uttaranchal showed improvement in recent times, the total quantity of pesticides consumed is still very less. Further, there are wide variations in consumption of pesticides in respect of certain states from year to year. For example, while Andhra Pradesh recorded a consumption of 1541 metric tonnes of technical grade pesticides during 2007-08, the same declined to 1015 MT during 2009-10. The State recorded a huge rise in consumption during 2010-11 at 8869 MT but declined a bit to 8529 MT during 2011-12. Rajasthan's consumption figure of 3804 MT during 2007-08 came down to 1652 MT for 2011-12. Similarly, states like Odisha witnessed a steady decline of consumption of pesticides over the years, from a peak of 1588 MT in 2009-10 to 491 MT in 2011-12. In view of the foregoing, the Committee feel that there is a need to devise an effective mechanism to assess the demand and availability of pesticides in the States in terms of formulations so that the accurate and complete data is available with the Department of Agriculture and Cooperation (DAC) and thereby to the Department

of Chemicals and Petrochemicals (DCPC). There is also a need to analyse consumption pattern. This would help the DCPC to plan their production targets for pesticides in advance. The Committee, therefore, recommend that initiatives may be taken by the DCPC in this direction. The Committee would like to be apprised of the action taken in this regard.

OBSERVATION/RECOMMENDATION NO. 3

The Committee note that the Government do not have any mechanism to regulate the prices of pesticides and the same are determined by market forces of demand and supply. According to the Department, the Insecticides Act contains significant provisions which facilitate the registration of a large number of pesticides manufacturers and formulators, thereby enhancing competition in production and prices. However, there is no Act or legal provision for controlling the price of pesticides. The Committee are not convinced with the contention of the Department that the competitive market itself acts as a self-regulating mechanism against overcharging. The Committee feel that India being a agricultural country, the endeavour of the Government should be to supply the farmers with good quality of pesticides at reasonable price and therefore, the determination of prices of pesticides cannot always be left to the market forces of demand and supply. In fact, there is a need for a system whereby effective oversight is maintained and the price of pesticides is reviewed by the Department of Chemicals and Petrochemicals from time to time. The Committee, therefore, recommend that a mechanism should be put in place by the Department to regulate and monitor the prices of pesticides to enable them to supply the same to the farmers at affordable prices. The Committee would like to be apprised of the action taken by the Department in this regard.

OBSERVATION/RECOMMENDATION NO. 4

The Committee note that the Hindustan Insecticides Ltd. (HIL) is the only public sector undertaking which makes pesticides in the country and 40% of their turn over cover from the DDT which is sold to the Ministry of Health for malaria eradication programme known as National Vector Borne Disease Control

Programme. According to the Department, the facility of DDT plant can not be utilized for manufacturing any other product. The Committee also note that DDT manufacturing plant are lying idle for most of the time as there is only limited order for DDT from the Ministry of Health which is the only customer in the country. However, the additional capacity of the DDT plant is utilized to export to Africa and other countries. HIL have also undertaken the Research and Development activities to bring down the cost of production by using cheaper alternatives with out sacrificing the quality. HIL has also ventured in to alternative methods of disease vector control like manufacture of synthetic pyrethroids etc. apart from looking at other emerging options like Long Lasting Insecticidal treated mosquito nets (LLIN) and appropriate technology for its production. The Committee further note that as per the direction of the Apex Court, HIL has stopped the production of Endosulfan on the ground that Endosulfan is health hazard to human beings as well as causing environmental pollution. While the production of Endosulfan rests with in the scope and purview of DCPC, the search for alternatives to the banned pesticide comes under the scope of DAC. The Committee also note that Institute of Pesticide Formulation Technology (IPFT), is primarily engaged in R&D activities. While welcoming the efforts made by HIL, to bring down the cost of production by using cheaper but quality alternatives, the Committee recommend that HIL should augment its efforts for development and production of safe, economical and environment friendly alternatives in a time bound manner in coordination with all concerned including IPFT and if felt necessary, adequate funds should be allocated and invested in Research and Development (R&D) activities and technological innovation by the Department in order to achieve the desired results expeditiously. The Committee would like to be apprised of the progress made in this regard.

OBSERVATION/RECOMMENDATION NO. 5

The Committee note that there are a total of 71 pesticides testing laboratories in the country which includes 68 State Pesticides Laboratories in 21 States and one Union Territory, two Regional Pesticides Testing Laboratories at Chandigarh and Kanpur and one Central Insecticides Laboratory in Faridabad. The Committee also note that while the State like Tamil Nadu have 15 laboratories, other States like Assam, Bihar, Kerala, Odisha, Madhya Pradesh, West Bengal have only one laboratory each and the States like Jharkhand and

Meghalaya do not have any such facility at all. The Committee were also informed that a number of small player play a very important role in respect of formulation and production of pesticides in the country. While that brings down the cost of pesticides, the same increases the incidents of usage of spurious and ineffective pesticides in the country. In fact, the Department have admitted that a large scale usage of spurious pesticides is the main issue of concern, which happens primarily due to inadequate number of accredited pesticides testing laboratories. The Committee, therefore, feel that the existing Pesticides Laboratories at the State and Central levels are highly inadequate and there is an imperative need to establish well equipped pesticide testing laboratories in adequate numbers in each State across the country keeping in view the needs of the crops grown in the region and manned by well trained staff. Accordingly, the Committee recommend that the Department should initiate appropriate action to get establish well equipped pesticide testing laboratories in adequate numbers in each State across the country. The Committee would like to be apprised of the action taken by the Department in this regard.

OBSERVATION/RECOMMENDATION NO. 6

The Committee observe that under the present arrangement, there is no mandatory requirement for checking of pesticides for their spurious content or 'misbranding' at the factory or manufacturers' level. The Committee regret to note that normally the process to test and inspect pesticides is initiated on the basis of complaints from farmers, by which time the pesticides are already in the market. The very fact that a sizeable number of samples were found spurious during testing, clearly shows that the existing system is either grossly inadequate or is not strong enough to monitor and check the quality control of pesticides effectively at every level till it reaches to the farmers for usage. In fact, during the course of evidence, the Secretary of the Department was candid enough to accept that there is absence of quality checking mechanism even for major manufacturers of pesticides and that they should have looked in to it being responsible for production of pesticides. Since safe use of pesticides is crucial not only for the farmers in view of increased soil stress due to over use of chemical pesticides but for the safety of human beings, animals and environmental sustainability, the Committee are, therefore, of the firm opinion that existing mechanism needs to be strengthened and made effective and more

vigilant to check any spread of spurious and ineffective pesticide. The Committee, therefore, recommend that the Government should work out a mechanism to make testing of pesticides mandatory at every possible level right from the factory level till it reach to the farmers. Since this would require adequate number of testing laboratories and well trained Inspectors, the Committee desire that adequate funds may be provided for the purpose. The Committee also feel that there should be an authority on the lines of Drug Controller General of India to oversee and monitor the manufacturing practices of all pesticides plants across the country including those in private sector and the Committee accordingly recommend to constitute such an authority for the purpose. The Committee would like to be apprised of the initiatives taken by the Government in this regard.

OBSERVATION/RECOMMENDATION NO. 7

The Committee observe that there are certain pesticides which are banned in some countries but are used in India. On the other hand, there are also pesticides which are banned in India but their consumption is allowed in countries like Japan or USA. According to the Department, the requirement of pesticides vary from country to country depending upon climate and crops grown and therefore, what is needed in one country may not be required at all in other countries. Further, the Committee were informed that DAC are regularly monitoring the pesticide residues in food commodities and environmental samples under the Central sector scheme "Monitoring of Pesticide Residues at National Level" which was initiated during 2005-2006. Since the inception scheme, a large number of samples of vegetables and fruits were collected and analysed for the possible presence of pesticide residues across various parts of the country and detected pesticide residues in significant numbers of samples out of which certain samples contained residues above their Maximum Residue Limit (MRL). It was also informed that the Central Government have also constituted a committee in June, 2012 under the Chairmanship of a Deputy Director General of Ministry of Health to frame a policy for periodic check to detect pesticides residues in vegetables and fruits. The Committee would like that the formulation of the said policy framework may be expedited for which DCPC may coordinate with DAC, Ministry of Health and other stakeholders. Further, the findings of some research studies indicate the relationship between extent of pesticide use

and signs and symptoms of illness. Apprehensions were also raised about the adverse effect of Endosulfan on human beings. Accordingly to DCPC, pesticides should be used by the farmers judiciously and strategically in lesser quantity and as far as possible they should use bio-pesticides and chemical pesticides should be used only as a last resort. The Committee also note that the DCPC as such does not directly play any role in educating the farmers regarding application of pesticides and the same is assigned to the Agriculture Department, particularly of the States. However, PSUs (such as HIL) and Autonomous Bodies (such as IPFT), on their own organise programmes on safe and judicious use of pesticides. However, the Committee are of the view that the Department cannot absolve themselves of their responsibilities in this regard and they should accordingly involve themselves in coordinating and organizing events to educate the farmers regarding proper and safe use of pesticides on various crops. The farmers should also be educated about the possible ill effects on human beings and surrounding environment as a result of improper usage and handling of pesticides. In this context, farmers should also be given intensive training on regular basis. The Committee, therefore, recommend that intensive awareness, training and educational programmes amongst the farmers about the safe and judicious use of pesticides for their crops should be launched by the Department in coordination with all concerned. The Committee would like to be apprised of the action taken in this regard.

New Delhi;

02 August, 2013
11 Shravana, 1935 (Saka)

GOPINATH MUNDE
Chairman,
Standing Committee on
Chemicals and Fertilizers

MINUTES

MINUTES OF THE ELEVENTH SITTING OF THE
STANDING COMMITTEE ON CHEMICALS & FERTILIZERS
(2011-12)

The Committee sat on Tuesday, the 07 August, 2012 from 1500 hrs. to 1520 hrs. in Room No.-G074, Parliament Library Building, New Delhi.

PRESENT

Shri Gopinath Munde - Chairman

MEMBERS

LOK SABHA

2. Shri K.D. Seshmukh
3. Smt. Pramjit Kaur Gulshan
4. Shri Baidya Nath Prasad Mahato
5. Shri Sakti Mohan Malik
6. Shri O.S. Manian
7. Shri N. Peethambara Kurup
8. Shri Poonam Prabhakar
9. Shri Suresh Kumar Shetkar
10. Shri Om Prakash Yadav

RAJYA SABHA

11. Smt. Naznin Faruque
12. Shri A.A. Jinnah
13. Shri Raghunandan Sharma
14. Shri Dilipbhai Pandya
15. Shri Anil Kumar Sahani

SECRETARIAT

Shri C. S. Joon	-	Joint Secretary
Shri A.K. Srivastava	-	Additional Director
Smt. Emma C. Barwa	-	Under Secretary

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

1.	Dr. Ajay Vera Prasad	Joint Secretary
2.	Smt. Neelkamal Darbari	Joint Secretary

II. REPRESENTATIVES OF PSUs

1.	Shri. K. Harikumar	CMD, Hindustan Insecticides Limited (HIL)
2.	Dr. S.K. Raza	Dir. (IPFT)

III. REPRESENTATIVES FROM OTHER MINISTRY / DEPARTMENT

Shri Utpal Kumar Singh	Joint Secretary (PP), DAC (Ministry of Agriculture and Cooperation)

2. At the outset, Hon'ble Chairman welcomed the members of the Committee. Thereafter, the officials of the Ministry of Chemicals & Fertilizers (Department of Chemicals and Petrochemicals), the Public Sector Undertakings / Representatives from other Ministry / Department were called and their attention was invited to the provisions contained in Direction 55(1) of the Directions by the Speaker regarding confidentiality of the Committee's proceedings.

3. Thereafter, Hon'ble Chairman apprised the members about the inability of Secretary, Department of Chemicals and Petrochemicals to attend this Sitting due to his prior engagements. Members of the Committee expressed unhappiness over this and requested the Chairman to postpone the Sitting. Accordingly, Hon'ble Chairman decided to postpone the Sitting.

The Committee then adjourned.

MINUTES

MINUTES OF THE TWELFTH SITTING OF THE
STANDING COMMITTEE ON CHEMICALS & FERTILIZERS
(2011-12)

The Committee sat on Wednesday, the 22 August, 2012 from 1230 hrs. to 1355 hrs. in Committee Room 'A', Parliament House Annexe, New Delhi.

PRESENT

Shri Gopinath Munde - Chairman

MEMBERS

LOK SABHA

2. Shri Prabhatsinh P. Chauhan
3. Smt. Pramjit Kaur Gulshan
4. Shri N. Peethambara Kurup
5. Shri Poonam Prabhakar
6. Shri Suresh Kumar Shetkar
7. Shri Raju Shetti
8. Shri Kamlesh Paswan
9. Shri Om Prakash Yadav

RAJYA SABHA

10. Shri Raghunandan Sharma
11. Shri Dilipbhai Pandya
12. Shri Anil Kumar Sahani

SECRETARIAT

Shri C. S. Joon	-	Joint Secretary
Shri A.K. Srivastava	-	Additional Director
Smt. Emma C. Barwa	-	Under Secretary

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

1.	Shri K. Jose Cyriac	Secretary
2.	Dr. Adithela Jai Vara Prasad	Joint Secretary
3.	Smt. Neelkamal Darbari	Joint Secretary

II. REPRESENTATIVES OF PSUs

1.	Shri. K. Harikumar	CMD, Hindustan Insecticides Limited (HIL)
2.	Dr. S.K. Raza	Director, Institute of Pesticide Formulation Technology (IPFT)

III. REPRESENTATIVES FROM OTHER MINISTRY / DEPARTMENT

1	Shri Utpal Kumar Singh	Joint Secretary (PP), DAC (Ministry of Agriculture and Cooperation)

2. At the outset, Hon’ble Chairman welcomed the members of the Committee. Thereafter, the officials of the Ministry of Chemicals & Fertilizers (Department of Chemicals and Petrochemicals), the Public Sector Undertakings / Representatives from Ministry of Agriculture and Cooperation were called in and their attention was invited to the provisions contained in Direction 55(1) of the Directions by the Speaker regarding confidentiality of the Committee's proceedings. Then the officials of the Department and others introduced themselves. Thereafter, the Secretary, Department of Chemicals and Petrochemicals briefed the Committee about the subject 'Production and Availability of Pesticides'.

3. During the oral evidence, the following issues were discussed:-

i) Production and availability of pesticides;

ii) Pricing and quality control of pesticides;

iii) Collection of recent data regarding usage of different pesticides;

iv) Banning of endosulfan and related issues; and

v) Setting up of Central Pesticides Testing Laboratories in States.

4. During the discussion, the Chairman and members of the Committee raised some queries which were replied to by the Secretary, Department of Chemicals and Petrochemicals and other officials. They also assured to send the requisite information in writing which was not readily available with them.

5. A verbatim record of the proceedings of the sitting has been kept.

The Committee then adjourned.

MINUTES

MINUTES OF THE THIRTEENTH SITTING OF THE
STANDING COMMITTEE ON CHEMICALS & FERTILIZERS
(2012-13)

The Committee sat on Thursday, the 25 July, 2013 from 1500 hrs. to 1610 hrs. in Committee Room 'D', Parliament House Annexe, New Delhi.

Shri Dilipbhai Pandya - Acting Chairman

MEMBERS

LOK SABHA

2. Shri S. Alagiri
3. Shri Gajanan D. Babar
4. Shri Prabhatsingh P. Chauhan
5. Shri K.D. Deshmukh
6. Shri Sher Singh Ghubaya
7. Shri Shakti Mohan Malik
8. Shri Kamlesh Paswan
9. Shri Ashok Kumar Rawat
10. Shri Tufani Saroj
11. Shri Raju Shetti
12. Shri D. Venugopal

RAJYA SABHA

13. Shri Biswajit Daimary
14. Smt. Naznin Faruque
15. Shri A.A. Jinnah
16. Shri Brijlal Khabri
17. Shri Raghunandan Sharma

SECRETARIAT

Smt. Rashmi Jain	-	Joint Secretary
Shri U.B.S. Negi	-	Director
Shri A.K. Srivastava	-	Additional Director

2. As the Chairman could not attend the sitting due to pre-occupation, the members chose Shri Dilipbhai Pandya, member of the Committee, to act as the Chairman. The Acting Chairman then welcomed the members to the sitting of the Committee.

3. The Committee thereafter took up for consideration the following draft Reports:

a) Draft Report on the subject “Production, and Availability of Pesticides’ (Department of Chemicals and Petrochemicals)

b) XXXXX XXXXX XXXXX XXXXX XXXXX

4. The draft Report on the subject “Production, and Availability of Pesticides” (Department of Chemicals and Petrochemicals) was adopted by the Committee without

any amendments. The Draft Action Taken Report on the action taken by the Government on the observations/recommendations contained in the Twenty-eight report (15th Lok Saba) on "Production, Demand and Availability of Fertilizers and its Distribution' (Department of Fertilizers) was not adopted, as the Committee desired to have further clarifications on some points from the Department of Fertilizers before adopting the report.

5. The Committee authorized the Chairman to make consequential changes, if any, arising out of the factual verification of the Report by the Department of Chemicals and Petrochemicals of the Ministry of Chemicals and Fertilizers and present the same to both the Houses of Parliament.

The Committee then adjourned.

XXXXX Matters not related to this Report