THIRTY-SEVENTH REPORT

STANDING COMMITTEE ON
PETROLEUM & CHEMICALS
(2002)

(THIRTEENTH LOK SABHA)

PRODUCTION AND AVAILABILITY OF PESTICIDES

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

Presented to Lok Sabha on 20.12.2002

Laid in Rajya Sabha on 20.12.2002

LOK SABHA SECRETARIAT
NEW DELHI

December, 2002/Agrahayana, 1924 (Saka)

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SHRI MULAYAM SINGH YADAV- Chairman

MEMBERS

Lok Sabha

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3 Dr. Chellamella Suguna Kumari
4 Shri Ram Chander Bainda
5 Shri Ananda Mohan Biswas
6 Shri Padam Sen Choudhry
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8 Shri P.D. Elangovan
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27 Dr. Ram Lakhan Singh
28 Shri Shankersinh Vaghela
29 Shri Ratilal Kalidas Varma
30 Dr. Girija Vyas

Rajya Sabha

31 Shri Balkavi Bairagi
***32 Shri Ram Nath Kovind
33 Shri Anil Kumar
****3 Vacant
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35 Shri Rajiv Ranjan Singh 'Lalan'
36 Shri Mool Chand Meena

37 Shri Dipankar Mukherjee
**38 Shri Pritish Nandy
39 Shri Ahmed Patel
***40 Shri Keshubhai Savdasbhai Patel
41 Shri Yadlapati Venkat Rao
42 Ms. Mabel Rebello
43 Shri Gaya Singh
*44 Shri Thanga Tamilselvan
45 Prof. Ram Gopal Yadav

SECRETARIAT

1.	Shri P.D.T. Achary	-	Additional Secretary
2.	Shri K.V. Rao	-	Joint Secretary
3.	Shri P.K. Grover	-	Director
4.	Shri R.K. Saxena	-	Under Secretary
5.	Shri Ram Raj Rai	-	Assistant Director

** Nominated w.e.f. 8th April, 2002.*
*** Nominated w.e.f. 8th May, 2002.*
**** Nominated w.e.f. 14th May, 2002.*
***** Vacancy caused consequent upon retirement of Shri Shyam Lal, MP(RS) from the membership of Rajya Sabha w.e.f. 21.11.2002.*

COMPOSITION OF SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS
A SUB-COMMITTEE OF THE STANDING COMMITTEE
ON
PETROLEUM & CHEMICALS
(2002)

Shri Mulayam Singh Yadav - Chairman

2. Dr. Girija Vyas - Convenor

Members

Lok Sabha

3. Sh. P.D. Elangovan
4. Sh. Shriprakash Jaiswal
5. Sh. C. Kuppusami
6. Sh. P. Mohan
7. Sh. Ashok N. Mohol
8. Sh. Mohan Rawale
9. Dr. V. Saroja
10. Sh. Ramjivan Singh
11. Dr. Ram Lakhan Singh

Rajya Sabha

12. Shri Ram Nath Kovind
13. Sh. Mool Chand Meena
14. Shri Pritish Nandy
15. Sh. Yadlapati Venkat Rao
16. Sh. Gaya Singh

Secretariat

1. Shri P.D.T. Achary - *Additional Secretary*
2. Shri K.V. Rao - *Joint Secretary*
3. Shri P.K. Grover - *Director*
4. Shri R.K. Saxena - *Under Secretary*
5. Shri Ram Raj Rai - *Assistant Director*

INTRODUCTION

I, the Chairman, Standing Committee on Petroleum & Chemicals (2002) having been authorised by the Committee to submit the Report on their behalf, present this Thirty Seventh Report on 'Production and Availability of Pesticides'.

2. This subject was selected for examination by Standing Committee on Petroleum & Chemicals (2001) (Thirteenth Lok Sabha). The Sub-Committee on Chemicals & Petrochemicals, a Sub-Committee of Standing Committee on Petroleum & Chemicals considered the preliminary material furnished by the Ministry of Chemicals & Fertilisers (Department of Chemicals & Petrochemicals). The Sub-Committee took the oral evidence of the representatives of Institute of Pesticides Formulation Technology (IPFT) on 6th November, 2001.

3. After constitution of Standing Committee on Petroleum & Chemicals (2002) it was decided to continue with the subject. The Sub-Committee on Chemicals & Petrochemicals, a Sub-Committee of the main Committee took evidence of the representatives of the Ministry of Chemicals & Fertilisers, Department of Chemicals & Petrochemicals on 12th February, 2002 and 4th July, 2002 and Ministry of Agriculture, Department of Agriculture & Cooperation on 21st November, 2002 respectively. The Committee also heard the views of representatives of Pesticides Manufacturers Associations on 22nd October, 2002. The Sub-Committee obtained the post-evidence replies from Department of Chemicals & Petrochemicals and Ministry of Agriculture, Department of Agriculture and Cooperation.

4. The Committee wish to express their thanks to officers of the Ministry of Chemicals & Fertilisers (Department of Chemicals & Petrochemicals), Ministry of Agriculture (Department of Agriculture & Cooperation) and representatives of Pesticides Manufacturers Associations [Pesticides Association of India, Indian Crop Protection Association and Pesticides Manufacturers & Formulators Association of India] for placing their views before the Committee and for furnishing the information desired in connection with examination of the subject.

5. The Sub-Committee on Chemicals & Petrochemicals considered and adopted this Report at their sitting held on 19th December, 2002.

6. The Standing Committee on Petroleum and Chemicals (2002) considered and adopted this Report at their sitting held on 19th December, 2002. The Committee place on record their appreciation of the work done by the Sub-Committee on Chemicals & Petrochemicals.

7. The Committee place on record the deep appreciation for the work by the Standing Committee on Petroleum & Chemicals (2001) on the subject.

8. The Committee also place on record their sense of deep appreciation for the invaluable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

NEW DELHI **MULAYAM SINGH**
YADAV
December 20, 2002 ***Chairman***
Agrahayana 29, 1924 (Saka) ***Standing Committee on***
Petroleum & Chemicals.

REPORT

CHAPTER – I

INTRODUCTORY

India is a densely populated country with about 15% of world population and 2.5% of the world geographical area. About 40% of area is available for cultivation. Being predominantly an agricultural country whose 70% population's lively-hood directly depends on Agriculture, Indian Agriculture contributes 27% to GDP. The total food grain production has risen to 208.87 million MT in 1999-2000.

1.2 In order to meet the needs of a growing population, agricultural production and protection technology have to play a crucial role. It has been estimated that 50% of the total food production is lost due to insect pests, plant pathogens, weeds, rodents, birds, nematodes and in storage. CSIR has estimated this loss at 20-30% of sown crops. The following table shows the estimated crop losses due to pests in India:-

Crop	Mn. MT	Value (Rs. crores)
Rice	26.3	9468
Wheat	3.1	1213
Sorghum & Millets	8.9	2670
Pulses	5.6	3752
Seed Cotton	2.7	3105
Mustard	2.9	2407
Sugarcane	56.8	4373
Groundnut	1.4	1260
Maize	3.2	992
Total		**29240**

Estimates of losses due to pests in other crops

- Other crops
  (e.g. fruits, vegetables, spices, condiments, narcotics, medicinal crops, floriculture etc.) = Rs. 30,000 crores (approx.)

Losses in storage (due to stored grain insects, fungi and rodents) = Rs. 30,000 crores (approx.)

Estimated Crop Loss = Rs. 90,000 crores (approx.)

1.3 The presence of more than 40,000 different types of insects has been recorded in India and of these about 1000 have been listed as potential pests of economic plants, 500

pests have caused serious damage at some time or the other and 70 have been causing damage more often. Therefore, pesticides have been recognized in India as essential in increasing agricultural production by preventing crop losses before and after harvesting. Insecticides also play an important role in combating insect borne diseases.

1.4 Pesticides are the special category of toxic agro-chemicals used to control pests, insects rodents, fungus, herbs etc. The following categories of pesticides are produced and used in the country:-

(i) Insecticides
(ii) Fungicides
(iii) Herbicides
(iv) Rodenticides
(v) Weedicides
(vi) Fumigants
(vii) Nematocides
(viii) Plant Growth Regulators

1.5 The form in which the pesticide is stored and transported to the user in a cost-effective manner is called the 'pesticide formulation'. In this form, the pesticide remains in contact with the dilutent and adjuvants. The type of dilutent used decides the form of the pesticide formulation. If the dilutent is solid inert carrier, the formulation would be in solid form. Whereas, if the dilutent is an aromatic solvent, the formulation would be in liquid form.

1.6 Pesticides are manufactured first as technical grade chemicals having higher commercial purity. These are not used as such and the successful use to control harmful insects, mites, micro-organisms and weeds depends to a large degree on their formulation and the conditions under which the chemical compound is brought into contact with the pests, vectors, diseases, stored product pests and the unwanted plants. Technical grade pesticides are used in various types of formulations suitable for application under technical conditions.

1.7 Pesticides sector is being governed by two Ministries. Department of Chemicals and Petrochemicals under the Ministry of Chemicals & Fertilisers promotes the production of chemicals including pesticides whereas the role of Ministry of Agriculture is to regulate, register and monitor the quality and supply of pesticides in the country.

1.8 While going into the details of the nature of coordination between the Ministry of Agriculture and Department of Chemicals & Petrochemicals, when the Committee specifically wanted to know about the difficulties usually being faced by both the Ministries due to separate areas of demarcation in pesticide related matters, Ministry of Agriculture categorically described the situation as under:-

> "On the directions of the Hon'ble Supreme Court an Inter-Ministerial Committee (IMC) was constituted under the Chairmanship of the Additional Secretary in the Ministry of Agriculture to review the use of insecticides and

chemicals found hazardous to health and take suitable remedial measures in this regard. The Committee has been meeting quarterly. 20th meeting of the IMC was held on 30th September, 2002.

The meetings convened by the Department of Chemicals & Petrochemicals to sort out the problems relating to production of chemical pesticides are also attended by senior officers of the Department of Agriculture and Cooperation.

In addition, the suggestions made by the Department of Chemicals & Petrochemicals from time to time relating to regulations of pesticides are given due consideration by the Ministry of Agriculture. A representative of the Department of Chemicals & Petrochemicals is a member on both, the CIB and RC.

No difficulties are being faced by the two Ministries in pesticide related matters."

1.9 India is predominantly an agricultural country and maximum population of the country depends on agriculture. The Committee note that food production has increased several folds after independence. This all has happened due to irrigation improvement, high yielding seed varieties, balanced use of fertilizers, high quality plant protection, Integrated Pest Management and education to farmers. The Committee also visualise that Indian economy's dependence on agriculture will not come down in respect of its economy and productivity improvement will be the key issue in future. In Committee's view, higher productivity can be achieved only through a high quality of plant protection. The Committee find that greatest challenge before us is to stop crop losses due to pests, which is estimated at about 50% of our total food production and 20-30% of sown crops. The Committee, therefore, desire that the Government should prepare a comprehensive time bound scheme to develop a high quality plant protection system in the country. The Committee also desire that this policy should be compatible with IPM principles, it should prefer the use of low dose, quickly degrading, pest specific and low residue chemicals. Moreover, the policy should also ensure the safety in manufacture, warehousing, transportation and use of chemicals.

(Recommendation No. 1)

1.10 The Committee observe that the matters relating to pesticides are being handled by two Ministries. Chemicals and Fertilisers Ministry promotes the production of chemicals whereas, the Ministry of Agriculture regulates, registers and monitors the quality and supply of pesticides. The Committee observe that this type of distribution of responsibility requires very good coordination between the Ministries at every level starting from assessment of demand, registration, quality and quantity of production and supply of pesticides in the market. The Committee find that several problems of pesticides industry can be resolved through improvement of coordination between these Ministries. In Committee's view, after an appropriate assessment of national and international demand of pesticides, the quantity approved for production can be regulated at the stage of Registration itself. It has come to the notice of the Committee that at the stage of registration the

demand and capacity of other producers is not considered. Due to this reason similar pesticides are being produced by different manufacturers. This situation affects all concerned in the industry and confuses farmers also. The Committee, therefore, desire that both the Ministries should develop a better mechanism to coordinate with each other in the matter of pesticides so that there is better management in assessment, production, supply and quality control of pesticides.

(Recommendation No . 2)

1.11 The Committee also find that implementation of Insecticides Act, 1968 to regulate the pesticides sector is mainly related to State Governments. As such Agriculture is a State subject but overall governance of pesticides related matters is under Central Government. It has been brought to the notice of this Committee that Ministry of Agriculture has been issuing several instructions from time to time to regulate the important issues relating to pesticides but due to reluctant approach of State Governments, those are not being implemented. Since states have to play most important role in regulation of pesticides related matters, the Committee, desire that the Central Government should develop a better coordination mechanism with the State Governments through establishing a Coordination Committee involving all the States so that the policies of the Central Government may be implemented in all the States properly.

(Recommendation No. 3)

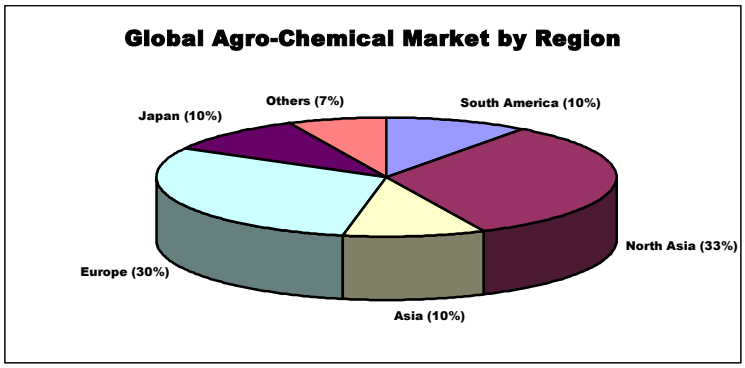
CHAPTER – II

DEMAND, SUPPLY AND CONSUMPTION OF PESTICIDES

(i) Agro-chemical Market and Present Demand of Pesticides-Global Scenario

2.1 According to industrial estimates, the global agro-chemical market is estimated to be around Rs. 160,000 crore annually. The annual growth is moderate and estimated at 3.6%. The region-wise break-up of this market is provided in **Figure 1.**

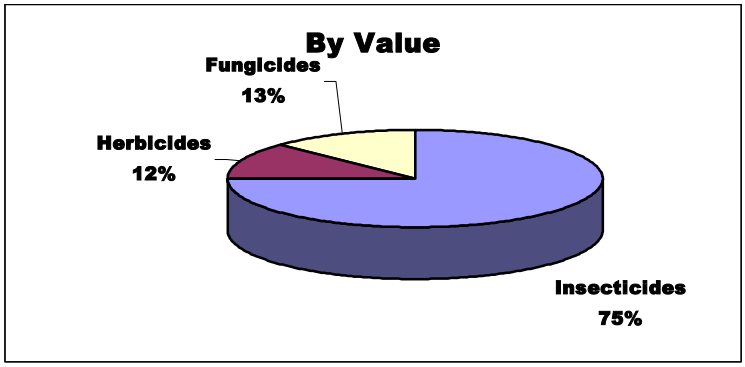
Figure –1



As can be seen, the developed regions account for a majority of the market i.e. around 63%. For an agro-chemical to be successful in these markets, it must satisfy stringent environment regulations, like those laid down by the EPA (Environmental Protection Agency) in the US. Secondly, the usage of agro-chemicals is low in the developing regions of Asia, South America and Africa. These markets, therefore, have a promising growth potential.

Domestic Market Scenario

2.2 The Indian agro-chemical market was estimated to be around Rs. 3,200 crore ($ 800 million) in the year 1999-2000 which is just 2% of the total world market. In volume



terms, India is ranked twelfth globally and second in Asia, behind China. **Figure 2** provides a snapshot of the size of the Indian Agro-chemical market in value and volume terms.

Figure-2

Present Demand of Pesticides

2.3 The present demand of various types of pesticides in the country is of the order of 50,078 MT (Technical grade). India is able to meet 95% of its demand of pesticides domestically. The demand of pesticides is assessed by States/Union Territories based on:-

(i) crop production programmes;

(ii) targetted area proposed to be brought under plant protection coverage;

(iii) Past consumption;

(iv) Inter substitutability for the given pesticide; and

(v) Package of practices recommended by State Agricultural Universities, ICAR Institutions and discussed and finalized during the Zonal/National Conferences on inputs for Kharif and Rabi crop organized by the Department of Agriculture and Cooperation

(ii) Global consumption pattern and consumption of Pesticides in India

Global Consumption pattern of pesticides

2.4 The consumption pattern of pesticides in different countries is given as under:-

Sl. No.	Country or Area	Pesticide Use-active ingredient (Kg/ha)
1.	Japan	10.8
2.	Europe	1.9
3	United States of America	1.5
4	India	0.381
5	Latin America	0.22
6	Oceania	0.20
7	Africa	0.13
8	Argentina	0.295
9	Turkey	0.298
10	Indonesia	0.575
11	Thailand	1.367
12	Mexico	1.375

13	Republic of Korea	16.559
14	Hungary	12.573
15	Italy	13.355
16	China	2.0-2.5

Low consumption in USA could be due to use of latest low volume and high value pesticides.

Crop-wise consumption of Pesticides

2.5 The leading crop, accounting for around 45% of the domestic agro-chemical market, is cotton (India accounts for 13% of global cotton output behind China and USA at 23% and 21% respectively). The domestic agro-chemical consumption by crop is provided in **Figure 3.** As can be seen, cotton, rice and wheat together account for around 70% of the total market.

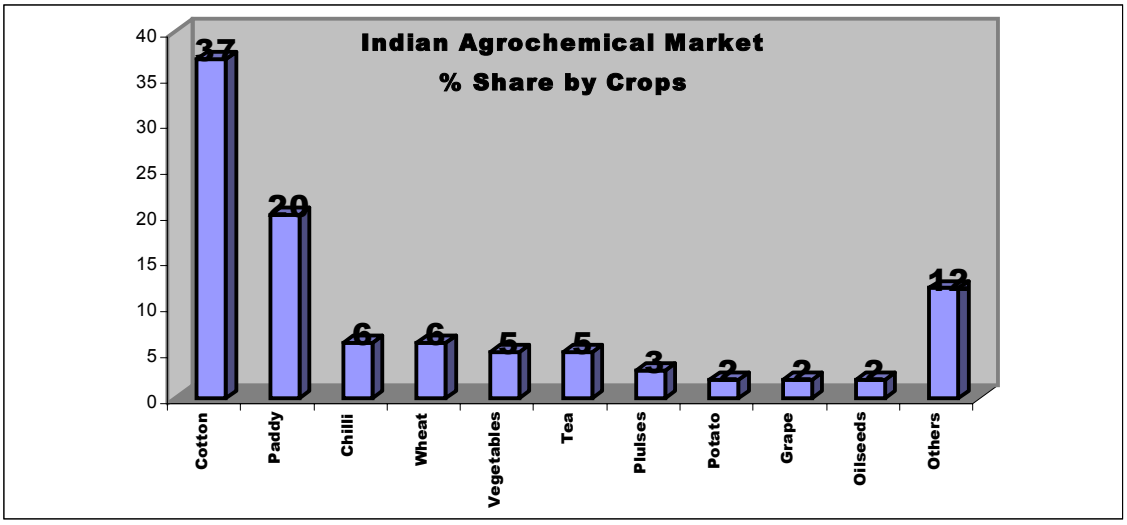


Figure –3

2.6 Global agro-chemical consumption on a commercial crop basis, on the other hand, is dominated by fruits and vegetables, which account for 25% of the total market. This is followed by cereals, rice and maize. These crops together account for 63% of the total global market.

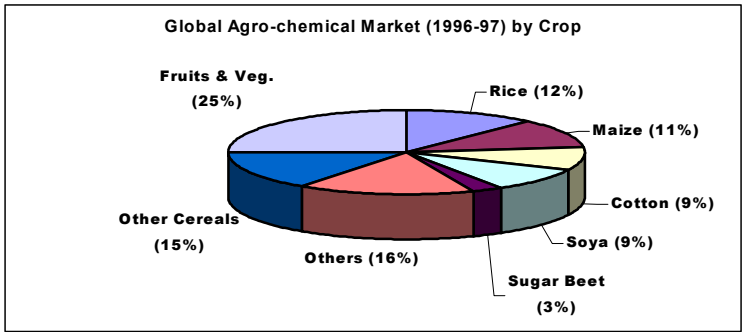


Figure 4

Consumption Pattern in India

2.7 The consumption pattern of pesticides largely depends upon the pest-disease/weed problem in specific regions or specific crops. Based on the likely incidence of such pests/diseases during Kharif/Rabi, the State Governments make an assessment of the requirement of various pesticides. However, the projected demand *vis-à-vis* consumption of pesticides pattern may vary if there is no pest/disease/weed infestation due to unfavourable climatic and other conditions.

2.8 There is a marked difference in the consumption pattern of agro-chemicals in India *vis-à-vis* the rest of the world. Insecticides account for 76% of the total domestic market. On the other hand, herbicides and fungicides have a significantly higher share of the global market.

2.9 Crop like cotton, wheat and rice together account for 70% of the total agro-chemical consumption. Further, the four States of Andhra Pradesh, Punjab, Maharashtra and Karnataka account for around 60% of the total market. With the over dependence on a few crops and a few States, the performance of the industry is very closely linked to the agro-climatic factors prevailing in these regions and crops. This factor makes a strong case for Indian manufacturers to consider exports in order to insulate themselves from domestic market risks and seasonalities.

2.10 The reasons for significantly lower usage of herbicides and fungicides in India are two fold. First, weeding in India is done manually and second, the tropical climate is more conducive for the growth of insects as compared to herbs/fungi. However, growth in these two categories is at a much faster rate than in the insecticides category.

State-wise consumption of pesticides

2.11 Based on the data on consumption of pesticides for the year 2000-01, three States viz., Haryana, Punjab and Uttar Pradesh consumed more than 5,000 MT (technical grade)

pesticides annually. Nine States viz., Andhra Pradesh, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Rajasthan, Orissa and Tamil Nadu consumed pesticides between 1,000 MT and 5,000 MT (tech. grade). Three States viz., Assam, Bihar and Himachal Pradesh consumed pesticides between 100 and 1000 MT (tech. grade). Seven States viz., Arunachal Pradesh, Jammu & Kashmir, Manipur, Mizoram, Nagaland, Tripura, Delhi and UT of Pondicherrry consumed pesticides between 10 and 100 MT (technical grade) annually. Three States viz., Goa, Meghalaya, Sikkim and five UTs viz., Andman & Nicobar Islands, Chandigarh, Dadara & Nagar Haveli, Daman & Diu and Lakshadweep consumed less than 10 MT (technical grade) pesticides annually.

2.12 Since pesticides are consumed on the crop-specific-pests, their consumption obviously has to be confined to the corresponding zone producing that particular crop. As the pesticide can be marketed in any State by any manufacturer after obtaining necessary license, the pesticide production industry does not get affected by this type of consumption pattern.

2.13 In response to the specific query of the Committee whether the Government have analysed the reasons for very poor consumption of pesticides in most of the States of the country, the Department of Chemicals & Petrochemicals submitted the following justification:-

> "The lower rate of consumption of pesticides is a healthy sign. It signifies lesser pest outbreaks as well as adoption of environment-friendly approach of plant protection by the farmers, which is also being promoted by the Government of India.
>
> The Government monitors the demand and consumption of pesticides in various states on a continuous basis. The IPM approach being popularized in the country advocates the efficient and efficacious use of pesticides. The objective is not to popularize and increase the use of pesticides but to ensure that the application of pesticide is the right amount at the appropriate time so that the effectiveness against pests is the highest and at the same time the problem of pesticide residues is minimized. The issue of pesticide residues is assuming greater importance both in the commodities being exported and those being used domestically."

2.14 While referring to very high global consumption of pesticides on fruits and vegetables, the Committee wanted to know the reasons for the low consumption of agro-chemicals on these crops in India. The Department of Chemicals & Petrochemicals submitted as under:-

> "Most of the fruits and some of the vegetables are consumed directly without cooking. Hence, the issue of pesticide residues assumes much greater importance for these food items. What matters actually is the effectiveness of the pesticide in protecting the crops from various pests. The Department of

Agriculture has a policy of discouraging excess use of chemical pesticides on foods and vegetables. The consumption is, therefore, low not due to the non-availability of pesticides but due to a conscious effort to keep the use of chemical pesticides at the minimum. The eco-friendly approach of plant protection i.e. IPM is followed in case of most of the fruits and vegetables. Hence, the consumption of pesticides is less. This is a healthy sign as low pesticide residues could be expected on fruits and vegetables."

2.15 The Committee observe the consumption pattern of pesticides and find enough scope of improvement in it. The Committee have specifically observed that insecticides have traditionally accounted for majority of agro-chemicals. They have also observed the beginning of wider use of weedicides and fungicides. The Committee however, do not agree with the justification given by the Ministry of Agriculture that lower rate of consumption of pesticides in most of the States is a healthy sign since it signifies lesser pest outbreaks as well as adoption of environment friendly approach of plant protection by the farmers. The Committee note that there is an annual loss of Rs. 90,000 crores per annum due to pests. Pests are affecting the standing crops or grains in each State. There may be little variations in consumption quantity of pesticides from one State to another State depending upon size of State and specific crops but logically the gap should not be much wider. The Committee, therefore, desire that the Government should undertake a scientific study to assess the consumption pattern of pesticides in each State. Thereafter, based on the results of the study, steps should be taken to remove the imbalance in the consumption pattern of pesticides. The Committee also desire that the Government should take special initiatives to popularize the use of herbicides and fungicides with low residues to minimise the losses due to vigorous growth of herbs in fields and growth of fungi on fruits and vegetables.

(Recommendation No. 4)

2.16 The Committee observe that global agro-chemical consumption is dominated by fruits and vegetables whereas, it is at very low level in India. The Committee also note the huge loss of fruits and vegetables in the fields as well as during storage. During every season due to heavy loss of fruits and vegetables, common man has either to pay very high prices for good quality items or he has to purchase disease affected items. The Committee is not in favour of excess use of pesticides on these crops which can cause high pesticide residues. However, they desire that the Government should pay special attention on these crops and shortlist effective pesticides with low pesticide residues and popularize the use of those pesticides for specific crops in each agro-chemical region. This may be helpful in good plant protection of these crops beneficial both for farmers as well as common man.

(Recommendation No.5)

CHAPTER – III

PRODUCTION AND FOREIGN TRADE OF PESTICIDES

(i) Production of Pesticides in the country

3.1 The history of the use of pesticides in India can be traced to the import of DDT for malaria control which was followed by the use of BHC for locust control in 1948. Thus the use of pesticides in the Public Health Programme is much older in India as compared to their use in agriculture. Indigenous production of pesticides began in 1952 with the setting up of DDT and BHC production units and by1958, India was manufacturing 5 basic pesticides with a total annual production of 5460 MT. By 1977, 42 different pesticides were being manufactured in the country aggregating 40658 MT. The annual rate of increase in volume of production between 1966 and 1977 was around 9.9% which was much higher than the average annual rate of growth of agriculture or industries, which hovered around 3 to 5%. The production of pesticides during 1978 was 44,000 MT of which BHC and DDT accounted for 76.4%. India is now the largest manufacturer of basic pesticides among the South Asian and African countries with a total installed capacity of over 128,900 MT.

3.2 In addition to the production of technical grade pesticides, pesticide formulations are manufactured both in the organized sector and in the SSI sector. In addition to about 57 major organized sector units, there are more than 400 small scale units engaged in the manufacture of pesticide formulations in India. The precise share of SSI production of formulations is not readily available. However, different types of pesticides formulations namely dusting powders, wettable powders, emulsifiable concentrates and granules are being manufactured by the small sector. 2.4-D-Sodium salt, Sulphur Wettable, Malathion and copper sulphate etc. are being manufactured by the small scale units.

(ii) Structure of Pesticides Industry

3.3 The Indian Pesticides Industry can be broadly divided into two categories. Multi-National Companies and Indian companies including the Public Sector Companies and Small Scale Sector units. Besides 57 Indian companies in the organized sector manufacturing pesticides, there are around 10 multi-national companies operating in the country. The turnover of the Indian industry is estimated to be around Rs. 3,200 crores at present. The leading Indian Companies in Agro-Chemicals include the following:-

Company	Sales (Rs. crore)	Market Share (%)
United Phosphorus Ltd.	474	19
Excel Industries	356	14
Rallis	333	13
Others (include Searle, Sabero, Aimco, Gharda Chemicals etc.)	1365	54

Most Indian technical manufacturers are focussed on off-patent pesticides, which comprise over 70% of the Indian market.

3.4 MNCs which once dominated the Indian market, now have a market share of some 40%. The leading MNCs in agro-chemicals include the following:-

Company	Sales (Rs. crore)	Market Share (%)
Novartis (Agro)	300	12
Agro Evo India	244	10
Cynamid	102	4
Monsanto Chemicals	85	3

Two Public Sector Undertakings producing pesticides are:-

(i) Hindustan Insecticides Ltd.
(ii) Southern Pesticides Corporation Ltd.

3.5 During the course of evidence when the Committee enquired about the production performance of domestic and multinational companies, Secretary in Department of Chemicals & Petrochemicals stated as under:-

> "The industry comprises of both, domestic players as well as multinationals and the break-up is somewhat like this. Of the total production of 85,000 tonnes per annum, approximately 11,000 tonnes is in the hands of multinationals and the remaining production is in the domestic hands. So, when you look at the trends over the last few years, you will notice that neither of the two – neither the multinationals nor the domestic producers – have been able to significantly increase their production. In other words, the demand for their products has not changed very significantly over the last few years. As a result the production has also remained approximately the same."

3.6 When the Committee specifically enquired about the contribution of small scale sector in production of pesticides and the steps being taken for quality control of their products, Department of Chemicals & Petrochemicals submitted the following reply:-

> "The small-scale sector has helped in creating a competition in the market by undertaking production of pesticides thereby bringing down the cost of the pesticide products. There are 45 State Pesticides Testing Laboratories across the country to monitor the quality of pesticides through their samples drawn by the notified Insecticide Inspectors. Besides, the Government of India has also established two Regional Pesticides Testing Laboratories to undertake the analysis of the samples, which cannot be analyzed in States. There is also a Central Insecticides Laboratory to play a referral role in case of dispute.

Different types of pesticide formulations are being manufactured by the small scale units whose number is estimated at around 400. As regards the ensuring of good quality of their products, elaborate provisions for collection of samples from manufacturers, stockists and traders has been laid down in the Insecticides Act and rules framed under the Act to ensure maintenance of quality of the products at all levels."

(iii) Foreign Trade in Pesticides

3.7 India is a net exporter of agro-chemicals. Indian exports of agro-chemicals have seen an impressive growth over the last 5 years. The value of Export and Import of pesticides during 1996-97 to 2000-01 is given below:-

(Rs. in crore)

Year	Export	Import	Surplus
1996-97	702	159	543
1997-98	692	139	553
1998-99	882	166	716
1999-00	1005	237	768
2000-01	1215	221	994

3.8 The key export destination markets are USA, UK, France, Netherlands, Belgium, Spain, South Africa, Bangladesh, Malaysia and Singapore. Some of the agro-chemicals exported over the years include cypermethrin, isoproturon, endosulphan and aluminium phosphate. Exports consist mostly of off-patent products.

3.9 The major exporters from India include United Phosphorus, Excel, Gharda. Rallis, Mitsu, Searle, etc. These companies have made major forays into international markets including the almost impenetrable market of the USA. For instance, Gharda is exporting chlorpyriphos to the USA which is the largest producer of this chemical. Multi-nationals like Bayer and BASF have used India as a global manufacturing base for sourcing products to their world-wide subsidiaries.

3.10 While going into the details of exports of pesticides, the Committee enquired about the basic rules and procedures for export of pesticides, trend of exports during the last five years and the foreign currency earned during this period. The Ministry of Agriculture submitted the following details:-

"The Registration Committee (RC) has formulated following procedures for registration of pesticides for export:-

(i) the pesticides registered under Section 9(3)/9(4) of the Act for indigenous use can be exported by the registrants without obtaining any separate registration certificate.

(ii) the pesticides or the formulations which are not registered for use in the country are required to be registered by submitting the highly simplified data to the RC.

(iii) The applications for export are processed on fast track method.

(iv) The RC meets every fortnightly to consider applications meant for export purposes only.

The export of pesticide is on increase as per the details given below:-

Year	**Value (crore)**
1998-99	885
1999-2000	1,008
2000-2001	1,220
2001-2002	1,500 (Estimated)"

3.11 In this context, when the Committee further wanted to know about the specific steps being taken to boost the export of pesticides, the Ministry of Agriculture stated as under:-

> "The pesticides already registered under the Act can be exported without any special permission from the R.C. For registration of pesticides or formulations meant for export which are not registered for use in the country, the RC has formulated highly simplified guidelines for easy registration. These applications are processed on priority. The R.C. meet every fortnightly to consider applications meant for export of pesticides/formulations."

3.12 In their presentation, the manufacturer's Associations informed that very cheap and poor quality of Chinese pesticides are being dumped in the country. These products are damaging the industry and farmer is also getting very poor quality products. They demanded a control on dumping of such products in the market.

3.13 The Committee observe that the Indian agro-chemical market is just 2% of the total market. Moreover, the usage of agro-chemicals is low in the developing regions of Asia, South America and Africa. These markets, therefore, have a promising growth potential. India is able to meet 95% of its demand of pesticides domestically. Indian pesticides are being exported at very large scale and there is a continuous increase in export. The current exports of pesticides from India amounts to about Rs. 1500 crores and it can increase several folds in coming years. Indian

Industry has built up a good reputation as reliable supplier. The Committee, therefore, desire that the Government should provide all the possible incentives to the exporters of pesticides in getting an early registration and other clearances for production and export of pesticides and also take up the matter at diplomatic level so that the markets in developing regions of Asia, South America and Africa could be tapped and more foreign currency for the country could be earned.

(Recommendation No. 6)

3.14 The Committee note that Indian Agrochem industry has been an active exporter for nearly 25 years now and has built up a good reputation as a reliable supplier, mainly of generic, off-patent products. Global product portfolio is changing very fast and India can be a good supplier of new products under special arrangements of sourcing since most of the products would be having patents abroad. Under these circumstances India's image as a supplier of quality products should further be consolidated. The Committee, therefore, recommend that to make India as supplier of high quality agrochemicals, all exporters of agro-chemicals must be brought under ISO certification. The Committee also desire that to avoid the lowering of export prices, the crowding of several manufacturers for same molecule should be controlled.

(Recommendation No.7)

3.15 The Committee express their great concern over the issue of questionable quality of some foreign countries being dumped into Indian markets at ridiculous prices without proper back up data on toxicity. The Committee, therefore, desire that the Government should be very vigilant and active on this front and take quick action by either restricting the imports or imposing appropriate anti-dumping duties to stop such illegal imports of non-registered agro-chemicals from foreign sources.

(Recommendation No.8)

CHAPTER – IV

REGULATION OF MANUFACTURE AND DISTRIBUTION OF PESTICIDES

(i) Registration Procedure and Machinery

4.1 The Insecticides Act, 1968, which came into force in 1971, regulates the import, manufacture, sale, transport, distribution and use of these substances for the sake of prevention of risk to human beings and animals. The term 'insecticide' has been defined in the Act to include any substance specified in the schedule to the Act. This means, all substances which come under the general category of the pesticides such as insecticides, fungicides, herbicides, rodenticides, nematocides, etc. are included in the Schedule. The Administrative Ministry is the Ministry of Agriculture, Government of India, Secretary of the Central Insecticides Board and Registration Committee, Directorate of Plant Protection, Quarantine and Storage, Ministry of Agriculture are the relevant authorities on registration requirements and other related matters.

4.2 To assist the implementation of this Act, there are two high-powered bodies. 'The Central Insecticides Board' and the 'Registration Committee' which are the advisory as well as decision-taking bodies in respect of all matters relating to pesticides. Under the Act, compulsory registration of all pesticides is provided. The manufacture, import, export and use of chemical pesticides can be initiated only after proper registration after a close scrutiny of the data about bio-efficacy and safety to human beings, wild life, birds, domestic animals, beneficial parasites and predators. Apart from recommending the registration for individual chemicals, the Committee also lays down the details of packaging, labeling, approved usage, restrictions and precautions. The Central Insecticides Board, the main advisory body, which provides direction to the Registration Committee, consists of eminent scientists of the country belonging to different related disciplines. Registration related matters such as types of registration, provisional registration, regular registration, repeat registration, preferential registration as well as data requirement for registration of pesticides are included in the schedule.

4.3 During the course of evidence the Committee went into the details of proposed amendments in Insecticide Act, 1968 and discussed issue of registration in detail. Secretary, Ministry of Agriculture informed the Committee about the improvement in registration procedure as under:-

> "I would like to inform the Committee that we have tried to streamline the procedure of sanctioning various formulations, granting registrations and all that. There are questions about this, but I would like to mention and the Committee would be very happy to know that, in the case of exports, earlier registration used to take anywhere between 3 and 6 months, but, now it is taking only 1 month. In the case of other registrations, it used to take – in fact the Act provides 12 months – between 6 and 12 months, but now it is taking only 3 months. What we have done is that, we have computerized the whole system and now we are having our own website. Our attempt is that, any applicant for registration should know sitting at Chennai or Mumbai or whatever place, the status of his application so that he is

able to interact and get the whole thing in a simplified manner. In fact, we are trying to make our office of registration at par with ISO 9000 specification. In fact, that is our attempt and our office should really acquire that status."

4.4 While going into the further details of registration process when the Committee specifically asked the way in which the CIB or Registration Committee has been using the data generated by IPFT, the Ministry clarified their position in following words:-

"The Central Insecticides Board is the Apex Technical Body constituted under Section 4 of the said Act and the Registration Committee is a Highly Technical Body constituted under Section 5 of the Act. The technical data submitted by the applicants in support of their application for registration is generated by the State Agricultural Universities, ICAR Institutions and other Institutes of national/international repute. Recently, the Registration Committee has considered IPFT as a Centre whose data on pesticide residue could be considered by it for the purpose of registration."

(ii) Pricing and monitoring of quality of pesticides

Issues relating to pricing of pesticides

4.5 Like any other commodity, there are variations in the price of the same pesticide being produced and sold in different States/UTs of the country. At present, there is no regulatory mechanism to make the pesticides available at the same rate in all parts of the country. It also does not seem feasible to fix or regulate the price of a pesticide due to various reasons like freight/transportation cost of raw and finished products, local availability of raw materials, etc.

Quality control of pesticides

4.6 The enforcement of various provisions of the Insecticides Act, 1968 and the Rules framed there under mainly rests with the State Governments. Four important functionaries are required to be notified under the provisions of the said Act/Rules viz., Licensing Officers, Appellate Authority, Insecticide Inspectors and Insecticide Analysts. The Act also provides for notification of Insecticides Inspectors under Section 20 and Insecticides Analysts under Section 19 by the Central Government for monitoring the quality of pesticides manufactured and supplied in the country.

4.7 A network of 45 Pesticides Testing Laboratories with an annual analysis capacity of over 55,666 samples of pesticides drawn from about 50,000 MT (in terms of technical grade pesticides) of 165 types of pesticides is functional in 18 States and 1 UT. The Central Government have also established two Regional Pesticides Testing Laboratories to

supplement the resources of the States/UTs who do not either have a Pesticide Testing Laboratories or adequate analysis capacity or adequate analysis facility for monitoring the quality of pesticides. In order to strengthen the existing laboratories and to set up new Pesticides Testing Laboratories, the Central government also extends financial assistance to the States/UTs as grants-in-aid. Besides, State Governments also establish additional Pesticides Testing Laboratories with their own resources. The samples drawn by the notified Insecticide Inspectors are analysed at the above mentioned laboratories.

4.8 In order to resolve the cases of dispute, the Central Government have established a Central Insecticides Laboratory under Section 16 of the Act to perform the statutory role of referral analysis. Samples which are referred by the courts of law or referred on the directions of courts of law are analysed at this Laboratory.

4.9 When asked about the nature of coordination between Ministry of Agriculture and Ministry of Chemicals & Fertilisers in the matters of registration, manufacture, import and export, the Ministry stated as under:-

> "The Registration Committee which is highly technical body, has been constituted under Section 5 (1) of the Insecticides Act, 1968. It consists of a Chairman and not more than 5 persons who are the members of the Board. Drugs Controller General of India and the plant Protection Advisor to the Government of India are ex-officio members. Besides, the Committee also co-opts such number of experts and for such purpose or period as it may deem fit, but the experts so co-opted have no right to vote. Currently, one of the members is from the Ministry of Chemicals & Fertilisers. As such there exist coordination between the Ministry of Agriculture and the Ministry of Chemicals and Fertilisers in the matters of registration of pesticides."

4.10 When the Committee wanted to know about the initiatives being taken by Ministry to ensure that production of pesticides follow good manufacturing practices, the Ministry replied as under:-

> "The Rules 27 and 28 of the Insecticides Rules, 1971 clearly prescribe for periodical inspection of all establishments selling insecticides as well as manufacturing units within the area of jurisdiction by the Insecticide Inspectors which is adequate to ensure that Good Manufacturing Practices (GMP) are followed by the manufacturers of pesticides. ISI Mark Certification has been made essential to ensure production of quality pesticides.
>
> The Institute of Pesticides Formulations Technology (IPFT) is a non-profit making Organisation engaged in developing user and environment friendly pesticides formulations."

4.11 When the Committee wanted to know about the specific features of domestic market of pesticides and the factors that affect the availability of pesticides particularly in rural areas, Department of Chemicals & Petrochemicals submitted the following details:-

> "The domestic market of pesticides depends on various factors including timely monsoons and the rainfall, out-break of pests, etc. Normally, the pesticides of routine use in a particular season are stocked/displayed for sale by the dealers/retailers. However, due to various agro-climatic factors and at times, due to development of resistance by pests to routine pesticides, the immediate availability of new and more effective pesticides becomes a problem. As soon as such a situation arises and comes to the notice of the concerned, expeditious action is taken to make such pesticides available."

4.12 While discussing the availability of Pesticides the Committee wanted to know about the training to the persons engaged in distribution of Pesticides, Secretary in the Ministry of Agriculture stated as under:-

> "We have very good schemes for training. We give training at the State level. There is also a training institute at Hyderabad, a very big institute, the Plant Protection Institute. There, training is given to the officers. The other point is for retailing the pesticides. Now, retailing pesticides is being done by the Government sector in this country. It is being done by the private sector and by the co-operatives. So far as the Government is concerned, the basic approach is that Government should gradually come out of retailing this. Many times the Government has not been able to supply these pesticides and insecticides in time. There are Government systems of procedure for purchase and sale, and all kinds of problems are there. The basic approach is to promote retailing by the co-operatives or by the private people. What we are saying that anybody who is going to sell pesticides in that shop or who is going to get the licence must be either a B.Sc. or M.Sc in Agriculture or should have any other technical qualification prescribed.
>
> Similarly, we are also saying that the co-operative society is doing the business of selling pesticides. There also the salesmen should have a qualification of B. Sc. and M. Sc. Anybody should not be selling, otherwise he will sell all kinds of things and this will in fact harm."

4.13 When the Committee specifically wanted to know about the difficulties in controlling the prices of pesticides as it is being done in case of drugs and the difficulties in controlling the prices through fixing the prices of generic pesticides, the Department of Chemicals & Petrochemicals submitted as under:-

> "With increasing liberalization and globalization, there is a move towards doing away with different types of controls. Even in the case of drugs, the span of control is being gradually reduced. Since there is intense competition in the pesticide sector, both between the Indian and the multi national companies as also

within the Indian and multi national companies, the prices are determined by market forces. Controlling prices of pesticides would require extensive field network to ensure compliance of the controlled regime which presents its own difficulties."

(iii) <u>Issue of spurious pesticides</u>

4.14 Spurious pesticides are the pesticides manufactured by unauthorized individual/company and these are not approved by the Registration Committee. The labels which are pasted on these bottles are basically imitation of a product which has been approved by the Registration Committee. Spurious means that the active ingredient inside the product would not be as per the label and these pesticides are not effective against the insects and pests as is claimed in the label or the leaflets.

4.15 In response to the specific query of the Committee about the effects of spurious pesticides on farmers and industry, Department of Chemicals & Petrochemicals submitted the following details:-

"This causes loss to the farmer. Firstly, it is the monetary loss. He buys the pesticides and he does not get the product that he is buying. Secondly, he loses the faith in pesticides. So, he tends to use lesser pesticides and the pest occurrence would increase. Thirdly, there is national loss by way of less production.

Now, to the *bona fide* manufacturers, the ones who are manufacturing good quality pesticides, there is a loss of sale. Firstly, their products are not sold and spurious products are being sold. So, this is one way of loss of sale. Secondly, if a sample fails, there is a provision for stop sale by the Agricultural Department Officers. It means that due to the sale of spurious products, the *bona fide* manufacturer is not permitted to sell in that area for a period of six months. So, this is a problem of stop sale. Then, there is a legal action. Once the sample fails, the legal action is taken against the person whose name appears on the label. It is the *bona fide* manufacturer who suffers on this account."

4.16 About the steps being taken on the part of industry to stop such practices the Ministry has conveyed following facts:-

"The Department has suggested to the industry that they should use holograms so that people can differentiate between the genuine product and the spurious product. But this has limited success because the farmers are sometimes not able to differentiate between the genuine product and the spurious product. The Insecticides Act, 1968 has been amended on 7.8.2000 to make the punishment more stringent."

4.17 In response to specific query about the steps being taken by the Central Government and State Governments to prevent the production and use of spurious and duplicate pesticides, the Ministry of Chemicals & Fertilisers submitted as under:-

> "Almost all the State Governments have notified Insecticide Inspectors under the provisions of the Insecticides Act, 1968. The notified Insecticide Inspectors can enter and search, at all reasonable times and with such assistance as he considers necessary in which he has the reason to believe that an offence under the Insecticides Act, 1968 and the Rules made thereunder has been or is being or is about to be committed, or for the purpose of satisfying himself that the provisions of this Act or the Rules made thereunder or the conditions of any certificate of registration or licence issued thereunder are being complied with. Besides, Central Government has also notified Insecticide Inspectors to work in addition to the Inspectors notified by the State Governments to ensure flow of only quality pesticides to the farmer.
>
> To curb the undesirable activity of manufacture and marketing of spurious/duplicate pesticidal products by unscrupulous elements, the States/UTs have been advised to (i) constitute Inter-State Committees associating pesticide associations to check such activity in the States; (ii) periodical check by the Insecticide Inspectors at Inter-State Check Posts during transportation; and (iii) periodical review by DAC with the States during Zonal/National Conferences on Agriculture for Kharif/Rabi campaign."

4.18 Considering the seriousness of the issue, the Committee referred several instances of manufacture and sale of spurious/duplicate pesticides by persons having no licence for manufacture or sale as reported in Press from time to time and wanted to know specifically whether the present Act is able to overcome this problem or some amendments are required to make this offence more punishable. The Ministry of Agriculture submitted the following reply in this regard:-

> "There have been some cases of sale of spurious pesticides in some parts of the country. The main reason for this evil is the lack of proper enforcement by the enforcement agencies of the State Government concerned. Under the existing Act, prosecution can be launched only after obtaining the approval of the State Government concerned. It has been noticed that there are some time delays in obtaining sanction from the State Government in such cases where the samples have been drawn by the Central Insecticide Inspector. Shortage of enforcement staff with the State Government is another reason for the spread of spurious pesticides in the country. Besides the existing legal framework also results in very few convictions. Besides, there is no provision in the existing Act for the Registration Committee to suspend or cancel the registration when conditions of registration are not met with. No qualifications have been provided for obtaining licence by retailers or distributors. Punishment provided in the existing act is the same for minor as well as serious offences. All these deficiencies are proposed to be taken care of in the proposed amendment of the existing Act. Efforts are also

being made to set up more pesticides testing laboratories in the States so that the work of checking of samples can be done timely. Efforts are also being made to modernize the existing labs. States have been requested to send their requirements in this regard."

4.19 While referring to the present number of the testing laboratories, when the Committee specifically wanted to know whether this number is adequate and balanced one and also about the steps being taken to improve the position in this regard, the Ministry of Agriculture stated in their reply as under:-

"The number of existing laboratories is not adequate. In order to strengthen the existing and setting up of new Pesticide Testing Labs, Rs. 679.06 lakh was released to the States during the VIII and IX Five Year Plans. It is proposed to further release Rs. 20.00 crore to States/UTs during the X Five Year Plan for this purpose."

4.20 While further going into the details of working of these laboratories, when the Committee wanted to know about the steps being taken to review the functioning of State/Regional Testing Laboratories to ensure that these laboratories have modern testing facilities and samples are tested accurately in these laboratories, the Ministry of Agriculture replied as under:-

"The functioning of the State and Regional Pesticide Testing Laboratories is reviewed periodically through Technical Auditing by senior level officers of the Ministry of Agriculture and suggestions for improvement are made.

An all India Insecticide Analysts' Meet is organized every year at State Pesticide Testing Laboratories by rotation. This provides a forum for exchange of views among the Insecticide Analysts and help in resolving their problems. Financial assistance, as enumerated above, is also being provided to the States/UTs for equipping their laboratories with modern analytical instruments. Most of the SPTLs are well equipped to test the pesticide samples. RPTLs, established by the Ministry of Agriculture are fully equipped with the latest sophisticated analytical equipment and skilled analysts to accurately test pesticide samples."

4.21 During the course of evidence the issue of monitoring was discussed in detail. Secretary in the Ministry of Agriculture informed that the Ministry has regularly been taking information in this regard and they have given powers to the officers of the Ministry to check and inspect and they go like flying squads. He had agreed that enforcement system is very loose and it has to be tightened and there is a vast scope of improvement in this regard.

(iv) Enforcement of Insecticides Act, 1968 and proposed amendments

4.22 The Insecticides Act, 1968 regulates the import, manufacture, sale, transport, distribution and use of these pesticides with the aim of prevention of risk to human beings and animals. Administrative Ministry is the Ministry of Agriculture, Government of India.

4.23 The Central Insecticides Board and the Registration Committee are advisory as well as decision making bodies in respect of all matters relating to pesticides. The Central Insecticides Board is the main governing body which provides direction to the Registration Committee, in registration related matters such as types of registration, provisional registration, regular registration, repeat registration, etc. It consists of eminent scientists of the country belonging to different related disciplines.

4.24 Under the Act, compulsory registration of Pesticides is provided. The manufacture, import, export and use of chemicals pesticides can be initiated only after the proper registration by the Registration Committee, after close scrutiny of the data about bio-efficacy and safety of human beings, wildlife, birds, domestic animals, beneficial parasites and predators.

4.25 The Committee referred to the continuous demand for amendment in Insecticides Act, 1968 with a view to streamline the procedure and wanted to know about the steps being taken in the direction and the present status of the amendment. Ministry of Agriculture, Department of Agriculture and Cooperation submitted the following details in this regard:-

> "Streamlining of procedures is a continuous process to facilitate smooth functioning. The guidelines for registration of insecticides under Sections 9 (3) and 9 (4) have been stream lined. The computerisation of formats, labels, leaflets, etc. has been done. Checklists for expeditious scrutiny of applications for registration have been introduced.
>
> The Central Government is considering amendments to the Insecticides Act, 1968 – making penal provisions more stringent commensurate with the offence besides modifying certain other provisions. The important proposed amendment provision relate to the following:
>
> a. Provision for cancellation/suspension of Registration Certificates by Registration Committee;
>
> b. Provision of qualified person to be kept at distribution/retail points;
>
> c. Categorisation of various types of offences and prescribing graded punishments therefor;

d. Exempting the retailers from the requirement of license for sale of household insecticides.

The proposed changes have been discussed with the concerned Central Ministries, State Governments, Autonomous Bodies like ICAR, ICMR, CSIR. Associations of Pesticide Industry have also been consulted in the matter on a number of occasions."

4.26 While going into more details of the exercise when the Committee specifically wanted to know outcome of the discussions on the proposed amendments with the Pesticides manufacturers and formulators, Ministry of Agriculture submitted as under:-

"Discussions with various associations of pesticide manufacturers and formulators have been held on a number of occasions. The main concern expressed by the said associations is that genuine and honest parties should not be harassed and that appropriate provisions are also required to enable action to be taken against harassing Government servants, especially Inspectors. The Department is actively considerting the same."

4.27 During the course of evidence the issue of proposed amendment in Insecticides Act was discussed in detail. The Secretary in the Ministry of Agriculture described the objectives proposals in this regard very categorically as under:-

"The basic objective of the amendment is, number one, to make the penal provision a little more stringent.

Due to production of any spurious or sub-standard material, it is not only the farmers who suffer losses, but it is also very injurious to health. Punishment to the offenders should be made more stringent."

4.28 About proposals regarding licencing, the Secretary informed as under:-

"The other thing is that today anybody can sell pesticides. You do not require any qualification for selling pesticides, weedicides, in any shop anywhere. As far as selling of medicines is concerned, unless one is a qualified pharmacist and has got a licence to sell such drugs, he cannot sell such drugs. So, the other objective is to enable only qualified people who are B.Sc. (Ag.) and M.Sc. (Ag.) to do such business. People who are qualified, people who can understand what this medicine is all about, what is the effect, they are the people who can guide the farmers properly. Only qualified persons and who are competent enough should get retailing and distribution licences. Today, the Registration committee does not have any power to cancel or to suspend the registration certificate. If they find something spurious or something comes to their knowledge or some wrong information was given and all that, such punishment can be given to such person or prosecution can be launched against such person. But during the intervening

period, the Committee does not have any power to suspend or cancel licences of such persons. Therefore, our objective is to amend the laws so that this power is restored.

Then there are a large number of household insecticides which are being sold, which are not injurious. They do not have any problems of pests-residue and chemicals-residue, and things like that. One idea is that in case of wholesalers, they should have licence to sell such things. In case of retailers who does not have any licence for selling such drugs, they must be permitted to sell such drugs in any shop, anywhere. We are hoping that will help in improving the quality of pesticides, insecticides and weedicides. This will be a deterrent. This will also enable the use of pesticides in a proper way. this is the overall objective of the Act."

4.29 About the initiatives being taken by the Agriculture Ministry to discuss the issues regarding amendment with various pesticides Association, Secretary informed as under:-

"I would like to mention that we are following a very transparent system in the sense that I think at least three or four times, we have discussed with various associations. I would like to mention to the Committee that there are three or four types of associations. The first category is the association represented by multinationals, who are here in a big way like Rallis and others. The second category is slightly bigger companies who have some R&D facilities there. The third category is the people who come in between. There they have R&D. they are widespread. The fourth category is the people who formulate at the block level or at the district level. So, I think we have met, at least, all the associations, not only once but I think some of them have probably met us twice or thrice. We have met different categories of people. We have met the State Government officials, we have met the experts. This process is still going on. In fact, if you ask me what is your proposal today, my answer would be that I have no proposal as yet today because this is still at the stage of discussion. These are some of the issues that we are trying to bring in. We are also hoping that this will further simplify even the issue of registrations. But our focus is that the farmers should be able to get good quality pesticides, which are needed. Of course, we are promoting IPM under bio-pesticides, bio-controlling agents. These are the important things of our programme."

4.30 While clarifying the position regarding licencing, the Secretary categorically informed that in future the licence will be provided only to those who are graduates or post-graduates in Agriculture. Moreover, those who are doing the work of retailing they must complete their graduation or post-graduation within five years.

4.31 The Committee wanted to know whether there is any proposal to re-classify the pesticides in the proposed amendment of the act. The Ministry submitted as under:-

"At present, all categories of pesticides, viz., insecticides, fungicides, herbicides, rodenticides, moluscides, fumigants, etc., are presently covered under a single term called "Insecticides" under Section 3(e) of the said Act. It is proposed to separately define another category of Insecticides, viz. "Household Insecticides" in order to exempt their sale from licensing at the retailers' level. "

4.32 With the background of discussion with the various Manufacturers Associations the Committee enquired from the Ministry about the objection from the pesticides industry about proposed amendments in the Insecticides Act, 1968 particularly about classification of spurious/sub-standard pesticides. The Committee wanted to know the reaction of the Government in this regard. Ministry of Agriculture submitted the following reply:-

"The Pesticides Association of India (PAI) has suggested four categories of spurious/sub-standard pesticides. However, another association of pesticides manufacturers and formulators, i.e. ICPA have not agreed to the proposal of the PAI and have instead suggested that there should be only three categories of spurious/sub-standard pesticides. Government is yet to take a final decision even though the said matter has been deliberated in detail in the Department."

4.33 When the Committee enquired about the steps being taken in the direction of the proposed amendment in Clause 9(3) of the Act, relating to the registration of the pesticides, particularly to reduce the time of registration and prevent registration of same type of pesticides at different places, Ministry of Agriculture submitted as under:-

"The time prescribed for grant of registration under section 9(3) is already bare minimum and is based on the fact that a lot of data on chemical composition, bio-efficacy of different crops, its persistence, shelf-life and safety to human beings, animals and environment are to be examined. In a number of cases, the product is also to be included in the Schedule to the Act as a pre-requisite to procedure of grant of registration. The Registration Committee is the only authority to grant the certificate of registration. The amendment to the existing section 9(3) of the Act is under consideration of the Government."

4.34 The Committee referred to the fear of pesticides industry about the proposed protection of registration for import of technical pesticides and formulations that if formulations are given 3 years protection, entire medium scale formulators will be wiped out and it will result in monopolistic supplies by first registrant and Indian farmers will pay very high price for their requirements when the Committee wanted to know the facts and the reaction of the Government, Ministry of Agriculture submitted the following reaction:-

"Three Associations of pesticides manufacturers and formulators had suggested the said amendment. However, now some apprehensions have been expressed regarding "three years protection period" for registration of imported

formulations. The same are being examined by the Department carefully. Final decision has not yet been taken on the same."

4.35 When the Committee specifically enquired about the steps being taken by the Government to minimise the time period and protect the interests of pesticides formulators, the Ministry informed that:-

"Computerised Registration of Pesticides (CROP) has been recently launched to minimise the time in granting registration under section 9(4), which takes care of the interests of pesticides formulators."

4.36 When the Committee specifically wanted to know whether the Ministry have chalked out any time bound programme in consultation with the Ministry of Chemicals & Fertilisers and other concerned Ministries in the matter of amendment of Act, the Ministry of Agriculture informed that all efforts will be made to complete this exercise before the Budget Session of the Parliament.

4.37 While referring to the provisions regarding registration, the Committee enquired the Department of Chemicals & Petrochemicals about the initiatives taken by them to persuade the Ministry of Agriculture to soften the registration procedure and regulatory norms for the welfare of pesticides industry and the results thereof. Department of Chemicals & Petrochemicals informed as under:-

"The Department of Chemicals & Petrochemicals is in regular touch with the Department of Agriculture at various levels to try to sort out the difficulties being faced by the pesticide industry and to facilitate its growth. In the recent past, the procedure for export registration has been simplified and the Insecticides Act has been amended to make it more effective. Further review of the Act is in progress and the views of the industry have been sought in order to simplify and rationalise the provisions to the extent possible."

4.38 While going into the details of provisions of punishment for producers of spurious pesticides, the Committee specifically asked the Department of Chemicals and Petrochemicals whether they desired any need of amendments of the Act to make punishment stringent. They also enquired about the steps taken in coordination with the Ministry of Agriculture in this direction and the role of State Governments in curbing sale of spurious pesticides. Department of Chemicals & Petrochemicals submitted their view as under:-

"The Insecticides Act, 1968, in its present form, is equipped to control any malpractice. There are gaps in implementation of concerned provisions, which come under the purview of the State Government concerned. The Government of

India have vide its notification date 05.08.2000 has already made the punishment stringent. the amendment to make punishment more stringent is under active consideration of the Government and is being opposed by the Pesticides Industry Associations. The industry has demanded that the provisions should be so structured that they differentiate between spurious manufacture and bonafide errors. Various aspects of this issue are also the subject matter of discussion in the Standing Committee set up in the Department of Chemicals & Petrochemicals under the Chairmanship of Secretary (C&PC) to go into the problems of the agrochemical industry.

The State Governments have a major role to play in curbing the sale of spurious pesticides. Almost all the State Governments have notified Insecticide Inspectors under the provisions of the Insecticides Act, 1968. The notified Insecticide Inspectors can enter and search, at all reasonable times and with such assistance as he considers necessary in which he has the reason to believe that an offence under the Insecticides Act, 1968 and the Rules made there under has been or is being or is about to be committed, or for the purpose of satisfying himself that the provisions of this Act or the Rules made there under or the conditions of any certificate of registration or licence issued there under are being complied with. Besides, Central Government has also notified Insecticide Inspectors to work in addition to the Inspectors notified by the State Governments to ensure flow of only quality pesticides to the farmer.

To curb the undesirable activity of manufacture and marketing of spurious/duplicate pesticidal products by unscrupulous elements, the States/UTs have been advised to (i) constitute Inter-State Committees associating pesticide associations to check such activity in the States; (ii) periodical check by the Insecticide Inspectors at Inter-State Check Posts during transportation; and (iii) periodical review by DAC with the States during Zonal/National Conferences on Agriculture for Kharif/Rabi campaign."

4.39 The Committee held the discussions with the representatives of Pesticides Manufacturers and Formulators Association. They submitted their memorandum in writing. The main points which came up for discussion included the problems of pesticides industry, export-import of pesticides, amendments in Insecticides Act, 1968 and the future of pesticides industry in product-patent regime. The main points which attracted the attention of the Committee are described in following paragraphs.

4.40 Pesticides Association of India which is the largest representative body of the Pesticides Manufacturers, expressed their views as under:-

"(a) Law should be sufficiently stringent against spurious pesticides manufacturers but the genuine and quality manufacturing industry should not be harassed. In this present era of liberalisation inspectors should not be provided more powers and they should also be held responsible for their misdeed. Quantum of punishment should be according to severity of the

offence. There should not be harsh action for minor typographical/grammatical error even on label and leaflet.

(b) There should be joint analysis in case of failure of any pesticide sample by any laboratory, joint analysts of samples in the presence of all concerned to be done by the reputed independent Laboratory like Indian Agriculture Institute, Indian Institute of Chemical Technology, Council of Scientific and Industries Research and internationally recognised Good Laboratory Practice (GLP), whose data is accepted even by developed countries like U.S.A.

(c) There should be proper implementation of Insecticides Act, 1968, which is not at present. They have submitted two important facts in this regard:-

(i) In view of the reply given to Lok Sabha Question No. 2045 on 29th July, 2002 which says on the average 97% of samples of insecticides are passed and only a few states having variations. More than 95% sampling is done only of the reputed and responsible industries and for actual spurious manufacturers no sampling is done as they are having hand in glove relations with the inspectors.

(ii) In the data presented in National Plant Protection Conference in 2000 by Ministry of Agriculture, it was revealed that 70% of the samples failed in the state laboratories were passed by Central Insecticides Laboratory.

(d) Spurious manufacturers are not being nabbed even after detection of such pesticides in circulation. This is being done under the protection of local authorities.

(e) Besides the spurious manufacturers, the district agriculture authorities should also be held responsible to some extent in the area where spurious pesticides are found selling. Apart from this, if any Inspector/Analyst is found involved in unnecessary harassment of genuine manufacturer, such persons should also be punished.

(f) There is 16% excise duty on pesticides. This should be reduced to at least 8%.

(g) For drugs, which are not manufactured in India and only imported, the Patent Act is amended to show that there is compulsory licencing to Indian manufacturers with fixed amount of royalty. This should also apply to agrochemicals. “

4.41 Pesticides Manufacturers and Formulators Association of India submitted following points mainly about their apprehensions in regard to the proposed amendment in Section 9 (3) of the Pesticides Act, 1968:

(i) If the import of technical Pesticides and formulations is given three years protection, there will be no new investment in pesticides manufacturing plant as first registrant is always a multinational company who will prefer to import technical from their principal abroad and now they will be authorised to bring readymade formulations. Government of India will lose huge revenues of excise, sales tax, Central Sales Tax, loss of foreign exchange and loss of employment opportunity for 2000 people in coming years with loss of foreign exchange of US $500 billion and loss of export worth Rs. 500 crores and above.

(ii) There should not be any protection for import of formulations. There should only be a three years protection for local manufacturers of new molecules of technical pesticides.

(iii) Protection of three years in formulations will close down 300 factories all over the country and 15000 people will be unemployed.

(iv) If the import of technical pesticides and formulations is given a three year protection it will result in monopolistic supplies by first registrant and Indian farmers will pay very high price for their requirement.

4.42 Indian Crop Protection Association have submitted the following points to the Committee:

(i) The returns from this industry are very low on account of the fact that installed capacity is much more than the utilisation. The installed capacity comprises of several small units and also therefore not get the advantage of economy of scales.

(ii) The company who gets registration of a new product, does not know if he should put a plant for indigenous manufacture and if yes, of what capacity since there is no control on number of manufacturers with varying capacity which would enter subsequently. There is also no knowledge of likely number of foreign sources to be registered. These uncertainties lead to no new investment and result in lack of planning.

(iii) Global agrochemical usage pattern is changing fast and for India to be a competitive exporter. We will have to attract original manufacturers to invest in India or get into strategic alliance for sourcing the products from here because of patents and registration issues.

(iv) Low price and at times poor quality of products from China will spoil Indian local market and also will hurt exports of generics from India. We will have to find out ways and means of being competitive.

(v) India's potential to export agricultural produce and products would call for a specific and different crop protection. In order to achieve the targets, we will have to ensure speedy introduction of new products without delay.

(vi) Agrochemical manufacturing is a highly specialised activity and should come under ISO standards.

(vii) Awareness amongst farmers increasing for exports of agricultural products leading to requirement of specific crop protection inputs.

(viii) Globalisation and Sourcing from India to be major thrust areas for Indian Agchem sector.

4.43 The Committee discussed the matter relating to sale of spurious pesticides with Pesticides Association of India. When Committee clearly asked the solution of this issue from them, their representative Shri Rajju Shroff submitted categorical reply as under:-

"What we want is, first to make the local inspector and analytical laboratories more responsible. If they do not listen to Delhi, it will be very difficult. Shri Minhas, Additional Secretary, himself is fed up with the inaction at the other ends. There are copies of letters, Joint Secretary Mr. Sudhakar wrote to Punjab saying whatever they are doing is illegal.But they did not listen. So many letters have been given. Mr. Prasad, Secretary, CIB wrote letters to Andhra Pradesh and Maharashtra Governments saying what they are doing is against the law. But they did not listen. Then we went to the Court and got a stay.

So, the control of the Industry is not there on the States. If we do it, I think, 90 per cent of the problem of spurious pesticides will be solved. It will be stopped.

You can punish the person who has got licence and registration but the fellow is manufacturing spurious pesticides in garage, and the local inspector is in hand-in-glove. We have produced the sample of materials. They said that the address is bogus one, it is of some apartment which is not there. And his sample is not drawn. It is very serious problem. Industry is ready to cooperate. Only with our help, Shri Ajit Singh Ji, raided one Indira Market, and found some spurious pesticides. But all the companies closed down their shops. Only three persons were caught."

4.44 Further supplementing to it Shri V. Sagar Kaushik representing India Crop Protection Association said :-

"Whenever a spurious product is caught in the market it is genuine manufacturer who suffers. It is because he has to prove that it is not his product. In the process, the Managing Directors and the Directors of these genuine companies are called to the Court, and a lot of harassment takes place. We have suggested via this process of amendments the proposals to the Government , and we now request in this forum also that our proposals are looked into with more realistic approach that the people who are committed to the cause are encouraged."

4.45 During the course of evidence the Committee raised their apprehensions about the proposed amendment regarding three years protection of rights regarding import of pesticides. Secretary in the Ministry of Agriculture clarified the position and stated this type of provision will automatically come through Intellectual Property Right in WTO whether it is brought in our Act or not. However, he assured the Committee that the Ministry will examine the matter, consider all the apprehensions and ensure whether it is necessary to bring this in the proposed Amendment of the Act.

4.46 During the course of evidence the representative of Pesticides Association of India described the problems of industry and desired that the proposed Amendment in the Act should differentiate between responsible industry and the spurious manufacturers. He stated as under:-

"Today the need of the hour is to bring back transparency in the system. We blame the Government inspectors and they blame the industry. Industry is of two types; one is the responsible industry which will never produce substandard material because it is investing crores and crores of rupees on promotional efforts. On the other hand, there is this irresponsible industry flourishing in the country with the support of these inspectors. How to control them? You can control them by bringing transparency into the system.

I am not saying that you should believe me. But I am saying that you should not believe the Inspectors also. Please have a joint working system and joint analysis. An Inspector or an Analyst draws my sample, rests it and fails it by one per cent. Respectful people, like us, are dragged to the Court. As per the Weights and Measurement Act, we have to mention it in terms of grams, the spelling used should be "g" . But by mistake we have mentioned it as "gm" . Instead of 500 grams, if I am giving 450 grams, then it is cheating of the farmer. But here, instead of mentioning it as "500 g", when we mentioned it as "500 gm", it has been termed as a mistake. You would appreciate that it is not a serious mistake. Even then, I was dragged to the court for the spelling mistake. I was declared as a culprit and fined Rs. 5000 for this mistake.

We refused to bribe. To be honest, if I had paid Rs. 2000 to the Inspector, the matter would have been closed. But we said that we would not bribe. As a result of that, we were dragged to the court and we had to pay a fine of Rs. 14,000-

Rs. 5000 for the Managing Director, Rs. 5000 for the Executive Director and Rs. 2000 each for the two partners of the Deluxe Firm. Well, you would appreciate that there is nothing wrong in this. So, the present proposed amendments are also talking in the similar way. Even for a grammatical mistake or a spelling mistake, you will be finding that, as per the proposed amendments, one would be fined Rs. 25,000, Rs. 50000 and Rs. 75000. Do you think that this type of a fine or an harsh punishment for the genuine people is going to solve the problem? I think, it is not. You will agree with me that this is not the answer to the problem. You have to differentiate between the responsible industry and the spurious manufacturers. We are saying that the Government should give exemplary punishment to the spurious manufacturers."

4.47 The Committee note that under the Insecticide Act, 1968 compulsory registration of all the pesticides is provided. The manufacture, import, export and use of chemical pesticides can be initiated only after proper registration, after a close scrutiny of the data about bio-efficiency and safety of human beings, wild life, birds, domestic animals, beneficial parasites and predators. At present, the registration takes 6-12 month's time. The process has been computerized recently to make it more transparent and less time consuming. After a detailed discussion with the concerned Ministries and Pesticides Manufacturers, the Committee have reached a conclusion that there is an urgent need for taking steps to make this system more balanced, equitable and efficient. The Committee find that during the scrutiny of data regarding a pesticide, current demands are not being appropriately considered. More than one companies are being permitted to produce the demanded quantity of particular pesticide. This is harmful both for industry as well as farmers. Industry is not sure about the quantity of a pesticide they should produce since the same agrochemical is being produced by another manufacturer. Moreover, the farmer is also confused between various options of the same agrochemical. Due to this situation, a manufacturer is always in doldrums. The Committee welcome the computerisation of the system done by the Ministry of Agriculture to streamline the procedure of sanctioning various formulations. The Committee, however, desire that the registration process should be modified further to make it more practical in terms of time and tests required. Cumbersome paperwork and bureaucratic hassles must be reduced. The modified system should be consistent with current demands, concerns of manufacturers, farmers, consumers and environmental groups in a pragmatic manner.

(Recommendation No. 9)

4.48 Section 9 of Insecticides Act deals with registration of pesticides. Under the Act, compulsory registration of pesticides is provided. The manufacture, import, export and use of chemical pesticides can be initiated only after proper registration. The Committee note that as a regular system of streamlining process, the guidelines for registration of insecticides under Section 9 (3) and 9(4) have been streamlined. The computerisation of formats, labels, leaflets, etc. has been done and checklists for expeditious scrutiny of application for registration have been introduced. Secretary

in the Ministry of Agriculture has informed that the Ministry will simplify the process of registration further. It has come to the notice of the Committee that the Ministry is considering a provision regarding allotment of provisional registration valid for two years and the final certificate will be issued after satisfaction of the Committee about the necessary manufacturing facilities having been set up and production started by the company/firm/entrepreneur and production of ISI certificate. The Committee do not favour the imposition of any such condition in regard to issuing of temporary registration since this will simply hinder and complicate the registration process and also create suspense in the mind of manufacturer. The Committee, therefore, desire that the Ministry should not incorporate these provisions in the proposed amendment of the Act. The Committee also desire that provisions should be made in the Act whereby registration for import of pesticides is made only if the importer has manufacturing facilities. The producer of such imported pesticides should also be disclosed.

(Recommendation No. 10)

4.49 The Committee note that at present 45 Pesticides Testing Laboratories are functional in 18 States and one Union Territory. The Central Government have also established two Regional Pesticides Testing Laboratories to supplement the resources of States/UTs who do not either have a Pesticides Testing Laboratory or adequate analysis capacity or adequate analysis facility for monitoring the quality of Pesticides. There is also a Central Insecticides Laboratory. Samples which are referred by the Courts of Law or referred on the directions of Courts of Law are analysed at this laboratory. However, the Committee find that these laboratories have to test samples drawn from 50,000 MT (in terms of technical grade pesticides) of as many as 165 types of pesticides. Obviously the number of laboratories functional at present is not adequate. This has been admitted by the Ministry of Agriculture also. The Committee, therefore, recommend that the number of Pesticides Testing Laboratories should be substantially increased. They desire that such Laboratories should also be set up at district level to expedite the process.

(Recommendation No. 11)

4.50 Section 24 of the Insecticides Act relates to *'Reports of Insecticide Analyst'*. The Committee have received reports through the representatives of Pesticides Associations that the data produced by the Ministry of Agriculture during Annual Conference on Crop Protection indicated that samples of insecticides failed by the State Laboratories were very often passed by the Central Insecticides Laboratory. This all creates a doubt on the test reports of the State Laboratories. The Committee express their great concern about reliability of test reports of State Laboratories and feel that any sample failure directly affects the reputation of the Company. This is why the genuine manufacturers are gradually losing faith in the performance of tests at these laboratories. The Committee, therefore, desire that the Government should make a provision in the Insecticides Act, 1968 for joint analysis by an independent laboratory in the presence of the representatives of both the manufacturer and the departmental laboratory in case of any doubt in the analysis of any sample. The Committee also recommend that in case of the results being contrary to the reports of the departmental laboratory, the responsibility should be fixed on the concerned

analyst for giving a wrong report. In Committee's view this will make the analyst as well as industry more responsible and alert.

(Recommendation No. 12)

4.51 The Committee are highly concerned about the problem of spurious pesticides. Spurious pesticides are the pesticides manufactured by unauthorised individual/company and these are not approved by the Registration Committee. Spurious means that the active ingredient inside the product would not be as per the label and these pesticides are not effective against the insects and pests. Any spurious pesticide causes monetary loss to the farmer who buys such product. The Committee observe that usually the spurious pesticides are sold using the name of reputed products and companies. If spurious products are sold in their name they lose the sale. If a sample is failed by the Agricultural Department officers, the *bona fide* manufacturer is not permitted to sell in that area for six months. Legal action also goes against the person or company whose name appears on the label. The Committee find that in this way, the reputed and standard companies are being harassed. Usually, the farmers are not able to distinguish between genuine and spurious products. The Committee treat this situation as very alarming. The Committee, therefore, recommend that the proposed amendments in the Insecticides Act should provide for very stringent Punishment for manufacturer of spurious insecticides. The Committee specifically desire that the punishment/penalties should commensurate with the nature of fault so that harassment of genuine manufacturer may stop and punishment is made more stringent for the persons responsible for production of duplicate/spurious pesticides. Punishment should also be provided for the Insecticide Inspectors if they are found to be deliberately ignoring the manufacture or sale of spurious goods in their area.

(Recommendation No. 13)

4.52 The Committee welcome the proposed Amendments regarding licencing for pesticides. The Committee agree with the proposal of the Government that in future, the licence to sell pesticides will be provided only to those who are graduates or post-graduates in Agriculture and there will be no need of licence for retailers to sell the household insecticides. In Committee' view this will give a big opportunity of employment to educated persons and it will benefit the user also. The Committee also desire that these amendments should be implemented with immediate effect. The Committee also desire that the present retailers should also be educated about the effective use of important pesticides so that they may be able to guide the farmers properly. In this regard, the Government should prepare a time bound programme in coordination with manufacturers and NGOs.

(Recommendation No. 14)

4.53 The Committee's attention has been invited towards the experience of the industry that marginal failures of reputed manufacturers have been resulting into serious consequences of litigation at huge costs affecting both the State Governments and the industry. The Committee are anguished to note that the hundreds of cases

where the products have been declared misbranded by State laboratories have been passed by the Central Government Insecticides Laboratories. The Committee feel that chemical analysis of products need prolonged experience and knowledge beside best/right quality of reagent/standard samples and laboratory equipment. The Committee find that State laboratories greatly lack in all these techniques and procedure which more often result in improper analysis. The Committee, therefore, desire that the Government should persuade the State Governments to provide better analytical facilities in their laboratories so that the consequences of litigation may be avoided in future due to improper analysis in the State laboratories.

(Recommendation No. 15)

4.54 The Committee note that there is a proposal of amendment in the Insecticides Act, 1968 regarding three year protection of rights relating to import of technical pesticides and formulations. The Committee understand that in view of multinational dominance in pesticides industry, such protection may show an adverse impact on small manufacturers and formulators which are more than 400 in numbers. Moreover, there will be revenue loss also. The Committee, therefore, do not favour any such amendment which goes against majority of small scale manufacturers and formulators. The Committee do not agree with the justification given by the Ministry that such protection will appear automatically through Intellectual Property Right in WTO. The Committee desire that the Government should not come with any such amendment on their own and examine the views of manufacturers and formulators seriously and consider the impact of such decision on farmers before going for any such amendment.

(Recommendation No. 16)

4.55 The Committee have been informed that the proposed amendments in the Insecticide Act, 1968 would include many other things like provision for cancellation/suspension of Registration Certificates by Registration Committee, provision of qualified persons for distribution/retail points, categorization of various types of offences and prescribing graded punishments therefor and exempting retailers from the requirement of licence for sale of household insecticides. While consultations among various authorities and with the Pesticide Industry have taken place many times, the concrete proposals in this regard are yet to be finalised. The Committee recommend that the proposals should be formulated soon and the Amendment Bill brought before the Parliament at the earliest.

(Recommendation No.17)

CHAPTER – V

ENVIRONMENT ASPECTS RELATING TO PESTICIDES

(i) Injudicious use of Pesticides and education to farmers

5.1 The major exposure to pesticides occurs in the fields during its application. The dosage details, requirements of safety clothing, etc. and instructions regarding first aid and antidotes are printed on labels and leaflets. This apart, waiting periods prescribed for different crops are also indicated. There is a need of farmer education and development of safety culture in pesticide use.

5.2 When the Committee specifically enquired about the steps being taken by the Ministry to educate the farmers and develop safety culture in pesticide use, Ministry of Agriculture submitted the following details:-

> "There is adequate network of extension functionaries in the State Departments of Agriculture who are always available to educate and help the farmers. Department of Agriculture & Cooperation has also established 26 Central Integrated Pest Management Centres (CIPMCs) in most of the States/UTs to educate farmers and impart on-field practical training to them. The National Plant Protection Training Institute (NPPTI) at Hyderabad imparts training to the State Plant Protection functionaries. Farmers Field Schools are regularly organised under the IPM programme in addition to Season Long Training for Masters Trainers' under which State Extension Functionaries are trained for full cropping period of various crops. State Agricultural Universities, Krishi Vigyan Kendras and State Department of Agriculture also organise training to the farmers on safe use of pesticides.
>
> A large number of bio-pesticides based on fungi, viruses and bacteria, pesticides based on plant origin viz. neem, pyrethrum, cymbopogon have been registered which are safe to human beings, animals and the environment.
>
> Chapter VIII of the Insecticides Rules, 1971 is dedicated to the safety culture in pesticide handling and use. This Chapter covers periodical clothing, respiratory devices, antidotes and first aid medicines, training of workers and disposal of used packages, surplus materials and washing of insecticides. Besides, training is imparted to the Doctors of Health Centres of States by the medical experts of the Directorate of Plant Protection, Quarantine & Storage.
>
> No. of doctors trained – statewise is as under:

S. No.	Name of State	No. of doctors trained
1.	Andhra Pradesh	296
2.	Gujarat	115

3.	Haryana	281
4.	Himachal Pradesh	30
5.	Karnataka	149
6.	Maharashtra	211
7.	Punjab	149
8.	Rajasthan	33
9.	West Bengal	54
	Total	**1318 ”**

5.3 The Committee were informed that keeping in view the need for most judicious and efficient use of pesticides, ecological considerations and global concern about harmful impact of pesticides on the environment, the Government of India recognised the benefits of the Integrated Pest Management Programme during 1985. They have also agreed to reduce the use of Pesticides in agriculture under international agreement.

5.4 In the same context, the Committee was informed that the labels and leaflets of pesticides have to be in three languages viz. Hindi, English and one regional language (where the stock is to be sold/used).

5.5 In response to specific query of the Committee about the steps being taken to educate the illiterate and regional language knowing farmers, Department of Chemicals & Petrochemicals informed as under:-

> “There is a vast network of extension functionaries in the State Departments of Agriculture who are always available to educate and help the illiterate farmer. Since the extension functionaries are from the same State, the problem of language is automatically overcome. Besides the Plant Protection Division of Department of Agriculture and Cooperation has also established its offices in most of the States/UTs who educate farmers and impart on filed practical training to them. a number of Farmers Field Schools are regularly organized under the IPM programme of the Directorate of Plant Protection. Quarantine & Storage besides Season long Training for Masters Trainers' under which State Extension Functionaries are trained for full cropping period of various crops.”

5.6 During the course of evidence, when the Committee wanted to know about the initiatives taken by the Agriculture Ministry to educate the farmers, Secretary in the Ministry informed as under:-

> “We have a very major programme of demonstration of IPM and other techniques. You are very right that teaching of farmers, etc., does not help. But if you can demonstrate it in the field, the farmers will be benefited. Take the examples of seeds or fertilizers or pests. If you just teach the farmers that would not help them. So, we have a big programme of demonstration. Money is being provided to the State Government for orienting those demonstrations in a number of villages so that the programme is successful.

Secondly, along with the demonstration, there is a programme for training of the farmers. You asked us how many farmers you could train. We cannot train a number of farmers in this country. There are a number of cultivators; their number comes to more than ten crores. Therefore, under the new strategy, we are also trying to really promote farmers' clubs and such institutions and self-help groups so that you train one farmer and that farmer will train many more people in his group. That is also picking up.

Regarding converging of all the services, I would like to mention a few points. These services are getting converged at the block level. Efforts are being made. For that, I would like to frankly mention that the amendment of this Act is not coming in the way. It depends basically on the administrative system that you have. It is done in order to see that, at least, the farmers are able to take advantage of this. We are hoping that under this new programme of agri-clinic and agri-business, if there is an incentive that would helpful. If my livelihood is dependent on one thing, I will try to learn. We have arrangements for training of officers.

We have arrangements for training of officers, training of farmers and other people and under our programme we will try to promote this but for that the amendment of the Act is not required. It is more of an administrative thing. The Act is only regulating the quality of pesticides registration system and what kind of punishment is to be given. What you have mentioned is a very important part and I may also like to tell the Committee that women play a very important part in this."

(ii) <u>Integrated Pest Management Programme and use of Bio-Pesticides</u>

5.7 Indiscriminate and injudicious use of pesticides for the control of insect, pests and diseases during the three decades has resulted in several adverse effects viz., development of resistance in pests to pesticides, resurgence in pests, pesticides residues in food, fodder, soil, water, pesticides poisoning and health hazards to human beings, wild-life and live-stocks, environmental pollution and ecological imbalance.

5.8 Keeping in view the global concern about harmful impact of pesticides on the environment, the Govt. of India recognised the benefits of Integrated Pest Management (IPM) programme during 1985 and adopted IPM as the cardinal principle and main plank of plant protection strategy in the overall crop production programmes. IPM is an ecofriendly approach encompassing cultural, mechanical, biological and need based judicious use of chemical pesticides with preference to use of biopesticides and biocontrol agents. The objectives of IPM approach is to maximise crop production with minimum input cost, minimise environmental pollution and maintain ecological equilibrium.

5.9 In this context, the Committee wanted to know about the main components of IPM Programme and the notable initiatives taken by the Government for promotion of IPM so far the Ministry of Agriculture submitted the following details:-

"The notable initiative taken by the Govt. of India for the promotion of IPM on sustainable basis are:

Infrastructural Development:

- Setting up of 26 Central IPM Centres (CIPMCs) for promotion of IPM approach in 22 States and 1 Union Territory.

- Financial assistance to States for setting up of 29 State Biocontrol Laboratories and emphasis on production and releases of biocontrol agents.

Human Resource Development:

- Organising Season Long Training Programmes for the training of trainers.

- Setting up of Farmer's Field Schools (FFSs) in farmers' fields to train Agricultural Extension Officers and farmers.

- Demonstration of field tested IPM Practices.

Policy Support:

- Phasing out subsidy on pesticides and diverting the resultant savings for promotion of IPM programmes.

- Phasing out/banning/restricting the use of hazardous pesticides.

- Liberalised criteria and procedure for registration of biopesticides and pesticides of plant origin.

- Emphasis on production and use of biocontrol agents, biopesticides and pheromones.

With a view to provide technical knowledge to the extension functionaries and farmers to the States, IPM Packages of Practices have been evolved for 51 crops like rice, cotton, vegetables, pulses, oilseeds, plantation crops, fruit crops etc."

5.10 In response to specific query of the Committee about the success in reducing the use of pesticides in agriculture and biological control of pests, the Ministry submitted the following reply:-

"As a consequence of the adoption of bio-intensive Integrated Pest Management Programme in various crops, the consumption of chemical pesticides (Tech. Grade) has come down from 66.36 thousand MT during 1994-95 to 43.59

thousand MT during 2001-02 with a reduction of 27.69%. It is relevant to mention that the consumption of biopesticides in India has increased from 83 MT (Tech. Grade) during 1994-95 to 686 MT (Tech. Grade) during 1999-2000 in case of neem based pesticide formulations and 40 MT (Tech. Grade) to 71 MT (Tech. Grade) during the same period in case of *Bacillus thuringiensis (Bt)*.

409 biocontrol laboratories/units are currently engaged in the production of biocontrol agents/biopesticides in the country. Out of which 130 biocontrol laboratories laboratories/units have been set up under Private Sector. The biological control has been quite successful in case of sugarcane Pyrilla in the Northern States.

The biological control of rice stem borers, leaf folder, brown planthopper and green leaf hopper has also been quite successful in rice growing States.

The biological control of woolly aphids, Sanjose Scale and Codling moth pests of apple has been successful in the States of J&K, Himachal Pradesh and Uttaranchal. Similarly, the biocontrol of Anar butterfly is also successful in the State of Himachal Pradesh.

The biological control of mealy bugs on grapes, citrus and coffee has been quite successful in the States of Karnataka, Maharashtra and Tamilnadu.

For the control of various cotton ballworms, the release of egg parasites (*Trichogramma sp*.), predators *(Chrysoperla)* and application of NPV are proving successful in various states.

The use of biopesticides namely neem based pesticide formulations, Bt, *Trichoderma,* NPV etc. in various crops have increased substantially. The biopesticides do not leave any harmful residue unlike chemical pesticides. For easy availability of biopesticides, these have already been registered under the provision of Insecticides Act, 1968."

5.11 For further clarification in the matters of use of biopesticides, when the Committee wanted to know about the reasons for very limited use of bio-pesticides like neem-based formulations in India, Department of Chemicals and Petrochemicals submitted the following justification:-

"Neem as a pesticide has been traditionally used by the Indian farmers. However, a simple technology to produce an effective pesticides was never made available to the farmers for effective control of pests, hence, its use is rather limited. As a natural tendency, every farmer believes in quick control of pests/diseases. Hence, he instantly chooses the chemical control method. IPM approach has started showing the results and farmers have started believing in it. Consequently, the use of biopesticides and biocontrol agents is now picking up fast.

A lot of work has been done by various agencies on the use of bio-pesticides like neem-based formulations. While the Government is encouraging the use of biopesticides through a more liberal registration process, the widespread use of such products has not resulted due to some properties of the product including low shelf-life and photo-degradability. However, the active ingredient (Azadirachtin A) has been identified and various organisations are working on developing the most effective pesticides based on neem."

(iii) <u>Role of IPFT in development of eco-friendly Pesticides</u>

5.12 Institute of Pesticides Formulation Technology (IPFT) was established in May, 1991 as a Govt. of India Society under the Department of Chemicals & Petrochemicals, Ministry of Chemicals & Fertilisers to fulfill the objectives of the institution building project of United Nations Development Programme/United Nations Industrial Development Organisation (UNDP/UNIDO) & Government of India with the following objectives:

- Development and production of the sate-of-the art user and environment friendly pesticide formulations.
- fostering the improvement in the qualification and usefulness of Scientists and engineers working in the field of production of agrochemicals.
- providing quality training to the industry personnel in the field of production of newer pesticides formulations, quality assurance, biological evaluation etc.
- promotion of efficient application technologies suiting the exact requirement of newer formulations.
- information dissemination of safer manufacturing practices, quality assurances, raw material specification and sources.

5.13 Since its inception, IPFT has been pursuing steadily to establish a healthy rapport with the pesticide industry, which has blossomed into a very fruitful relationship for successfully transferring the new technologies for the production of user and environment friendly pesticide formulations for large scale exploitation thereby promoting safer and efficient pesticide formulations.

The Institute has four divisions i.e.

1. Formulation Division
2. Analytical Division
3. Bio-Sciences Division
4. Pilot Plant Division

5.14 The Committee went into the details of funds available with IPFT from all the sources, expenditure and earning of the Institute during the last three years and the present level of financial self-reliance and wanted to know about the steps being taken to generate more income needed for self-reliance of Institute. Ministry of Chemicals and Fertilisers submitted the following financial details:-

"During the last three years, the revenue expenditure of the Institute, earnings of the Institute and Grant received from Government is as follows:

(Rs. in lakhs)

Year	Revenue Expenditure	Earnings			Grant received from Govt. of India	Remarks
		Income from services	Other income	Total		
1998-99	74.24	17.92	18.98	36.90	300.00*	*For Construction of New R&D Lab. Building
1999-2000	90.92	27.75	42.07	69.82	100.00	
2000-01 (Provisional)	101.66	28.25	31.43	59.68	100.00	

The Govt. has released Rs. 300.00 Lakhs during 1998-99 against a project cost of Rs. 440.00 lakhs towards phase I of the construction of the new R&D Lab Building (the balance is to be met out of internal generation of IPFT).

IPFT has proposed for additional grant of Rs. 116 lakhs to make the Lab complex functional. This proposal is being considered.

It has been further proposed by IPFT that while they make efforts to become self-reliant, a grant of Rs. 100.00 lakhs per annum may continues to be made to IPFT during the Tenth Five Year Plan. Besides this it has been suggested that the Institute will also be dependent upon the Govt. grant for procurement of capital items during this period."

5.15 About the steps being taken to generate more income needed for self-reliance of the Institute, the Ministry submitted the following details:-

"It is observed that IPFT has been able to meet 24% of the revenue expenditure out of its income from operation in 1998-99. The same has gone up to 27% in 2000-01. The following steps are being taken to generate more income needed for self-reliance.

(i) The tariff of the various services has been revised in October, 1998.

(ii) The Institute is trying to enter into various collaborative projects on applied research in association with different agencies like ICAR, CSIR, DBT, Ministry of Environment etc. The necessary project proposal in this regard have already been submitted.

(iii) The Institute is trying to seek recognition from Ministry of Agriculture regarding acceptance of data on bio-efficacy, phytotoxicity etc. required by CIB/RC for registration.

(iv) The Institute is also trying to get recognition as a Regional Laboratory on residue data generation by Ministry of Agriculture.

(v) Institute is also trying to explore the avenues for setting up semi-commercial facilities in consultation with the industries. "

5.16 The Committee referred to their earlier recommendation regarding creation of separate cadre for IPFT and wanted to know about the extent up to which IPFT has been able to consolidate its position after creation of separate cadre of technological officers and scientists and establishment of new laboratory. IPFT submitted the following reply:-

"IPFT has been able to consolidate its position quite effectively after the creation of a separate cadre of Technology Officer and Scientist. It is anticipated that through the establishment of the new laboratory the profile of the Institute will go further up in view of the proposed plan of getting GLP, ISO 9002-8000 and ISO 14000-18000 within a year. This will certainly bring the capability of the Institute within few laboratories having such recognition. It is anticipated that the revenue earning will increase after getting these accreditation."

5.17 While going into the details of working of IPFT, when the Committee specifically wanted to know whether it was working as per the demand of the pesticides industry / market needs or as per their own time frame, IPFT submitted the following categorical reply:-

"IPFT is essentially working on the demand of pesticide industry and market needs. This is quite obvious that the market research is carried out by the industries before sponsoring the project. Alternatively the Institute has taken concrete steps to help the industries in accessing the trends and has associated with them in the formulation of certain projects which will help them in sustaining the

molecules for a longer period of time which are otherwise under review/banned list. "

5.18 In continuation to that, the Committee enquired about the nature of their research work and wanted to know that in what respect their research and development work relating to pesticides is different from that of R&D being done by CSIR laboratories, ICAR laboratories, Agricultural Universities and R&D Centres of various industrial houses. IPFT submitted as under:-

> "IPFT is the only Institute in the country as well in the Asia Pacific Region working exclusively on the development for eco & environment friendly formulation. No other CSIR, ICAR laboratories, Agricultural Universities barring from few R&D laboratories of MNCs in India are working extensively in this area."

5.19 The Committee wanted to know about the type of coordination the IPFT has with all other pesticides laboratories/institutions in the field of R&D. IPFT submitted the following written reply:_

> "IPFT has submitted the proposals to various institutions like Ministry of Environment, Deptt. of Bio-Technology, National Agriculture Technology Project, DSIR to work closely with them in the area of eco & environment friendly, applied research project. The participating institutions are taking active interest in the project."

5.20 During the course of discussion, when the Committee specifically wanted to know whether there was any specific problem or issue of importance, IPFT submitted the following details:-

> "Institute of Pesticide Formulation Technology has chalked out a ambitious plan to train the Scientist and Technologists in the area of formulation development, Quality Control, Field trial Data Generation, Environment Planning and Abatement etc. through a coordinated course with certain University or Technology Institutes in India. Such type of programme is highly esential in the country to promote and to produce the eco & Environment friendly formulations being developed at the Institute. Efforts are on to tie up with Institute of repute like IIT, Delhi in the area. The project is held up due to the requirement of proper funding to start up the project."

5.21 The Committee referred to the recommendations of Expenditure Reforms Commission with regard to IPFT and wanted to know about the implementation status in this regard. Ministry of Chemicals & Fertilisers submitted the following reply:-

"The Expenditure Reforms Commission submitted its 5th Report to the Finance Minister on 7th March, 2001. The third part of the report is regarding autonomous institutions.

In terms of para 3 of the recommendations of the ERC, there has to be a system of outside/peer review of every autonomous organisation once in 3 or 5 years, depending on its size and nature of the activity; in respect of those organisations where there has been no such outside review till date, all Ministries/Departments should be required to straightway arrange for such reviews to be taken up and completed before 31st December, 2001. These reviews should focus inter alia on:

(a) The purposes for which the Autonomous Body was set up and whether these objectives have been or are being achieved.

(b) Whether the activities should be continued at all, either because they are no longer relevant or have been completed or if there has been a substantial failure in achievement of objectives. The zero based budget approach should be followed in making this assessment.

(c) Whether the nature of the activities is such that these need to be performed only by an Autonomous Organisation.

(d) Whether similar functions are also being undertaken by other Organisations – be it in the Central Government or State Governments or the private sector – and if so whether there is scope for merging or winding up these Organisations.

(e) Whether the total staff complement, particularly at the support level, is kept at a minimum, whether the enormous strides in information technology and communication facilities as also facilities for outscoring of work on a contract basis have been taken into account in determining staff strength; and whether scientific/technical personnel are being deployed on functions which could well be carried out by non scientific/non technical personnel; etc. The last mentioned aspect becomes important in view of the special procedures followed both for recruitment and promotion of scientific/technical personnel.

(f) Whether user charges, wherever the output or services are utilised by others, are levied at appropriate levels.

(g) The scope for maximising internal resources generation in the Organisation so that the dependence upon government budgetary support could be kept at a minimum.

In accordance with the above recommendations of the ERC, a High Powered Committee was set up. The Committee has since submitted its report which is under examination in the Department."

(iii) Use of banned/restricted pesticides

5.22 It is reported that certain agro-chemicals which are believed to have a deleterious effect on human health and/or the environment have been banned in certain countries. These are still being used in India.

5.23 When the Committee specifically wanted to know the agro-chemicals/Pesticides banned/severely restricted in other countries but are being used in our country and the justification for permitting such use, Ministry of Agriculture clarified the position as under:-

"Some foreign countries have banned/restricted the use of pesticides for one or more of the reasons such as negative health reasons, availability of safer but costlier pesticides, non-acceptability of certain pesticides due to climatic reasons peculiar to a particular country, emergence of pest resistance to pesticides, etc.

The pesticides which are banned/restricted for use in other countries but are still being used in our country because of the following reasons:-

(i) non-availability of safer/cheaper substitutes;
(ii) to deal with specific pest and disease situation;
(iii) more rapid degradation and less persistence of pesticides in Indian environmental conditions compared to countries in temperate zone;
(iv) registration of pesticides for use in safer formulations,"

5.24 The Committee observe that major exposure to pesticide occurs in the fields during their application. The Committee also note that all the instructions regarding safety clothing, first aid and antidotes are printed on labels and indicated. They know that there is a network of extension functionaries in the State Departments of Agriculture who is supposed to do this work. But the Committee are of the view that teaching of farmers has a very little impact. In Committee's view farmers can be benefited only through what they are demonstrated in the field and training to educated farmers. The Committee agree with the difficulties in training large number of people. They, however, desire that the concept of promotion of farmer's clubs and self help groups to train a number of farmers who can train more people in groups should be encouraged. Pesticides manufacturers Associations have also shown their interest in arranging such programmes with the support of Central

Government agricultural Institutions and State Governments. Under these circumstances, the Committee desire that the Government should take all initiative in this matter on priority basis to educate and train more and more farmers with the help of State Governments, Manufacturers and NGOs. The Committee feel that only this kind of joint effort through sharing of expertise, experience and funds can give good results.

(Recommendation No. 18)

5.25 The Committee desire that the Government should do everything to strengthen and spread the concept of agri-clinic and agri-business of the Ministry of Agriculture. The Committee however, find that at present there is no incentive to educated youth for showing interest in such programmes. They, therefore, suggest that the Ministry of Agriculture should take all initiatives at their own level in coordination with other Ministries to provide all the possible incentives to the young educated persons interested in such programmes. The Committee treat this as the most appropriate step for the welfare of Agriculture Sector as well as unemployed youth.

(Recommendation No. 19)

5.26 The Committee note that complete reliance on the use of pesticides in controlling agricultural pests and associated environmental, societal economic and human health problems have forced scientists, extension agents and farmers to develop and adopt Integrated Pest Management (IPM) technology. The Committee find that potential alternatives to chemical pesticides are available in the nature which should be commercially exploited for pest control. Inspite of traditional knowledge and early breakthrough in research, the pest control potential of various natural products remained untapped due to the advent of synthetic pesticides with a broad spectrum of activity. The Committee understand that there still persists a need for development of better, biodegradable insecticides and growth regulators to combat the target species without doing damage to beneficial insects, wildlife and man. The research and use of biopesticides and biocontrol agents is now picking up fast. The Committee, therefore desire that the Government should analyse the weak points of IPM programme and take more initiatives to encourage the use of biopesticides. The Committee would also desire that the Government should identify the organisations for development of more bio-pesticides like the neem-based pesticides and provide incentives to develop such pesticides having better shelf-life and least photo-degradability.

(Recommendation No. 20)

5.27 The Committee note that Institute of Pesticide Formulation Technology was established as a non-profit making organisation on May 31, 1991. The main function of this Institute is development and production of state of the art user and environment friendly pesticide formulations. Since its inception, IPFT has been pursuing steadily to establish a healthy rapport with the pesticide industry for the production of user and environment friendly pesticide formulations for large scale exploitation thereby promoting safer and efficient pesticides formulations. The Institute has been progressing in the direction of financial self-reliance. IPFT has

been able to meet 27% of the revenue expenditure out of its income from operation in 2000-01. They have proposed a grant of Rs. 116 lakhs to make the lab complex functional. The Institute has been trying to enter into various collaborative projects on applied research in association with different agencies like ICAR, CSIR, DBT, Ministry of Environment etc. and these projects have been submitted to the Government. The Committee would like to point out that in one earlier recommendations they had recommended for creation of a separate cadre of technological officers and scientists in the Institute and express their happiness that due to creation of this cadre IPFT has been able to consolidate its position effectively and they are now trying to get GLP, ISO 9002-8000 and ISO 14000-18000 status within a year. The Committee hope that this will certainly bring the capability of the Institute within few laboratories having recognition and this will also improve the earning of the Institute. They, therefore, recommend that the Government should provide all the desired grants and approve the pending proposals of IPFT within the shortest possible time. The Committee also desire that the Ministry should take all initiatives to implement all the recommendations of Expenditure Reforms Commission with regard to IPFT without any delay. They also recommend that the status of this institute should be raised to national importance equal or similar to that of National Institute of Pharmaceutical Education and Research (NIPER).

(Recommendation No. 21)

5.28 The Committee find that there are several Chemicals which are banned in other countries but are being used in our country. These chemicals have an established adverse effect on human health and / or the environment. The Committee do not agree with the justification given by the Ministry of Agriculture about the use of these pesticides. In Committee's view, the safety should not be compromised at the cost of cheaper substitutes. The Committee, therefore, desire that the Government should undertake a scientific study in respect of each pesticide which is banned or restricted in other countries and discard/ban all such chemicals which have deleterious effect on human health.

(Recommendation No. 22)

CHAPTER – VI

ACHIEVEMENTS THROUGH RESEARCH AND DEVELOPMENT AND FUTURE SCENARIO IN PESTICIDES SECTOR

(i) Research and Development in Pesticides Sector:-

6.1 Research and Development with reference to pesticides industry broadly involve the following type of activities:-

(a) Development of cost effective green processes for important generic pesticides;
(b) Development of bio-pesticides of plant origin;
(c) Synthesis of new molecules based on rational design and natural leads as potential plant protection chemicals;
(d) Development of processes for insect sex pheromones for integrated pest management and also development of pesticides with low toxicity and low volume applications for eco friendly crop protection purposes;
(e) Development of important organic industrial pesticide intermediates.

6.2 When the Committee wanted to know about the objectives of Research and Development in pesticides industry and the annual expenditure on R&D in this sector, the Ministry of Agriculture submitted as under:-

> "R&D activities by Indian manufacturers are largely related to improving processes with the objective of reducing production costs. Basic research leading to discovery of new molecules is a time-consuming and expensive activity, which by and large, has not been undertaken. Annual expenditure on R&D by Indian manufacturers is approximately 1% of their turnover.
>
> The annual expenditure by CSIR on R&D in the area of pesticides is around Rs. 2 crores."

6.3 When the Committee enquired about the expenditure on R&D in Pesticides Industry and the steps being taken to persuade the industry to spend large amount on R&D in future, the Department of Chemicals and Petrochemicals informed as under:-

> "Various pesticide units have different levels of expenditure on R&D. While no precise estimates of data regarding the expenditure on R&D are available, the industry estimates say that the expenditure on R&D is around 2-3% of the total turnover. This comes to around Rs. 100 crores on an estimated turnover of Rs. 3000 crores. Most of this expenditure is on process modification and improvement.
>
> While the industry is realizing the need for higher spending on R&D in order to remain globally competitive, the Department on its part, lays stress on the need for higher R&D spending at various meetings and fora."

6.4 While discussing the issue of R&D in Pesticides sector with Manufacturers Associations, representative of ICPA submitted their views as under:-

> "What I would like to highlight is that it is very much related to yesterday, today and tomorrow. It means that the technology has already been developed. What about the future? If you see globally, there are several new products that are introduced in different countries. A lot of research efforts have been made to produce new molecules. In India, we will have to go through the process of even proving several products which are already half-patented. They have still to come to India and play their specific role which will help in boosting agricultural production. They would be helpful for the domestic consumption and for export of the products also. Here, I mean the agricultural produce which comes out of it. So, there is also a need for sufficient modification for those companies which are bringing forth new products in the country. This modification or incentive can be by way of data protection, making the product patents in line with the Government of India's thinking. This process is also extremely important to bringing forth the new chemistry and the new molecules for the country."

6.5 When asked about the nature of coordination between the concerned Ministry/Department for effective utilization of R&D results, Department of Chemicals & Petrochemicals submitted following details:-

> "A number of agencies are involved in R&D on pesticides and different organizations have linkages with the industry for implementation of R&D results. The High Powered Committee set up to study IPFT has recommended coordination between 4 premier institutions namely IPFT, IICT, ITRC and NEERI to provide a single window facility for the industry in order to coordinate their R&D efforts."

6.6 When the Committee enquired about the agencies engaged in R&D relating to pesticides and the extent upto which these researches have helped in increasing the production and improvement in quality of pesticides, the Ministry of Agriculture submitted the following details:-

> "CSIR is pursuing research & development in the pesticides sector in its laboratories namely Indian Institute of Chemical Technology, Hyderabad, National Chemical Laboratory, Pune and Regional Research Laboratory, Jorhat.
>
> In the past, CSIR has developed process technologies for pesticides, several of which have been commercialized by the industry resulting into increase in the indigenous production of pesticides.
>
> The following is the List of Pesticides developed by CSIR:
>
> (i) Durofume Formulation

(ii) Minifume Tablets
(iii) Azadirachtin (Tech) extraction from neem seed
(iv) Butachlor
(v) Chlorpyriphos
(vi) Citicide
(vii) DDVP Technical & Formulation
(viii) Diazinon
(ix) Esfenvalerate (Chiral Pyrethroid)
(x) Diptrex
(xi) Glyphosate
(xii) MBC Carbendazim
(xiii) Methoxychlor
(xiv) Monocrotophos (Tech)
(xv) Sulphur Wettable
(xvi) Tetradifon
(xvii) Atrazine
(xviii) Carbonxin
(xix) Dalapon
(xx) Dimethoate
(xxi) Endosulfan
(xxii) Ethephon
(xxiii) Nicotine Sulphate
(xxiv) Nitrogen
(xxv) Phenthoate
(xxvi) Quinalphos & Disulfoton
(xxvii) Simazine
(xxviii)Tetradifon
(xxix) Thiophenate Methyl
(xxx) Warfarin
(xxxi) Chlorofenvinphos
(xxxii) Phosphamidon
(xxxiii)Pheromones for Groundnut, rice, teak and banana pests as part of IPM
(xxxiv)Quinalphos

Besides, the Department of Biotechnology (DBT) and the Indian Council of Agricultural Research (ICAR) as well as a number of Agriculture Universities and Research Institutions have programs for the development of eco-friendly pesticides.
"

6.7 When the Committee enquired about the impact of bio-technology and use of bio-pesticides and researches being done in this sector, the Ministry of Chemicals & Fertiliser submitted a detailed note in this regard. About the potential of bio-technology they informed as under:-

"Bio-technology with its promise to revolutionize agriculture around the world is assuming an increasingly greater role in India's agricultural research. Integrated Pest Management (IPM) with emphasis on Biological pest suppression aims towards sustainability is being promoted in all the cropping system in the country.

Bio-technology has great potential in Biological control. Biological control fits in very well in the IPM concept of plant protection. Bio-pesticides/Bio-control agents are being used as an alternate strategy to chemical pesticides as they are target specific and environment friendly. Also, it is being used harmoniously with pesticide application. Realizing the potential of Bio-technology in bio-control, the Department of Bio-technology (DBT) has gone in a big way and supported various programmes in this area. DBT has made concerted efforts towards the development of bio-pesticides technology in a systematic way during a period of 11-12 years."

6.8 While describing the objectives and achievements of National Bio-control Network Programme the Ministry submitted the following details:-

"DBT has established a National Bio-control Network Programme in 1989 initially with 10 R&D projects with a total outlay of Rs. 3.5 crores for a period of 5 years (1989-94) to study the control of key pests, diseases and weeds of economically important crops viz. cotton, sugarcane, tobacco, oil seeds, pulses, vegetables etc. At the moment this programme is running with 145 projects at a total cost of about Rs. 26.00 crores. The main objective of the Bio-control Network programme is to develop better bio-pesticide formulations as well as to develop cost effective and commercially viable mass production technologies of various bio-control agents and their large-scale-front line field demonstration. The bio-control agents included in the network are – (1) Microbial pesticides (Baculovirus, antagonistic and entomopathogenic fungi and bacteria); (b) Parasitoids ; (c) Predators; (d) Pheromones/Kairomones and (e) Botanical pesticides (plant products) for use under IPM of key pests and diseases.

Based on the achievements of the network programme, the Department had launched a time bound goal-oriented mission mode programme on "Development, Production and Demonstration of Bio-control agents under IPM" during 1993-95 at a total cost of Rs. 4.60 crores. Under this programme 20 production-cum-demonstration units and 1 repository centre were set up in 14 States representing various agro climatic zones. The main objective was to demonstrate the use of bio-pesticides produced through R&D effort and also to revalidate and fine-tune the technology packages best suited to various agro climatic zones. The programme has completed and concluded with significant achievements.

Substantial success has been achieved in the national Bio-control R&D Network Programme and subsequently in the mission mode programme in terms of:

(i) development of standardized, cost effective and commercially viable mass production technologies of various candidate bio-control agents/bio-pesticides;
(ii) demonstrated the field efficacy of bio-control agents/bio-pesticides under different ecosystem in various economically important crops covering 75,000 ha;
(iii) realizing the economic benefits in IPM trials by working out the cost benefit ratio in terms of (a) monetary gain; (b) yield increases; (c) reduction in pesticide among the farming community and the end users were promoted. Under the mission mode programme, successful demonstration trials have culminated as a recommendation by the State Department of Agriculture in various States.

Through various programmes, 10 candidate bio-pesticides viz. NPV of H armigera, NPV of S. Litura GV of Chilo infuscatellus, Trichogramma, Chrysopa, Trichoderma viride, T. sacchariphagus have been developed and successfully demonstrated in the farmers field at multi location in various agro climatic zones. Besides, there are other 4-5 new potential bio-pesticide technologies viz. (i) Aspergillus niger (fungal antagonist), (ii) Debaromyces hensenni (yeast antagonist), (iii) Steinernema corpocapsea (nematode), (iv) an internode borer lure (Sex pheromones), (v) Chilo sacchariphagus and B. bassiana (against coffee berry borer), which are being revalidated for commercialization. These bio-formulations have been found very effective in the management of soil borne and seed borne diseases as well as post harvest diseases of economically important crops and fruits. A Baculovirus based technology has been developed at KFRI, Kerala for the management of forest insect pest i.e., Hybalea purea (teak defoliator) which is known to cause substantial economic damage to teak plantation in the country. Technologies thus developed have been transferred to various companies.

Popularization of bio-pesticides was an important component. Through various extension activities and training programmes, about 35,000 farmers were benefited and around 1200 handouts in various regional languages were released and distributed among the farmers. Among the beneficiaries are extension functionaries of the Government Departments, Industries and NGOs etc. The bio-control products/formulations developed at various centres viz. MPKV, Rahuri, RRL, Jammu, QUAT, Bhubaneshwar, PDVR, Varanasi, Annamalai and Salem in Tamil Nadu, NARADI, Secundrabad, A.P. etc. were distributed among the farmers free of cost for use in various crops viz. cotton, rice, groundnut, sunflower, pulse, sugarcane, tobacco, chilli and vegetables."

6.9 About the steps being taken to promote bio-pesticides, the Ministry submitted following details:-

"In order to promote and facilitate commercialization of bio-pesticides, the Department of Bio-technology had organized an Entrepreneur meet on Eco-friendly technologies. The main aim was to bring the scientist and entrepreneurs together and initiate a meaningful dialogue for the commercialization of bio-control agents/bio-pesticides. Various important issues related to the commercialization of bio-pesticides were discussed in the meeting in the context of the notification dated March 99 by the CIB. At the initiative of the DBT, the Plant Protection and Quarantine (PPQS) wing of the Department of Agriculture convened several meetings of the technical group constituted by the registration committee of the CIB. In these meetings, the existing data requirement/guidelines for registration of bio-control agents and bio-pesticides were reviewed and streamlined as per the suggestions/recommendations of DBT. The revised guidelines with simplified data requirements have already been ensured by CIB in May 2000, which will facilitate the registration process and commercialization of bio-pesticides in the country.

DBT has now undertaken a major R&D program to study the role of bio-control agents for Integrated Pest Management (IPM) for increasing agricultural productivity in existing cropping system during 1998-99 involving 14 centres in 11 States at a total cost of Rs. 2.96 crores throughout the country. It is expected that through this program, various module/package of practices would be developed in different crop ecosystem leading to sustainable agriculture."

(ii) Future Scenario in Pesticides Sector and Impact of Product – Patent Regime

6.10 Experts have envisaged that Indian Agro-chem market may grow at a steady growth rate of 6-7%. This steady growth is expected due to:-

(a) Present low use per hectare.

(b) Growth in irrigation.

(c) Growth in fertiliser usages.

(d) Introduction of High Yielding crops.

(e) Export thrust on agricultural commodities and processed agricultural produce.

(f) Increase in awareness for better crop protection due to Government and Private Sector Extension Education and demonstration efforts.

(g) Need for more safer and low dose eco-friendly molecules.

(h) Scientific employment of high quality of Plant Protection.

6.11 When asked about the impact of on-going Liberalisation Policy of the Government on domestic agro-chemical industry, likely impact of product-patent regime and the steps being taken to avoid adverse impacts on production and availability of pesticides, the Ministry of Chemicals & Fertilisers submitted as under:-

"The economic liberalisation, initiated in 1991, has had a positive impact on the domestic agro-chemical industry. The three main economic measures which have aided the industry are summarised below:-

Sl.	Action	Impact
1	Removal of compulsory licensing.	No capacity restrictions Rational choice of size and product mix made possible.
2	Removal of mandate requiring reservation of 50% of technicals produced, for use in formulation by the small-scale sector.	Forward integration by large manufacturer made possible. Better quality.
3	Progressive reduction in import tariffsfrom 165% to a uniform duty of 35% in 2000-2001.	Cheaper access to imported raw materials/intermediates."

6.12 During the course of evidence, the Committee critically examined the impact of liberalisation on pesticides sector. When asked the views of Ministry, Secretary in Department of Chemicals and Petrochemicals replied as under:-

"What will happen when liberalisation is taking place? Now, there is no compulsory licensing on capacities. So, there is no capacity restriction. That is good for the industry. They can make a rational choice of the products that they want to make. Secondly, there was a mandate requiring that 50 per cent of technicals would be reserved for the use by the small-scale sector. That has been removed. So, that is again better for the industry. There is reduction in import duty, which used to be 165 per cent before the liberalisation process began and now down to 35 per cent. That means, cheaper raw materials, cheaper pesticides can come into the country and they are competing with what is being produced."

6.13 In response to specific query about the future trends of pesticides industry in India, the Ministry of Agriculture submitted the following replies:-

"The prohibitively high cost of research, stiff registration procedures, pressures of adhering to regulatory norms, etc. are expected to lead a shakeout in the industry. Only a very few major players are expected to dominate the global crop protection market. A shakeout is imminent in India also. Under a system which offers greater protection to technology, new MNCs which have hitherto stayed away are likely to make an entry. Also, collaborations between local and overseas companies may increase for the manufacture of pesticides using newer molecules and formulations based on these pesticides.

There is a growing trend towards low dosage, high potency molecules which would result in the manufacture of products in the 50-200 tpa range. The usage of products which need to be produced in capacities in the range of thousands of tpa is expected to decline. In fact worldwide, a regrouping of products such that new generation, low dosage molecules co-existing with 20-25 years old off-patent generics, is foreseen. Pesticides industry should therefore put their efforts on the following:

(i) Low cost of production through improvisations in process technologies.

(ii) Backward integration which is a key factor for achieving cost leadership in the business of generics manufacture in particular.

(iii) Greater emphasis on data generation to facilitate registration of products

(iv) Strong research capability."

6.14 When specifically asked about the Impact of New Product-Patent Regime, Secretary, Department of Chemicals and Petrochemicals submitted as under:-

"Almost 70% of all agro-chemicals currently in use in the country are off-patent. In the last decade, very few new molecules have been commercially introduced. This is because development and commercial establishment of new molecules is an expensive and time-consuming process, with high costs involved in basic research, cross-border market development, etc.

India is a signatory to the WTO and TRIPS. In respect of patent for production of pharmaceuticals, food and chemical products, our obligation arises only on 1.1.2005. Thereafter, products whose patent period has run out would continue to be produced in the country. However, new molecules and new products that are developed by foreign companies would be covered under provisions of the TRIPS regime. Consequently the Indian companies would not be

able to manufacture these even by adopting a different process. After the new product patent regime is in place, MNCs are expected to bring in their new molecules which may be priced high in the initial stages. However, the products which are presently being manufactured in the country would mostly continue to be so produced.

The pesticide industry is constantly being urged by the Government to spend larger amounts on R&D so that new pesticides that are required in the country can be developed by domestic companies."

6.15 When the same issue was discussed with the representatives of Ministry of Agriculture, they submitted their views as under:-

"No significant impact of new Product Patent Regime on production and availability of pesticides is envisaged in case of generic pesticides registered under the Act. however, it may lead to higher cost in case of pesticides having Patent Protection due to monopoly of the registrants under Section 9(3) for a period till patent is valid after 2005. During this period repeat registration under Section 9(4) will not be possible. To protect the interests of the Indian Industry as also of the farmers/consumers. Research and Development facilities in the Agro Chemicals sector will need to be strengthened."

6.16 During the course of evidence , the Committee expressed their worries about future of pesticides sector in product-patent regime and wanted to know the views of the Ministry. Secretary, Department of Chemicals & Petrochemicals submitted Government's view before the Committee as under:-

"Since most of the pesticides being manufactured by the Indian companies are off patent, not very substantial impact is foreseen. But the multinational companies are expected to bring in new molecules once the Patent Act is amended because presently they feel threatened; they feel there might be a leakage of intellectual property; and they may get copied.

Then, let me come to the effect on the industry. The industry would definitely feel that there would be much more competition from imports and the profit margins would definitely come down. But the farmer would stand to gain because now there would be newer products. There would be superior products and there would be more competitive prices. so, in the future, we expect to see better pesticides in the market and farmer getting a better deal in the process. Now, since this is a multidisciplinary subject, a number of Ministries are involved. We have the Department of Agriculture, the Ministry of Environment and the Department of Chemicals which monitors the interaction with the industry. So, there is a need for interaction between various Departments and for this, regular meetings are held at various levels, at the level of the Joint Secretary, at the level of the Secretary and at the level of the Minister. We also have interaction by way of the representative of the Department being on the Central Insecticide Board and the

Registration Committee. Then, the Committee, as and when the need arises, organises meetings with other Departments to address various issues that are facing the chemical industry. Recently a standing inter-ministerial Committee has been formed at the level of Secretary, Department of Petrochemicals at the request of the industry. There is an inter-ministerial group at the level of Joint Secretary (Chemicals), which is looking into the problems of infrastructure for this sector of the industry. As a result of constant interaction, a number of simplifications have been brought around in export registration procedure which has been made simpler. Some of the amendments have been carried out in the Insecticides Act and some more are now in the offing. They are being discussed at various levels."

6.17 When the Committee specifically asked about the future situation before pesticides industry, Department of Chemicals and Petrochemicals submitted as under:-

"The pesticide industry is facing the challenges of globalisation and intense competition both from domestic and foreign companies. In such a situation, it can be expected that only the most efficiently run units will survive and grow in the future. The High Powered Committee for IPFT has recommended that efforts should be made to prolong the life of existing molecules through development of new formulations which are more effective and environment friendly. It has also recommended development of new cost effective formulations for the new molecules that would be introduced in the country as a result of the new IPR regime. These measures would increase the competitiveness of Indian companies.

So far, not a single new molecule has been indigenously developed. However, an amendment to the Insecticides Act, 1968 is under consideration of the Government to provide for patent protection for a limited period."

6.18 While discussing the problems of the industry, the representative of Pesticides Manufacturers Association presented his view as under:-

"Today for fertilizer you are giving a subsidy of more than Rs. 500 crore. On seed there is no excise. Whereas for pesticides there is a 16 per cent excise duty. In addition, there is 10 per cent sales tax in a State like Maharashtra. So, if there is 25 per cent price difference, then bogus fellows will flourish. Last year we did convince the Finance Ministry and they said that they would reduce the duty; but it did not happen. We have told the Maharashtra Government also that 10 per cent sales tax means anybody can sell it without the bill. Without bill means spurious product. So, we request you to at least make it reasonable. Earlier pesticide was excise free or it was available at concession. Now it is levied a 16 per cent excise duty and 10 per cent sales tax. How can farmers afford it?"

6.19 The Committee observe that R&D efforts of Indian companies have been focussed on developing processes to produce generic products and at times also patented products as permitted by Indian Patents Act. The ability to develop and manufacture many sophisticated products in a cost effective manner has resulted in

availability of large number of products at affordable prices to Indian farmers. It has also helped to export a number of products to international markets earning foreign exchange. The Committee are not satisfied with the present expenditure on R&D to the tune of 2-3% of total turnover and that too on process modification and improvement. They note that very few new molecules have been introduced. The Committee observe the future trends of pesticides industry and accept that the prohibitively high cost of research, stiff registration procedures, pressures of adhering to regulatory norm are expected to lead to major changes in the industry. Survival of pesticides industry in the country will basically depend upon strong research capability. In respect of patent for production of pharmaceuticals food and chemical products, our obligation arises only on 1.1.2005. Thereafter, Indian companies would not be able to manufacture new molecules/new products that are developed by the foreign companies even by adopting different process. The Committee therefore, desire that the Government should persuade the domestic companies of pesticide sector to spend larger amounts on R&D so that pesticides required in the country can be developed by domestic companies. The Committee also urge the Government that to protect the interests of Indian Industry as also the farmers/consumers they should provide all the incentives including duty free import of equipment required for R&D as it is being permitted for the drugs/ pharmaceutical sector.

(Recommendation No. 23)

6.20 The Committee note that Bio-technology has revolutionized agriculture around the world. In India, it has started playing greater role in India's Agricultural Research. The Committee appreciate the work of Indian scientists in the field of Biotechnology during the last 11-12 years. They have played on important role in implementation of Integrated Pest Management Programme. But, the Committee are not satisfied with the performance in field demonstration of the standardized, cost-effective and commercially viable mass-production technologies of bio-pesticides/ bio-control agents. The Committee desire that the Department of biotechnology should continue their efforts vigorously to develop more technologies of bio-control agents/ bio-pesticides. However, only laboratory based researches and meetings/seminars are not the ultimate objective of such important researches. All these should reach to the user level. Therefore, the Committee desire that the Department of Biotechnology should develop better coordination with Ministry of Agriculture and State Governments to demonstrate and spread their R&D efforts regarding the use of bio-pesticides in all agro-climatic zones of the country.

(Recommendation No. 24)

NEW DELHI
YADAV
December 20, 2002
Agrahayana 29, 1924 (Saka)

MULAYAM SINGH

Chairman
Standing Committee on
Petroleum & Chemicals.

ANNEXURE –I

STATEMENT SHOWING THE STATEWISE DEMAND OF PESTICIDES FOR THE YEARS FROM 1996-97 TO 2000-01

(m.t. technical Grade)

Sl. No	State/UT	1996-97	1997-98	1998-99	1999-2000	2000-2001
1	A.P.	12100	9000	9000	7000	4054
2	Assam	350	290	280	260	260
3	Arunachal Pradesh	10	19	18	19	17
4	Bihar	1517	1325	1084	924	919
5	Gujarat	5179	5291	5036	5000	4361
6	Goa	8	5	8	4	6
7	Haryana	5050	5045	5035	5030	5025
8	H.P.	300	200	200	205	239
9	J&K	166	140	110	115	100
10	Karnataka	3600	3000	3000	2600	2600
11	Kerala	1469	940	1228	1168	1096
12	M.P.	1878	1517	1410	1299	1679
13	Maharashtra	6146	5625	3898	3942	3886
14	Manipur	41	40	20	21	21
15	Meghalaya	20	20	7	18	9
16	Mizoram	22	21	13	13	13
17	Nagaland	9	12	6	10	9
18	Orrisa	1293	994	961	1006	1005
19	Punjab	7300	7300	7300	7100	7400
20	Rajasthan	3500	3325	3350	3300	3250
21	Sikkim	25	25	5	5	5
22	Tamilnadu	3232	2929	2950	2882	2733
23	Uttar Pradesh	8000	8700	7600	7400	7200
24	Tripura	35	35	34	30	30
25	West Bengal					
26	Andaman & Nicobar	18	18	5	6	6
27	Chandigarh	2	2	3	3	4
28	Delhi	70	68	66	64	60
29	Dadra & Nagarhaveli	4	4	4	4	4
30	Daman & Diu	1	1	1	1	1
31	Lakshadweep	2	2	2	2	2
32	Pondicherry	130	125	85	78	61
	Total	**66677**	**60143**	**57240**	**54135**	**50464**

ANNEXURE-II

PRODUCTION OF PESTICIDES (GROUP-WISE) DURING THE YEAR 1997-98 TO 2001-02

MT (Tech. Grade)

Sl. No.	Pesticides Group	1997-98	1998-99	1999-2000	2000-01	2001-02
1.	Insecticides	62988	66997	67796	68944	58832
2.	Fungicides	9222	10534	12602	12091	13554
3.	Weedicides	9810	10901	10896	8201	6631
4.	Others	2134	2750	2416	3116	2563
	Total	**84154**	**91182**	**93710**	**92352**	**81580**

ANNEXURE-III

CONSUMPTION OF PESTICIDES DURING THE LAST FIVE YEARS

SOUTH ZONE
(1996-97 to 2000-01)

Sl. No.	State/UT	1996-97	1997-98	1998-99	1999-2000	2000-01
1	Andhra Pradesh	8702	7298	4741	4054	4000
2	Karnataka	3665	2962	2600	2484	2020
3	Kerala	1141	602	1161	1069	754
4	Tamil Nadu	1851	1809	1730	1685	1668
5	Andman & Nicohar	9	4	5	5	3
6	Lakshadweep	1	1	1	1	2
7	Pondicherry	115	81	71	70	65
	Total	**15484**	**12757**	**10309**	**9368**	**8512**

WEST ZONE
(1996-97 to 2000-01)

Sl. No.	State/UT	1996-97	1997-98	1998-99	1999-2000	2000-01
1	Gujarat	4545	4642	4803	3646	2822
2	Goa	2	2	4	4	6
3	Madhya Pradesh	1159	1641	1643	1528	871
4	Maharashtra	4567	3649	3468	3614	3239
5	Rajasthan	3075	3211	3465	2547	3040
6	Dadra & Nagar Haveli	4	4	4	2	6
7	Daman & Diu	1	1	1	1	2
8	Chhatisgarh	-	-	-	-	-
	Total	**13353**	**13150**	**13388**	**11342**	**9986**

NORTH ZONE
(1996-97 to 2000-01)

Sl. No.	State/UT	1996-97	1997-98	1998-99	1999-2000	2000-01
1	Haryana	5040	5045	5035	5025	5025
2	Himachal Pradesh	300	200	276	385	302
3	Jammu & Kashmir	63	78	75	26	1
4	Punjab	7300	7150	6760	6972	7005
5	Uttar Pradesh	7859	7444	7419	7459	7023
6	Delhi	61	65	64	62	55
7	Uttaranchal	-	-	-	-	-
8	Chandigarh	3	3	3	4	2
	Total	**20626**	**19985**	**19637**	**19933**	**19512**

EAST ZONE
(1996-97 to 2000-01)

Sl. No.	State/UT	1996-97	1997-98	1998-99	1999-2000	2000-01
1	Bihar	1039	1150	834	832	853
2	Jharkhand	-	-	-	-	150
3	Orissa	885	924	942	98	1006
4	West Bengal	4291	3882	3678	3370	3250
	Total	**6215**	**5956**	**5454**	**5200**	**5259**

NORTH-EAST ZONE
(1996-97 to 2000-01)

Sl. No.	State/UT	1996-97	1997-98	1998-99	1999-2000	2000-01
1	Arunachal Pradesh	20	18	18	17	13
2	Assam	300	284	260	260	245
3	Manipur	31	20	31	21	20
4	Meghalaya	20	8	9	8	6
5	Mizoram	18	17	16	19	8
6	Nagaland	9	9	9	10	8
7	Sikkim	16	16	15	-	4
8	Tripura	22	19	16	17	11
	Total	**436**	**391**	**374**	**352**	**315**

ANNEXURE-IV

STATEMENT SHOWING THE STATISTICS OF THE ANALYSIS OF PESTICIDE SAMPLES FOR QUALITY CONTROL IN STATE PRESTICIDES TESTING LABORATORIES (SPTLs) DURING 1997-2002 @

Name of the States/UTs	1997-1998		1998-1999		1999-2000		2000-2001		2001-2002	
	Sampled Analysed	Sub-Standard	Sample Analysed	Sub-Standard	Sample Analysed	Sub-Standard	Sample Analysed	Sub-Standard	Sample Analysed	Sub-Standard
Andhra Pradesh	7291	127 (1.74)	7979	141 (1.77)	9026	88 (0.97)	6112	133 (2.18)	4365	91 (2.80)
Assam	143	4 (2.80)	127	3 (2.36)	76	4 (5.26)	26	-(0)	6	
Bihar	-	- (-)	-	-(-)	-	-(-)	-	-(-)	-	
Gujarat	2178	134 (6.15)	2270	162(7.14)	2079	131 (6.30)	2142	115 (5.37)	2262	135 (5.97)
Haryana	1819	233 (12.8)	1904	216 (11.36)	1932	194 (10.04)	1623	144 (8.87)	428	32 (7.48)
Jammu & Kashmir	729	6 (0.83)	747	22(2.95)	455	22 (4.83)	465	37 (7.96)	-	-(-)
Karnataka	2000	101 (5.05)	3399	138(4.06)	3419	101 (2.95)	3966	133 (3.35)	2956	91 (3.08)
Kerala	1784	6 (0.34)	1501	24 (1.60)	1780	7 (0.37)	1698	-(0)	1075	3 (0.28)
Madhya Pradesh	654	108 (16.52)	642	91 (14.17)	531	96 (18.08)	634	106 (16.72)	395	139 (35.19)
Maharashtra	2838	93 (3.28)	1994	76 (3.81)	3928	106 (2.70)	2534	79 (3.12)	2461	90 (3.66)
Manipur	18	-(0)	15	-(0)	1	-(0)	19	-(0)	-	-(-)
Orissa	956	-(0)	815	2 (0.25)	769	1 (0.13)	857	1 (0.12)	630	-(0)
Pondicherry	500	-(0)	500	-(0)	500	3 (0.6)	500	9 (1.8)	502	6 (1.20)
Punjab	3603	178 (4.94)	3900	114 (2.92)	3850	95 (2.47)	3922	81 (2.07)	3302	124 (3.76)
Rajasthan	1138	122 (10.72)	1144	133 (11.63)	1345	87 (6.47)	1682	104 (6.18)	1623	105 (6.47)
Tamil Nadu	15772	315 (2.0)	16506	186 (1.12)	13586	181 (1.33)	16648	121 (0.73)	12296	55 (0.45
Uttar Pradesh	2939	204 (6.94)	2925	143 (4.89)	2025	103 (5.09)	2305	108 (4.69)	1740	154 (8.85)
West Bengal	-	-(-)	170	-(0)	222	2 (0.91)	306	12 (3.92)	-	
Grand Total	44362	1631 (3.7)	16538	1451 (3.12)	45524	1221 (2.68)	45439	1183 (2.60)	34041	1025 (3.01)

@ Information based on the statistics received from the State/Uts; ( ) Percent substandard samples;

ANNEXURE- V

STATEMENT SHOWING STATISTICS OF THE PESTICIDES SAMPLES FOR QUALITY CONTROL IN REGIONAL PESTICIDES TESTING LABORATORIES (RPTLs) DURING THE LAST FIVE YEARS

Sl. No.	State/UT	1997-98 No. of Samples		1998-99 No. of samples		1999-2000 No. of Samples		2000-01 No. of Samples		2001-02 No. of Samples	
		Analysed	Misbranded (%)	Analysed	Misbranded (%)	Analysed	Misbranded (%)	Analysed	Misbranded (%)	Analysed	Misbranded (%)
1	Andhra Pradesh	113	26 (23.0)	168	19 (17.3)	152	11 (7.23)	231	66 (28.6)	171	35 (20.46)
2	Arunachal Pradesh	15	-	16	4 (2.5)	7	1 (14.2)	15	1 (6.7)	3	1 (33.3)
3	Assam	-	-	9	1 (11.1)	3	3 (100)	-	-	4	-
4	Bihar	25	3 (12.0)	15	2 (13.3)	1	-	14	1 (7.14)	9	1 (11.1)
5	Chandigarh	3	-	-	-	1	-	10	1 (10.0)	-	-
6	Chhattisgarh	-	-	-	-	-	-	-	-	179	41 (22.90)
7	Delhi	29	2 (6.9)	60	3 (5.0)	66	13 (19.69)	149	20 (13.4)	86	14 (16.27)
8	Gujarat	9	1 (11.1)	26	6 (23)	51	7 (13.7)	39	3 (7.7)	73	13 (17.80)
9	Haryana	18	5 (27.8)	5	3 (60)	14	2 (14.2)	4	-	1	-
10	Himachal Pradesh	108	22 (20.4)	152	27 (17.8)	230	48 (20.8)	200	32 (16.0)	165	24 (14.54)
11	Jammu & Kashmir	51	7 (13.7)	27	1 (3.7)	21	3 (14.2)	29	4 (13.8)	25	3 (12.0)
12	Karnataka	25	7 (28.0)	10	1 (10)	184	28 (15.2)	203	35 (17.24)	204	48 (23.52)
13	Kerala	-	-	2	1 (50)	7	1 (14.2)	18	6 (33.3)	11	4 (36.36)
14	Madhya Pradesh	-	-	13	7(55.8)	68	27 (39.7)	25	6 (24.0)	8	1 (12.5)
15	Manipur	596	113 (18.9)	712	111(15.6)	793	119 (15)	565	124 (46.8)	475	146 (30.73)
16	Maharashtra	16	1 (6.2)	21	6 (28.6)	15	6 (40)	-	-	-	-
17	Meghalaya	1	-	-	-	1		5	2 (40.0)	9	-
18	Mizoram	8	-	1	1 (100)	15	1 (6.6)	10	2 (20.0)	3	-
19	Nagaland	-	-	6	1 (16.7)	-	-	-	-	-	-
20	Orissa	-	-	14	5 (35.7)	10	-	-	-	6	3 (50.0)
21	Punjab	12	3 (25.0)	20	2 (10)	18	-	16	2 (12.5)	32	7 (21.87)
22	Pondicherry	82	15 (18.3)	62	14 (22.6)	55	7 (12.7)	64	18 (28.1)	73	9 (12.32)
23	Rajasthan	-	-	-	-	12	2 (16.6)	13	4 (30.8)	6	1 (16.66)
24	Sikkim	50	8 (16.0)	31	3 (9.7)	59	11 (18.6)	102	21 (20.6)	87	20 (22.98)
25	Tamil Nadu	7	2 (28.6)	-	-	-	-	-	-	-	-
26	Tripura	-	-	10	3 (33.3)	33	12 (36.3)	24	-	8	-
27	Uttaranchal	82	16 (19.5)	36	7 (19.4)	13	3 (23)	118	19 (16.1)	6	-
28	Uttar Pradesh	-	-							64	7 (10.93)
29	West Bengal	70	15 (21.4)	54	5(9.3)	59	6 (10.1)	51	9(17.6)	44	10 (22.72)
30	A & N Islands	146	41 (28.1)	122	50 (41)	185	37 (20)	184	28 (15.2)	108	24 (22.22)
31	Dadra & Nagar Haveli	-	-	-	-	-	-	-	-	12	9 (75.0)
32	Daman & Diu	-	-	-	-	-	-	-	-	-	-
33	Lakshadweep	-	-	-	-	-	-	-	-	-	-
34	Central Insecticides Inspectors	-	-	-	-	-	-	-	-	-	-
35	Misc.	117	20 (17.1)	84	21 (25)	53	12 (22.64)	45	10 (22.2)	46	20 (43.47)
36	Total	10	-	6	1 (16.7)	4	3 (75)	5	-	6	2 (33.33)
	Total	**1593**	**307 (19.3)**	**1682**	**316 (18.8)**	**2130**	**363 (17)**	**2139**	**414 (19.3)**	1924	443 (23.02)

ANNEXURE-VI

QUALITY CONTROL STATISTICS OF SAMPLE ANALYSED AT CENTRAL INSECTICIDES LABORATORY (CIL), FARIDABAD DURING 1997-2002

Name of the States/UTs	1997-1998		1998-1999		1999-2000		2000-2001		2001-2002	
	Sampled Analysed	Sub-Standard	Sample Analysed	Sub-Standard	Sample Analysed	Sub-Standard	Sample Analysed	Sub-Standard	Sample Analysed	Sub-Standard
Andhra Pradesh	121	36 (29.7)	148	64 (43.2)	88	27 (30.7)	84	32 (38.1)	129	32 (24.8)
Arunachal Pradesh	-	-	-	-	-	-	-	-	-	-
Assam	-	-	-	-	-	-	-	-	-	-
Bihar	3	1 (33.3)	-	-	-	-	2	2 (100)	-	-
Delhi	12	4 (33.3)	3	1 (33.3)	4	1 (25.0)	10	5 (50.0)	14	4 (28.0)
Goa	-	-	-	-	2	0 (0)	-	-	-	-
Gujarat	-	-	3	3 (100)	5	3 (60.0)	6	3 (50.0)	28	7 (25.0)
Haryana	149	35 (23.5)	186	44 (23.6)	139	48 (34.5)	129	35 (27.2)	166	23 (13.8)
Jammu & Kashmir	79	37 (46.8)	-	-	3	2 (66.7)	-	-	2	2 (100.0)
Karnataka	5	0(0)	13	6 (46.1)	82	41 (50.0)	45	22 (48.9)	103	35 (34.0)
Kerala	-	-	2	0 (0)	-	-	-	-	-	-
Madhya Pradesh	19	7 (36.8)	6	4 (66.6)	9	7 (77.8)	5	4 (80.0)	6	3 (50.0)
Maharashtra	36	1 (30.5)	35	8 (22.8)	52	20 (38.5)	61	34 (55.7)	41	12 (29.3)
Orissa	1	0(0)	-	-	-	-	-	-	-	-
Pondicherry	3	1 (33.3)	-	-	-	-	-	-	-	-
Punjab	277	37 (13.4)	214	77 (36.0)	159	55 (34.6)	138	43 (31.2)	127	43 (33.9)
Rajasthan	36	10 (27.8)	44	26 (59.1)	30	15 (50.0)	74	33 (44.6)	100	56 (56.0)
Tamil Nadu	6	0 (0)	9	4 (44.4)	12	5 (41.7)	8	4 (50.0)	6	9 (0)
Uttar Pradesh	98	17 (17.3)	162	38 (23.4)	109	49 (35.3)	76	22 (29.0)	91	40 (43.9)
West Bengal	-	-	-	-	-	-	-	-	-	-
Miscellaneous	1	0 (0)	-	-	-	-	-	-	-	-
Grand Total	**846**	**186 (22.1)**	**825**	**275 (33.3)**	**694**	**273 (39.3)**	**638**	**239 (37.5)**	**813**	**257 (31.6)**

( ) Percent substandard samples

ANNEXURE-VII

LIST OF PESTICIDES WHICH HAVE BEEN BANNED/SEVERELY RESTRICTED IN SOME COUNTRIES OF THE WORLD BUT ARE STILL BEING USED IN INDIA

Sl. No.	Name of the Product
1	Alachlor
2	*Aluminium Phosphide
3	Benomyl
4	Captan
5	Crbaryl
6	Carbofuron
7	**Carbosulfan
8	Dicofol
9	*DDT
10	Dimethoate
11	Diuron
12	Endosulfan
13	Fenarimol
14	**Fenpropathrin
15	*Lindane
16	**Linuron
17	Malathion
18	Methomyl
19	*Methoxy Ethyl Mercury Chloride
20	*Methyl Parathion
21	Monocrotophos
22	Oxyfluorfen
23	Paraquat dichloride
24	*Phorate
25	Phosphamidon
26	Pretilachlor
27	*Sodium Cyanide
28	Triazophos
29	Tridemorph
30	Thiomethon
31	*Thiram
32	Zinc Phosphide
33	Ziram

* ***Pesticides reviewed and restricted for use in India***

** ***Pesticides not reviewed so far.***

N.B. All other pesticides have been reviewed by one or other Expert Committees

ANNEXURE-VIII

MINUTES

SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS
A SUB-COMMITTEE OF STANDING COMMITTEE ON PETROLEUM & CHEMICALS (2001)

FIRST SITTING

10-07-2001

The Sub-Committee sat from 1100 hrs. to 1130 hrs.

PRESENT

Shri Ram Nath Kovind - Convenor

MEMBERS

LOK SABHA

2. Shri Shriprakash Jaiswal
3. Shri Ashok Pradhan

RAJYA SABHA

4. Shri Moochand Meena
5. Shri Gaya Singh

SECRETAIRAT

1. Shri Ram Autar Ram - Joint Secretary
2. Shri Brahm Dutt - Deputy Secretary
3. Shri J.N. Oberoi - Under Secretary

2. At the outset, Hon'ble Convenor welcomed the Members of the Sub-Committee on Chemicals and Petrochemicals. Thereafter, the Sub-Committee took up the discussion on the List of Points for calling Preliminary Material from the Department of Chemicals & Petrochemicals in connection with the examination of 'Production and Availability of Pesticides' in the country. Hon'ble Convenor requested the Members to give their suggestions on the subject. The Members observed that the questionnaire prepared by the Secretariat was quite exhaustive and comprehensive covering all the aspects of the subject. However, Hon'ble Convenor observed that Members who wished to contribute more to the questionnaire may do so later in writing by 11th July, 2001.

3. At the end, Hon'ble Convenor thanked the Members for attending the sitting of the Sub-Committee.

The Sub-Committee then adjourned.

ANNEXURE-IX

MINUTES

SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS
(A SUB-COMMITTEE OF THE STANDING COMMITTEE ON PETROLEUM & CHEMICALS)
(2001)

FOURTH SITTING
(06.11.2001)

The Committee sat from 1100 hrs. to 1120 hrs. again from 1200 hrs. to 1300 hrs.

Present

Shri Ram Nath Kovind - Convenor

Members
Rajya Sabha

1. Shri Anil Kumar
2. Shri Daya Nand Sahay
3. Shri Moolchand Meena
4. Shri Gaya Singh

Secretariat

1. Shri Brahm Dutt - Deputy Secretary
2. Shri J.N. Oberoi - Under Secretary

Department of Chemicals & Petrochemicals

1. Shri H.C. Gupta - Joint Secretary
2. Shri Sanjeev Saran - Director, Deptt. of C&PC
3. Shri P.S. Singh - Under Secretary, Deptt. of C&PC

Institute of Pesticide Formulation Technology (IPFT)

1. Dr. D. Sen Gupta - Director

The sitting of the Sub-Committee on Chemicals & Petrochemicals was scheduled to be held at Institute of Pesticide Formulation Technology, Gurgaon (Haryana). For this purpose, Members assembled at Parliament House Annexe for preliminary discussion before proceeding for IPFT, Gurgaon. At the outset, the Convenor welcomed Shri Daya Nand Sahay, the newly nominated Member of the Sub-Committee. After that, he described the purpose of the sitting of the Sub-Committee scheduled to be held at IPFT, Gurgaon in connection with the examination of the subject 'Production and Availability of Pesticides'. After a short preliminary discussion the Sub-Committee proceeded for IPFT, Gurgaon.

At IPFT, the Convenor initiated the discussion with opening remarks explaining the importance of the pesticides, their proper uses and need of eco-friendly pesticides. Joint Secretary in the Department of Chemicals & Petrochemicals agreed with the observations of Hon'ble Convenor. Director, IPFT made a brief presentation regarding importance of pesticides and role of IPFT in development of formulations. The main issues which were discussed in detail included the status of self-sufficiency in pesticide production, continuous reduction in number of operating pesticide units, nature of coordination between various Ministries in production, registration and regulation and availability of pesticides, patenting to products developed by IPFT, training to farmers to educate them about proper use of pesticides etc. This was followed by the live demonstration of the significance of various types of pesticides and the procedure being followed by IPFT for development of pesticide formulations.

The Committee then adjourned

MINUTES

SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS

A SUB-COMMITTEE OF THE
STANDING COMMITTEE ON PETROLEUM & CHEMICALS
(2002)

FIRST SITTING

(12.02.2002)

The Committee sat from 1500 hrs. to 1600 hrs.

PRESENT

Dr. Girija Vyas - Convenor

Members
Lok Sabha

2. Shri C. Kuppusami
3. Shri Ramjivan Singh
4. Shri Ram Lakhan Singh

Rajya Sabha

5. Shri Bangaru Laxman
6. Shri Gaya Singh

Secretariat

1. Shri P.K. Grover - *Director*
2. Shri J.N. Oberoi - *Under Secretary*

Representatives of Deptt. of Chemicals & Petrochemicals and related Organisations

1. Shri H.C. Gupta - *Joint Secretary*
2. Shri Sanjiv Saran - *Director*
3. Shri P.N. Maji - *Joint Industrial Advisor*
4. Dr. S.P. Dhua - *Regional Coordinator - RENPAP*
5. Dr. D. Sengupta - *Director - IPFT*

Representative of Deptt. of Bio-Technology

1. Dr. Seema Wahab - Director

Representatives of Ministry of Environment & Forests

1. Dr. Saroj - *Director*
2. Dr. M. Sengupta - *Adviser*

Representative of Deptt. of Agriculture & Cooperation

1. Dr. R.B.L. Bhaskar - *Joint Director*

At the outset, Hon'ble Convenor welcomed the Members of Sub-Committee and representatives of Departments of Chemicals & Petrochemicals, Agriculture and Cooperation, Biotechnology and Environment. This was followed by a formal introduction of all the Members and representatives of various Departments.

2. In the beginning, Department of Chemicals & Petrochemicals made an audio-visual presentation dealing with the al the aspects relating to Pesticides. This included the importance of pesticides, their types, demand assessment and consumption pattern, import and export. The other issues, which were elaborated included the status of research and development on pesticides, environmental aspects of pesticides, development of bio-pesticides, problems of spurious pesticides and future trend of pesticide sector, likely impact of the patent regime on pesticides sector and interaction between various departments involved in production and availability of pesticides.

3. The Sub-Committee observed that the use of pesticides has reduced during last 10 years and wanted to know about the future trend. The Department of Chemicals & Petrochemicals informed that the main factors responsible for this trend includes moving away from the chemical pesticides and going in for more benign products like bio-pesticides and botanical pesticides and also the development of genetically engineered crops. While going into the matter of spurious pesticides, the Sub-Committee wanted to know about the steps being taken to prevent the supply of such pesticides and also desired a detailed information from the Department of Agriculture about such pesticides analysed in various laboratories.

4. The verbatim record of the proceedings of the sitting has been kept.

The Sub-Committee then adjourned.

MINUTES

SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS

A SUB-COMMITTEE OF THE
STANDING COMMITTEE ON PETROLEUM & CHEMICALS
(2002)
SECOND SITTING
(04.07.2002)

The Committee sat from 1500 hrs. to 1630 hrs.

PRESENT

Dr. Girija Vyas - Convenor

Members

Lok Sabha

2. Shri Shriprakash Jaiswal
3. Shri Ashok N. Mohol
4. Dr. V. Saroja
5. Dr. Ram Lakhan Singh

Rajya Sabha

6. Shri Ram Nath Kovind
7. Shri Mool Chand Meena
8. Shri Gaya Singh

Secretariat

1. Shri J.N. Oberoi - *Under Secretary*
2. Shri R.R. Rai - Assistant Director

Representatives of Department of Chemicals & Petrochemicals

1. Shri Vinay Kohli - Secretary
2. Shri H.C. Gupta - Joint Secretary
3. Dr. D. Sengupta - Director, IPFT
4. Dr. S.P. Dhua - Regional Coordinator, RENPAP

Representatives of Ministry of Agriculture and Department of Bio-Technology

1. Dr. K.K. Sharma - IARI
2. Dr. O.P. Dubey - ADG (PP), ICAR
3. Dr. Seema Wahab - Director (Deptt. of Bio-Technology)

At the outset, Hon'ble Convenor welcomed the Members and officers of Department of Chemicals and Petrochemicals, Ministry of Agriculture and Department of Bio-technology.

2. The Committee took oral evidence of the representatives of Department of Chemicals and Petrochemicals on the subject of 'Production and Availability of Pesticides' in continuation of the earlier presentation made by the Department on the subject.

3. During the course of evidence the main issues which came up for discussion included the consumption pattern of pesticides, quality control measures, availability of spurious pesticides in the market, status of testing laboratories, regulatory mechanism for pesticides industry, provisions of Insecticides Act, 1968 and scope of amendments, problem of pesticides residues, Research and Development in Pesticides Sector, use of bio-pesticides and implementation of integrated Pest Management Technology. In addition to this, the other relevant issues which appeared for detailed discussion included the impact of pesticides on environment, revival of Hindustan Insecticides Limited, issue of coordination between Department of Chemicals and Petrochemicals, Ministry of Agriculture, State Governments and others in the matters relating to pesticides etc.

4. A verbatim record of the proceedings has been kept.

The Sub-Committee then adjourned.

MINUTES

SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS

A SUB-COMMITTEE OF THE
STANDING COMMITTEE ON PETROLEUM & CHEMICALS
(2002)

FIFTH SITTING

(22.10.2002)

The Committee sat from 1200 hrs. to 1300 hrs.

PRESENT

Sh. Yadlapati Venkat Rao - In the Chair

Members

Lok Sabha

2. Shri P.D. Elangovan
3. Dr. Ram Lakhan Singh

Secretariat

1. Shri P.K. Grover - *Director*
2. Shri J.N. Oberoi - *Under Secretary*
3. Shri R.R. Rai - *Assistant Director*

Representatives of various Pesticides Manufacturer's Associations

(1) Pesticides Association of India

1. Sh. Rajju Shroff - Chairman
2. Sh. Rajiv Dubey - Vice-Chairman
3. Sh. R.G. Agarwal - Vice-Chairman
4. Dr. M.S. Mithyantha

(2) Indian Crop Protection Association

1. Sh. V. Sagar Kaushik - Vice-Chairman
2. Dr. S.P. Vishnoi - Resident Director

(3) Pesticides Manufacturers and Formulators Association of India

Shri Raj Kumar Singh - Regional Executive Director

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In the absence of Hon'ble Convenor of the Sub-Committee on Chemicals and Petrochemicals, Members chose Shri Yadlapati Venkat Rao to act as Convenor in terms of **Rule 258 (3)** of *Rules of Procedure and Conduct of Business in Lok Sabha.*

2. At the outset, Hon'ble Convenor welcomed the representatives of Pesticides Manufacturer's Associations and described the purpose of the sitting of the Sub-Committee. After the formal introduction of the representatives of Pesticides Association of India, Indian Crop Protection Association, Pesticides Manufacturers and Formulators Association of India, the Sub-Committee took their evidence and discussed the various issues relating to production and availability of pesticides. The main issues which came up for discussion included the production status of indigenous pesticides, the problem of spurious pesticides and measures being taken by the Government to curb them, education to farmers regarding use of pesticides and their participation in educational programmes organised by the State Government and the pesticides industry, the problems of pesticides industry, constraints in amendment of Insecticides Act 1968. The other issues which came up for discussion included the performance of integrated Pest Management Programme and role of State Government Inspectors in controlling the availability of spurious pesticides in the market and use of modern technology in production of pesticides and import of pesticides.

3. The verbatim record of the proceedings has been kept.

The Sub-Committee then adjourned.

MINUTES

SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS

A SUB-COMMITTEE OF THE
STANDING COMMITTEE ON PETROLEUM & CHEMICALS
(2002)

SIXTH SITTING
(21.11.2002)

The Committee sat from 1500 hrs. to 1630 hrs.

PRESENT

Dr. Girija Vyas - Convenor

Members

Lok Sabha

2. Shri Shriprakash Jaiswal
3. Ashok N. Mohol
4. Dr. V. Saroja
5. Dr. Ram Lakhan Singh

Rajya Sabha

6. Shri Yadlapati Venkat Rao

Secretariat

1.	Shri K.V. Rao	-	*Joint Secretary*
2.	Shri P.K. Grover	-	*Director*
3.	Shri R.K. Saxena	-	*Under Secretary*
2.	Shri R.R. Rai	-	*Assistant Director*

Representatives of Ministry of Agriculture (Deptt. of Agriculture & Cooperation)

1.	Shri J. N.L. Srivastava	-	Secretary (A&C)
2.	Shri B.S. Minhas	-	Additional Secretary (M)
3.	Dr. C.R. Hazra	-	Agriculture Commissioner
4.	Shri Prem Narain	-	Joint Secretary (PP)
5.	Dr. P.S. Chandurkar	-	Plant Protection Adviser & Director (CIL)
6.	Shri S.S. Prasad	-	Director (PP) and Secretary (CIB & RC)
7.	Dr. A.D. Pawar	-	Director (IPM)
8.	Dr. D. Kanungo	-	Consultant
9.	Dr. R.B.L. Bhaskar	-	Joint Director (Bio)

At the outset, Hon'ble Convenor welcomed the Members of the Sub-Committee and described the objective of the sitting. Then, after a formal introduction the Sub-Committee took oral evidence of the representatives of Ministry of Agriculture, Department of Agriculture and Cooperation. The main issue which came up for discussion was amendment of Pesticides Act. This included the Registration Procedure, proposed penal actions against manufacturers of spurious pesticides, licencing and qualification for selling pesticides, role of agriculture officers and cooperatives in distribution of pesticides, monitoring of sale of pesticides etc. Other issues which came up for discussion included the consumption pattern of pesticides, testing facilities, use of services of Agriculture graduates in improvement of agriculture, Integrated Pest Management Programme and future of Pesticides Industry in Product-Patent regime after 2005 etc.

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3. ** ** ** ** ** ** ** ** ** ** **
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4. A verbatim record of the proceedings has been kept.

The Sub-Committee then adjourned.

***** Not related to this Report***

MINUTES

SUB-COMMITTEE ON CHEMICALS & PETROCHEMICALS

A SUB-COMMITTEE OF THE
STANDING COMMITTEE ON PETROLEUM & CHEMICALS
(2002)

SEVENTH SITTING

(19.12.2002)

The Committee sat from 0930 hrs. to 1000 hrs.

PRESENT

Dr. Girija Vyas - Convenor

Members

Lok Sabha

2. Shri P.D. Elangovan
3. Shri P. Mohan
4. Shri Mohan Rawale
5. Shri Ramjiwan Singh

Secretariat

1.	Shri P.K. Grover	-	Director
2.	Shri R.K. Saxena	-	Under Secretary
3.	Shri Ram Raj Rai	-	Assistant Director

At the outset, Convenor, Sub-Committee on Chemicals & Petrochemicals welcomed the Members to the sitting of the Sub-Committee and explained the purpose of the day's meeting.

2. Thereafter, the Sub-Committee considered and adopted the Draft Report on 'Production and Availability of Pesticides' without any amendment.

3. The Sub-Committee authorized the Convenor to finalise the Report and submit it to the Chairman for consideration by the Standing Committee on Petroleum & Chemicals.

The Sub-Committee then adjourned.

ANNEXURE-XV

MINUTES

STANDING COMMITTEE ON PETROLEUM & CHEMICALS
(2002)

THIRTEENTH SITTING
(19.12.2002)

The Committee sat from 1030 hrs. to 1100 hrs.

Present

Shri Mulayam Singh Yadav - Chairman

Members

Lok Sabha

2. Shri Ashok Argal
3. Dr. Chellamella Suguna Kumari
4. Shri P.D. Elangovan
5. Shri Dilipkumar Mansukhlal Gandhi
6. Smt. Sheela Gautam
7. Shri P. Mohan
8. Dr. Debendra Pradhan
9. Shri Mohan Rawale
10. Shri Shyama Charan Shukla
11. Dr. Chhatrapal Singh
12. Shri Ramjiwan Singh
13. Dr. Girija Vyas

Rajya Sabha

14. Shri Balkavi Bairagi
15. Shri Rajiv Ranjan Singh 'Lalan'
16. Shri Dipankar Mukherjee

Secretariat

1.	Shri P.K. Grover	-	Director
2.	Shri R.K. Saxena	-	Under Secretary
3.	Shri Ram Raj Rai	-	Assistant Director

2. At the outset, Hon'ble Chairman welcomed the Members to the sitting and explained the purpose of the day's meeting.

3. Thereafter, he invited the Members to give their suggestions, if any, on the following draft Reports being considered for adoption:-

(i) ** ** ** ** ** ** ** ** ** ** **
** ** ** ** ** ** ** ** ** ** **

(ii) ** ** ** ** ** ** ** ** ** ** **
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(iii) ** ** ** ** ** ** ** ** ** ** **
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(iv) ** ** ** ** ** ** ** ** ** ** **
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(v) Thirty-Seventh Report of the Committee on 'Production and Availability of Pesticides'; and

(vi) ** ** ** ** ** ** ** ** ** ** **
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4. ** ** ** ** ** ** ** ** ** ** **
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5. The Committee, thereafter, authorised the Chairman to finalise the Reports after factual verification from the concerned Ministries/Departments and present them to the Parliament.

6. The Committee placed on record their appreciation of the work done by all the Sub-Committees of the Standing Committee on Petroleum & Chemicals.

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

The Committee then adjourned

***** Matter not related to this Report***