

COMMITTEE ON PUBLIC UNDERTAKINGS

(THIRD LOK SABHA)

SECOND REPORT

HINDUSTAN INSECTICIDES LTD., NEW DELHI

(MINISTRY OF PETROLEUM & CHEMICALS)



2.4053/6
8-41-

**LOK SABHA SECRETARIAT
NEW DELHI**

April, 1965/Chaitra, 1887 (Saka)

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SECOND REPORT OF THE
 COMMITTEE ON PUBLIC UNDERTAKINGS
 ON
 HINDUSTAN INSECTICIDES LTD., NEW DELHI.

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COMMITTEE ON PUBLIC UNDERTAKINGS

(THIRD LOK SABHA)

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SECRETARIAT

Shri N. N. Mallya—*Joint Secretary.*

Shri A. L. Rai—*Deputy Secretary.*

Shri H. G. Paranjpe—*Under Secretary.*

INTRODUCTION

1. I, the Chairman, Committee on Public Undertakings, having been authorised by the Committee to submit the Report on their behalf, present this Second Report on the Hindustan Insecticides Ltd., New Delhi.

2. This Report is based on the examination of the working of Hindustan Insecticides Ltd. up to the year ending 31st March, 1964. The Committee took the evidence of the representatives of the Ministry of Petroleum and Chemicals and the Hindustan Insecticides Ltd. on the 23rd January, 1965.

3. The Report was adopted by the Committee on the 24th March, 1965.

4. The Committee wish to express their thanks to the officers of the Ministry of Petroleum and Chemicals and the Hindustan Insecticides Ltd. for placing before them the material and information that they wanted in connection with their examination. They also wish to express their thanks to the non-official organisations| individuals who, on request from the Committee, furnished their views on the working of the Hindustan Insecticides Ltd.

PANAMPILLI GOVINDA MENON,
Chairman,
Committee on Public Undertakings.

NEW DELHI;

April 5, 1965.

Chaitra 15, 1887 (S).

I

HISTORICAL BACKGROUND

As Malaria was one of India's primary health problems the Union Ministry of Health decided in 1950 to launch a country-wide Malaria Control Programme. One of the obstacles in the way of rapid expansion of this programme then was the difficulty in securing adequate quantities of insecticides, as they had to be imported mostly from the U.S.A. though as gifts from various international agencies. Genesis.

2. The necessity was, therefore, felt for starting indigenous production of these insecticides. The country's demand was at that time estimated at about 5000 tons per annum, out of which about 2000 tons were expected from the private sector in the shape of Benzene Hexachloride etc. Since DDT is the principal insecticide used in the Malaria eradication work, it was decided to take up manufacture of the remaining 3000 tons in the form of DDT in the public sector.

3. An agreement was entered into in 1952 with the UNICEF and the World Health Organisation for setting up of a factory for producing 700 tons of technical* DDT per annum. Under this agreement UNICEF were to provide the plant and equipment at a cost of \$ 2,50,000, and the W.H.O. (UNTAA) technical assistance to the extent of \$ 1,00,000. The Government of India undertook to provide the land, buildings, services and carry out the installation of plant and machinery at a cost of Rs. 35 lakhs. The agreement provided that during its currency the entire production of the factory should be made available for the Malaria Eradication Programme on no-profit no-loss basis. Setting up of Delhi Factory.

4. A six-year agreement was concluded on the 11th April, 1953 with D.C.M. Chemical Works for the supply of some of the main raw materials (i.e. alcohol, sulphuric acid, oleum, chlorine) and steam, water and power required for the factory. Initial operation and trial runs of the plant took place in January, 1955 and production started in March, 1955. Agreement with D.C.M. Chemical Works.

5. Till the 31st March, 1954, the DDT Project was administered departmentally by the Government of India. On the 1st April, 1954, the Factory was transferred to the management and control of Hindustan Insecticides Ltd., a private limited company incorporated for the purpose. The company with an authorised capital of Rs. one crore is wholly owned by the Government of India. Incorporation of Hindustan Insecticides Ltd.

*NOTE.—Technical DDT is 100 per cent pure. When mixed with inert and dispersible agents, it is called Formulated DDT.

Setting up
of Alwaye
Factory.

6. Subsequently in October, 1955, Government of India decided to set up a second DDT factory at Alwaye under the control of the HIL. The proposals for the erection of the plant were worked out by a Technical Committee consisting of the former Works Manager of Delhi Unit, a UNTAA expert and a representative of the Ministry of Commerce and Industry. The Committee scrutinized the tenders received for the supply and erection of the Plant. The offers of M/s Singmaster & Breyer, New York, and M/s Technical Enterprises Inc., New York for the supply of plant and equipment were accepted and an agreement signed on 20th October, 1956. The installation of the machinery and equipment was completed in September, 1957. The test runs made from December, 1957 proving successful, the plant was taken over by the Company in July, 1958. The plant reached its rated capacity of production in October, 1958.

II

RAW MATERIALS

A. Source of Supply

7. The principal raw materials required for the production of technical DDT are chlorine, benzene, oleum and alcohol. The raw materials required for the formulation of DDT include Microcel E, Lissapol L.S., Polyfon H. and China Clay. The present sources of supply of these raw materials to the HIL are indicated below:—

	For Delhi Unit	For Alwaye Unit
1. Chlorine	D.C.M. Chemical Works	Travancore-Cochin Chemicals Ltd.
2. Benzene	Fertiliser Corporation of India (Sindri Unit) Bhilai Steel Plant	Bhilai Steel Plant TISCO (Jamshedpur)
3. Oleum	D.C.M. Chemical Works	Fertilisers and Chemicals Travancore Ltd.
4. Alcohol	Daurala Sugar Works	East India Distillery
5. Microcel E (Imported)	I.C.I. Ltd.	I.C.I. Ltd.
6. Lissapol L.S. (Imported)	Do.	Do.
7. Polyfon H (Imported)	Voltas Ltd.	Not used at Alwaye
8. China Clay	Patel Nagar Industries, W. Bengal	Patel Nagar Industries, W. Bengal.

B. Supply of Chlorine

8. The yearly requirement of chlorine for each Unit is 2500—2800 tonnes. The Committee are informed that in High cost of chlorine at Delhi.

May, 1961, when the contract with D.C.M. Chemicals was renewed a flat rate of Rs. 358.4 per tonne of chlorine was agreed to in place of the previous rate of Rs. 437 upto 110 tonnes per month and Rs. 264 for drawals beyond 110 tonnes. At present chlorine is supplied to the Delhi Unit at the rate of Rs. 378.40 per tonne.

Cost of chlorine at Always.

9. The rate at which chlorine is supplied to the Always Unit by the Travancore-Cochin Chemicals is Rs. 250 per tonne. The Committee have been informed that originally T.C.C. Ltd. had demanded Rs. 350/400 per tonne but they agreed to the present rate on the condition that the entire by-product hydrochloric acid should be sold to them at a concessional rate.

10. The Committee note that the Delhi Unit pays Rs. 128 more per tonne for the purchase of chlorine as compared to the Always Unit. Since chlorine is a major raw material used in the production of DDT, its high cost at Delhi Unit has evidently affected the cost of production of that Unit. The Committee suggest that the possibility of obtaining chlorine at a cheaper price for the Delhi Unit should be explored.

C. Supply of Chlorine through Pipeline

Installation of Pipeline.

11. Until July, 1964, chlorine for the Delhi Unit was supplied by D.C.M. Chemicals Ltd. in returnable containers for the transport of which there was a separate contract with a private party and for which HIL had to incur an expenditure of about Rs. 32,000 per annum. Since July, 1964, chlorine is being supplied through a pipeline.

12. The proposal to supply chlorine through pipeline was made as early as August, 1959. No agreement was entered into with D.C.M. Chemicals in this connection. The installation of pipeline was completed in March-April, 1961. During trial runs in January, 1962 there was a failure of the control and measuring instruments installed by D.C.M. Chemicals. These had to be imported and could be replaced only in October, 1963. The regular supply of chlorine through pipeline commenced in July, 1964.

Delay in installation.

13. The completion of the pipeline scheme thus took about five years. When the Committee discussed during evidence the reasons for this delay, the representative of the Ministry of Petroleum and Chemicals admitted that there was no adequate justification for it. He said that as there was no agreement with the D.C.M. Chemicals, they did not feel any urgency in expediting the scheme.

14. The Committee regret to note that a period of five years was taken in a minor scheme of this nature, while

all the time expenditure was being incurred in transporting chlorine in containers. No agreement was entered into with D.C.M. Chemicals nor any target date fixed for completion of the scheme. There was also considerable delay in placing order for the import of the necessary equipment. The Committee trust that similar omissions and delays will be avoided in future.

D. Raw Material Consumption

15. The following table shows the standard and actual consumption of raw materials per unit of output during the last three years: Consumption of raw materials per unit of output.

	Standard Consumption	Actual Consumption		
	(Designer)	1961-62	1962-63	1963-64
<i>Chlorine</i>				
Delhi	1.982	1.802	1.743	1.784
Alwaye	1.891	1.758	1.747	1.788
<i>Benzene</i>				
Delhi	0.848	0.818	0.811	0.817
Alwaye	0.848	0.836	0.778	0.785
<i>Alcohol</i>				
Delhi	0.371	0.361	0.363	0.363
Alwaye	0.372	0.304	0.296	0.295
<i>Oleum</i>				
Delhi	1.530	1.381	1.402	1.365
Alwaye	1.534	1.296	1.266	1.283

16. It is seen that with the exception of chlorine, the consumption of all other items was higher at Delhi than at Alwaye during 1962-63 and 1963-64. Asked about the reasons the Managing Director stated that this was due to the fact that at Delhi there were two units of 700 tonnes each whereas at Alwaye there was a single unit of 1,400 tonnes. Thus in the manufacturing process the loss of raw materials at Delhi was the double of that at Alwaye due to two handlings at every stage of process such as pumps, vessels, etc. It was stated that another reason could be that the consumption of raw materials

Reasons for higher consumption at Delhi.

like benzene and alcohol was more at Delhi during summer.

17. The factors responsible for the higher consumption of raw materials at Delhi do not appear to have been properly examined. The Committee recommend that this should be done now.

E. Raw Material Cost

Expenditure on purchase of raw materials.

18. The following table shows the expenditure incurred on the purchase of raw materials for the production of technical DDT during the last three years:—

	1961-62	1962-63	1963-64
	Rs.	Rs.	Rs.
DELHI :			
Alcohol	1,45,586	1,38,629	1,48,949
Benzene	9,39,497	9,09,563	9,22,269
Chloecine	10,27,292	10,36,440	11,16,925
Oleum	3,25,016	3,57,614	3,61,371
	<u>24,37,391</u>	<u>24,42,246</u>	<u>25,49,514</u>
Production of Tech. DDT (Tonnes)	1503	1395	1445
ALWAYE :			
Alcohol	1,57,855	1,25,467	2,66,077
Benzene	9,54,410	6,99,158	8,32,021
Chlorine	3,11,291	3,75,839	4,69,077
Oleum	1,85,242	2,45,252	2,45,420
	<u>16,08,798</u>	<u>14,45,716</u>	<u>18,12,595</u>
Production of Tech. DDT (Tonnes)	1224	1219	1166

19. The raw material cost per tonne of technical DDT works out as follows:—

Year	Delhi Unit		Alwaye Unit	
	Cost per tonne of output	Increase over previous year.	Cost per tonne of output	Increase over previous year
1961-62	1621		1314	
1962-63	1751	130	1186	(—)128
1963-64	1771	20	1555	369

(Rs.)

20. It will be noticed that as compared to the Always Unit the raw material cost per tonne of technical DDT was higher at Delhi by Rs. 307, Rs. 565 and Rs. 216 during 1961-62, 1962-63 and 1963-64 respectively. Also there has been a substantial increase in the cost at Delhi during 1962-63 and at Always during 1963-64. The Committee feel that there is need to examine why the expenditure has been rising and to take steps to reduce it.

F. Imported raw materials

21. Of the raw materials used in the formulation of DDT, Microcel E, Lissapol LS and Polyfon H are imported items. The following table shows the purchase cost of these materials, their value per tonne of output and the quantity of formulated DDT produced during the last three years:—

Increase in Expenditure..

Year	Purchase cost of imported materials (Rs. lakhs)	% rise over previous year	Value of imported materials per tonne of output (Rs.)	Production of Formulated DDT (Tonnes)	% rise over previous year
1961-62	4.30		202	3628.81	
1962-63	6.69	56%	175	4418.88	22%
1963-64	10.35	55%	177	4286.30	(—) 3%

22. Asked as to why the expenditure had increased during 1962-63 and 1963-64, it was stated during evidence that purchases had been made in bulk and sometimes the amount spent in a year represented materials meant for use during part of the next year also. The Committee had also been informed that Lissapol LS and Polyfon H were now being manufactured in the country and also efforts made to locate indigenous substitute for Microcel E.

23. It will be noticed that the value of imported material consumed per tonne of output has come down during 1962-63 and 1963-64 as compared to 1961-62, but the total expenditure incurred on the purchase of the materials has increased during those years. The Committee apprehend that these materials are being purchased in excess of requirements. They recommend that the matter should be examined with a view to rationalise the purchase procedure. Also, steps should be taken to obtain the materials or substitutes that are available from indigenous sources so that dependence on imported materials is reduced and savings in foreign exchange effected.

III PRODUCTION AND SALES

A. Production

Production of DDT since inception.

24. The quantity of technical DDT produced at the Delhi and Alwaye Units since their inception was as follows:—

Year	Delhi (Tonnes)	Alwaye (Tonnes)
(With a 700 tonne capacity)		
1955-56	286·31	..
1956-57	526·06	..
1957-58	705·12	..
(With a 1400 tonne capacity)		
1958-59	1288·61	824·09
1959-60	1466·00	1109·00
1960-61	1449·95	1371·22
1961-62	1502·55	1223·60
1962-63	1394·60	1219·00
1963-64	1444·51	1166·48

25. Both Delhi and Alwaye Units have a rated capacity of 1400 tonnes each. The output of Delhi Unit compares favourably with the rated capacity but the output of Alwaye Unit has shown a declining trend from 1961-62 onwards. This decline is stated to be mainly due to the power cut imposed during summer every year.

B. Cost of Production

World market price.

26. A comparison of the selling price of HIL DDT with the world market price indicates that the cost of production in India is high. The world market price is:—

Country	World Market Price (in terms of Rs. per kg.)
1. Belgium	2·44
2. Germany	2·46
3. France	2·51
4. U.S.A.	2·58
5. Italy	3·25
6. U.K.	3·40
7. India	4·90 (for Trade) 3·70 (for Ministry of Health)

27. HIL has stated that the higher cost of production in India is probably due to the following reasons:—

Reasons for higher cost of production in India

- (i) Cost of the plant and equipment is much less in many foreign countries, as the machinery is locally manufactured. Hence the incidence of depreciation is much less.
- (ii) Practically all DDT producing units are big factories and their overheads distributed over a large production are less.
- (iii) The manufacture is not generally based on raw materials like chlorine, benzene etc., but monochlorobenzene, chloral etc. are purchased from chemical factories where these are by-products.
- (iv) New researches have yielded improvements in processes resulting in high efficiency and economy.

28. The Committee find that the cost of production of technical DDT has increased during 1962-63 and 1963-64 in both the Units. The selling price of DDT produced by HIL is also the highest in the world market. It is of utmost importance to keep a proper check on this rise in the cost of production and the Committee suggest that the HIL should examine the working of the Units and take steps to effect economy in costs.

C. Power cut at Alwaye

29. At Alwaye every year from 1961-62, the production of DDT was reduced due to imposition of power cut, consequent on the failure of monsoon. Details of the power cut and the resulting shortfall in the quantity and value of production are shown below:—

Effect of power cut.

Year Period of power cut	Extent of power cut	Shortfall	
		Quantity (Tonnes) in terms of Form. DDT	Value (Rs. lakhs)
1961 April to May	30%	166	3.91
1962 March to May	30%	204	5.24
1963 February to June	upto 40%	661	16.00
1964 February to July	upto 50%	862	23.45

30. The effect of the power cut is two-fold in that not only Alwaye plant is affected, but the neighbouring factories of Travancore-Cochin Chemicals Ltd. and Fertilisers and Chemicals Travancore Ltd., who supply raw materials to the Alwaye plant, also reduce their supplies.

Reasons for power cut and action taken.

31. The Committee are informed that one of the reasons for the location of the DDT plant at Alwaye was that the State Government had assured that the required facilities would be made available, but they could not follow up the assurance in regard to supply of power according to requirement. It has been stated that in the initial stages there were no power cuts, but this became necessary due to the industrial expansion in that area and the consequent increase in the consumption of power. Asked about the action taken for supply of power in adequate quantity to the Alwaye plant, the Managing Director stated that he had contacted the State Government and the Electricity Board in this connection, but when the power cut continued, the matter was brought to the notice of the Central Government also.

32. *The Committee consider it unfortunate that the power cut was for about 5 months in 1963 and 6 months in 1964 which resulted in substantial shortfall in the production of DDT during those years. It is evident that the schemes for development of power have not kept pace with the increasing demand from the Alwaye region and this has affected the production of various industrial establishments including the DDT factory. The Committee hope that Government would examine the matter so as to ensure adequate power supply to this Unit in future.*

D. Rejections

Rejection percentage of formulated DDT.

33. Of the total quantity of formulated DDT produced, the rejection percentage at the end of 1960-61 was 48.29 per cent at the Delhi Unit and 52.5 per cent at the Alwaye Unit. It has, however, been stated that the matter has since been investigated by the Statistical Quality Control team of the HIL and as a result of implementation of their suggestions, this percentage came down to 0.38 per cent and 0.19 per cent at the end of 1962-63 and 1963-64, respectively. The corresponding figures for Alwaye Unit work out approximately to 13.9 per cent and 10.3 per cent at the end of 1962-63 and 1963-64 respectively.

34. *The Committee are unable to understand how until more than six years after the commencement of production at the Delhi Unit, the rejection percentage of formulated DDT was as high as 48.29 per cent. At Alwaye also this percentage was high and stood at 52.5 per cent at the end of 1960-61. All such rejected material had to be re-*

processed in the Units and this would have considerably affected the cost of production. Although there has been an improvement in both the Units after 1960-61 the Committee are concerned to note that the rejections are still 10.3 per cent at the Alwaye Unit. The Committee recommend that the cause of high percentage of rejections should be investigated and steps taken to bring it down.

E. Repairs and Maintenance

35. The number of days for which the Delhi and Alwaye plants were shut down for repairs and maintenance during the last two years is given below:—

Time taken for annual maintenance.

	1962-63	1963-64
Delhi ..	37	45
Alwaye ..	32	37

36. During evidence it was stated that the plants were not closed for a number of days continuously but that the number of days mentioned above had been computed from the total hours for which the plant was under maintenance.

37. The Committee have been informed that for a similar plant in U.S.A. a period of 15 days is assumed for annual maintenance. The main reasons for longer time taken in India for repairs and maintenance are stated to be:—

Reasons for longer time taken in India.

- (i) that the plants in U.S.A. are bigger and have stand-by capacity;
- (ii) that the life of some of the indigenous spares required for maintenance is less than the imported ones;
- (iii) that certain materials used for repairs have a short life in tropical countries.

38. The Committee note that the number of days for which the Delhi and Alwaye plants were shut down for repairs and maintenance is higher than the period of 15 days considered normal for a similar plant in U.S.A. It is also a matter of concern that the repairs and maintenance period has increased in both the Units during 1963-64 as compared to the previous year. The circumstances which necessitate shutting down of the plants for longer duration should be examined and remedial measures taken so as to ensure that the maintenance period conforms as far as possible to the normal standards.

F. Sale to Trade

Cost of production and selling price.

39. In the year 1963-64, HIL's selling price to trade was as follows:—

	Selling price to trade
	(Rs. per KG)
Technical DDT	4.90
Formulated DDT	4.70

Market price of imported DDT.

40. HIL has stated that this selling price has been arrived at on the basis of what the trade can bear. The Committee enquired during evidence how the selling price of DDT compared with the price of imported DDT. The representative of the Ministry stated that the landed cost of DDT imported from U.S.A. comes to Rs. 3.23 per kg. As against this, HIL sells its DDT to trade at Rs. 4.90 per kg. Considering the fact that the cost of production of HIL DDT was much less than the selling price, the representative of the Ministry felt that there was a case for reducing the price.

Quantity sold to trade.

41. At present 500 tonnes of technical DDT are earmarked for sale to trade every year. The following statement shows the quantity of DDT lifted by Trade during the last three years and also the balance:—

Year	Qty. of Tech. DDT earmarked for Trade	Qty. lifted by Trade including DGS&D	Balance Qty. not lifted
		(Tonnes)	
1961-62	500	254.18	245.82
1962-63	500	338.71	161.29
1963-64	500	351.48	148.52

Reasons for low sale to trade.

42. Asked as to why even the 500 tonnes of DDT earmarked for trade was not lifted in full, the representative of the Ministry stated that this was partly due to the fact that the selling price was too high and partly due to ignorance among the agriculturists as to its use and effectiveness. He added that the quantity of DDT not lifted by trade was sold to the Ministry of Health.

43. The Committee consider that the present selling price of DDT to trade needs a downward revision for two reasons. Firstly, HIL's margin over cost of production is on the high side. Secondly, the price of HIL DDT is more than the landed cost of imported DDT. It is, therefore, not surprising that HIL did not succeed in marketing even a small quantity of its product put on sale to trade. The Committee feel that the price of DDT needs to be revised.

IV

BY-PRODUCTS

A. Hydrochloric Acid

Discontinu-
ance of sale
of acid.

44. In the manufacture of DDT at the Delhi plant, two processes of chlorination are involved, namely chlorination of benzene and chlorination of alcohol. In both these processes, hydrochloric acid is a by-product. The acid from benzene section is weak, of strength 15 to 20%. The acid from chloral section is purer and of strength 30 to 33%. The 33% acid is being sold at the rate of Rs. 110 per tonne. The 15% acid was previously sold at the rate of Rs. 15 per tonne, but the sale was discontinued in October, 1962 when the absorber for the collection of this acid went out of action. Since then this acid is being neutralised and drained as there are no facilities for transporting it outside Delhi, and as local buyers are not forthcoming. During evidence the representative of the Ministry promised to seek the advice of the Director-General of Technical Development as to how it could be marketed. *The Committee hope that this would be done early. They suggest that HIL should also make efforts to find buyers for this product.*

B. Sulphuric Acid Purification Plant

Installation
of sulphuric
Acid puri-
fication
Plants.

45. In the manufacture of DDT, sulphuric acid is recovered as an impure and waste acid. Till recently, this acid from both Delhi and Alwaye Units was being neutralised and drained. At the same time some quantity of monochlorobenzene (M.C.B.) was being lost in the process as it escaped with the waste acid. A proposal was made to set up a plant for the recovery of the M.C.B. and purification of the waste acid. An offer of M/s. Technical Enterprises, New York for the supply of such a plant was accepted in May, 1960. The imported items of the plant were received in October, 1961. Certain breakages and losses were, however, noticed in the consignment and the erection work had to wait until the replacements were received in August, 1963. The commissioning of the plants in the two units was completed in November, 1963. The plants have not been finally taken over because there was a fall in the yield at Delhi and a high carbon content in the purified acid at Alwaye.

Savings
from opera-
tion of
plants.

46. The Committee find that the annual net saving from the operation of the plants at both the Units could be of the order of Rs. 8.76 lakhs (Rs. 1,200 per day from each plant). The commissioning of the plants at both the Units had been

delayed by more than 1½ years on account of the time taken in importing replacements for the breakages that occurred in the equipment shipped from U.S.A. originally.

As regards the loss in breakage, the Committee were informed that the extent of the damage in respect of the plant for Delhi was as high as 20% and the cost of replacement was approximately Rs. 48,000 out of a total of Rs. 2,16,000. The damages for the plant at Alwaye were not significant. During evidence, the representative of the Ministry observed that it was unfortunate that the damage was high. This he ascribed to faulty packing. As the equipment was insured, the loss was made good, but delay occurred because the insurers had to verify it.

Breakage in imported equipment.

47. *The Committee regret to note that after the breakages in the equipment for the Sulphuric Acid Purification Plant were noticed, there was a delay of more than 1½ years in importing the replacements. The HIL was thus deprived of substantial savings that could otherwise have been effected from the sale of the purified acid.*

48. As regards the quality of the purified acid produced at the Alwaye plant, it was stated that some quantity of the acid had been given to the Fertilisers and Chemicals Travancore Ltd. for experimental use. It was added that the quality of the purified acid was according to the specifications laid down by the suppliers of the plant, but there was some resistance to accept it because of its colour and smell.

Quality of purified acid.

49. *It is seen that although the purification plant at Alwaye was commissioned in November, 1963, the purified acid has not been accepted by the buyer so far because of its smell and colour. The Committee suggest that the matter may be got examined by technical experts so as to be able to produce the acid which would be acceptable to the buyers.*

C. Chloral Hydrate Plant

50. Chloral hydrate is used as a sedative and hypnotic in medical and veterinary hospitals. A Committee set up by Government had, in 1959, recommended the manufacture of this product at the DDT factories. A licence for the manufacture of 96 tonnes per annum of chloral hydrate was issued to HIL in August, 1960. A process which had potential for commercial exploitation was evolved towards the end of 1962. However, the decision to put up the plant could not be taken for it was felt that reasonable market for this product did not exist. Keeping this in view, it was decided to manufacture the product on a small scale. A plant with a capacity of one tonne per month was accord-

Installation and subsequent closure of plant.

ingly installed in the Delhi Unit in September, 1963. The production from the plant till July, 1964, had been 3.72 tonnes. Out of this, 1.13 tonnes had been sold out and the sale value was Rs. 16,761/-. The plant was then shut down and remains so because the product did not have a big market and even the remaining stock had not been sold out. During evidence it was stated that attempts were being made to explore the market for the product and also the possibility of exporting it.

51. *The Committee regret to note that although the process for manufacture of chloral hydrate was evolved towards the end of 1962, the market survey for the product had not been completed even upto early 1965 and the plant remains closed for want of a market. The Committee hope that with the market survey and export possibilities it will be possible to produce according to the full capacity of the plant and sell the entire output.*

EXPANSION PROGRAMMES

A. Production of DDT

52. The Delhi Unit of HIL was set up in the First Five Year Plan period and it started production in March, 1955, with a capacity of 700 tonnes of technical DDT. The Second Plan envisaged a target of 2,800 tonnes of DDT. This target was reached towards the end of 1958 with the expansion of Delhi Unit to 1,400 tonne capacity and the commencement of production at the Alwaye Unit with a capacity of 1,400 tonnes. Plan provisions.

53. The Third Plan made no provision for the expansion of DDT production. Asked about the reasons the HIL has stated that no provision in the Third Plan was initially made possibly because the expansion of the Delhi Unit and the commencement of the Alwaye Unit came in the later years of the Second Plan period. Also the exact position with reference to the requirements of DDT after the completion of the NMEP programme was not known. However, subsequently a proposal for the expansion of DDT production by 1,400 tonnes per annum at Delhi for inclusion in the Third Plan has been submitted by the HIL and is under consideration of the Government. The project is estimated to cost Rs. 65 lakhs consisting of Rs. 50 lakhs for plant and machinery, and Rs. 15 lakhs for building. The foreign exchange component will be of the order of Rs. 25 lakhs.

54. When the Committee enquired during evidence the reasons for the delay in taking a decision for the expansion of DDT production, the representative of the Ministry stated that this was mainly due to non-availability of foreign exchange. Delay in expansion programme.

55. It will be noticed from the above that the annual production capacity of technical DDT reached 2,800 tonnes in 1958 and there has been no expansion since then.

56. At present the DDT requirements of the National Malaria Eradication Programme are met partly by HIL and partly by imports, as would be seen from the following figures of DDT distributed by NMEP to the various Imports of DDT for NMEP.

States during 1963-64:—

DDT 75% (formulated)	9,200 long tons	Received on loan basis under USAID Progra- gramme.
DDT 50% (formulated)	4,000 metric tons	Supplied by HIL
DDT (technical)	300 " "	-do-

57. The Committee find that formerly DDT was imported by the Ministry of Health as grant-in-aid under the USAID programme. During 1962-63, the USAID informed the Government of India that they would not be able to give the material for 1963-64 as grant-in-aid. Since 1963-64, therefore, DDT is being imported under the Non-Project Loans from USA. These imports are exclusively for malaria eradication programme.

58. It is seen that as early as 1962-63, Government had become aware that DDT would be available from the following year only on loan basis and would have to be paid for in foreign exchange. During the year 1963-64, 9200 long tons DDT 75 per cent were imported from USA under Development Loan Fund for the NMEP at a cost of about Rs. 2.20 crores. As shown in para 53 above, the setting up of a 1,400 tonne DDT plant (technical, i.e. 100 per cent) would have cost only Rs. 65 lakhs inclusive of a foreign exchange component of Rs. 25 lakhs. It is strange that the expansion programme of HIL is being held up for the last few years due to non-availability of foreign exchange, while scarce foreign exchange resources are being utilised for import of the product. The Committee feel that this is a clear case of bad policy in the matter of allocation and management of foreign exchange resources. They consider that a decision to expand the indigenous capacity could have been taken earlier, and in any case by 1962-63. The Committee trust that this would be done without further delay.

59. The country's estimated requirement and production of DDT at the end of the Fourth Plan period is as follows:—

Require-
ments at
the end of
the 4th
Plan.

Year	Country's estimated requirement of DDT (technical)
1970-71 (end of 4th Plan)	8,000 tonnes (1,500 tonnes for Malaria eradica- tion, 3,100 tonnes for other public health purposes and 3,400 tonnes for plant protection.)

60. The gap between the existing production capacity (2,800 tonnes) and the country's requirement by the end of the Fourth Plan is thus of the order of 5,200 tonnes of DDT.

61. The Committee discussed during evidence whether it was intended to raise the present capacity to meet the country's requirement by the end of the Fourth Plan, which was estimated at 8,000 tonnes. The Committee have been informed that apart from the proposal to increase the capacity of Delhi Unit by 1,400 tonnes, there are no other concrete proposals. The present position seems to be that the manufacture of various pesticides would form an integral part of the petro-chemical field that was developing in the country. It is expected that with the use of the by-products available from the petro-chemical plants, the prices of insecticides and pesticides would be much lower. When the Committee asked whether the present expansion programme of the HIL was likely to be dropped in view of the setting up of petro-chemical plants, the representative of the Ministry stated that this point would have to be gone into by the technical experts. The expansion programme of HIL, if allowed now, would take two to three years and the petro-chemical complex might take about the same time. The experts might, therefore, advise that the expansion of the HIL's units would not be economical from the point of view of cost of production.

62. *It is clear from the foregoing paragraphs that no final decision has been taken as regards the location of DDT plants in future, although the thinking of the Government is that these would be located near the proposed petro-chemical plants. As valuable foreign exchange is being lost in the import of DDT, the Committee feel that the manufacture of insecticides based on the by-products from the petro-chemical plants should receive urgent attention. They suggest that suitable steps for setting up of the DDT plants based on by-products of petro-chemical industries should be initiated early so that the country's requirements in the Fourth Plan period could be met from indigenous capacity.*

B. Production of BHC and Other Insecticides

63. Benzene Hexachloride (BHC) is another insecticide widely used in India in agricultural and public health fields. At present there are three private sector companies which are producing about 7,000 tonnes of BHC. There is no production of BHC in the public sector. The country's requirement of BHC by 1965-66 (end of Third Plan) is estimated at 15,000 tonnes and by 1970-71 (end of Fourth Plan) at 25,000 tonnes. (The latest thinking on the subject is that the requirement may rise to 40,000 tonnes). The gap between the existing production of BHC

Expansion programme.

Requirement of BHC during Third and Fourth Plan periods.

and the Fourth Plan requirement is thus 18,000 tonnes. The present expansion programme for the production of BHC is as follows:—

Public Sector :

By Hindustan Insecticides Ltd. (at Alwaye)	3,000 tonnes
By Hindustan Organic Chemicals Ltd. (at Panvel near Bombay)	3,000 ,,
Private Sector	3,000 ,,
	9,000 ,,

64. Thus even when the above proposals are implemented, there would be need to further develop capacity to the extent of 9,000 tonnes to meet the Fourth Plan requirement. The Committee are informed that proposals for further expansion have not been finalised.

Expansion programme of HIL.

65. In the Annual Report of HIL for the year 1960-61, it had been stated that proposals were placed before the Board of Directors for the production of BHC. In March, 1963, a proposal for setting up a 3,000 tonnes BHC plant was approved but its implementation was held up for non-availability of foreign exchange. The plant is proposed to be erected at Alwaye and will cost Rs. 45 lakhs out of which the foreign exchange expenditure will be Rs. 15 lakhs.

Other insecticides.

66. A statement showing the tentative assessment of the requirement of different types of insecticides in 1965-66 and 1970-71, the indigenous capacity already under production and the capacity that is proposed to be set up is enclosed at Appendix I. The Committee enquired about the cost of foreign exchange required for importing insecticides over and above the indigenous supply. In this connection it has been stated that not all the gap between demand and indigenous capacity is being filled by imports. Approximately a sum of Rs. 2 crores is spent annually on the import of pesticides, which covers raw materials for basic production, technical material (i.e. 100 per cent) spares for the machinery for indigenous production and finished material as formulated product. Out of these, the cost of import of technical material is roughly Rs. 1.25 crores, excluding the cost of DDT or BHC.

67. *The Committee find that the pace of production of insecticides by the HIL has been slow. During the last ten years the production has been in the sphere of DDT only where it has reached a capacity of 2,800 tonnes. Benzene Hexachloride (BHC) is one of the major insecticides. Although a proposal for its production was made four years back (in 1961-62), no final decision has been taken*

so far. The Committee are of the opinion that an early decision should be taken in the matter.

As the gap between the existing indigenous production of BHC and the Fourth Plan requirement is 18,000 tonnes, the Committee further feel that it is time that a decision is taken urgently for the expansion of the present indigenous capacity to meet the country's requirements in full.

68. As regards insecticides other than DDT and BHC, the Committee note that some of these insecticides have been developed in the private sector but there is still a gap between the demand and the indigenous capacity as would be seen from Appendix I referred to earlier. As a sum of approximately Rs. 2 crores is spent annually on the import of insecticides other than DDT, greater efforts are needed to increase the indigenous capacity of these insecticides. The Committee recommend that the policy of the Government as to the types of insecticides proposed to be developed by the HIL and the targets of their production should be determined.

ORGANISATION PERSONNEL AND OTHER MATTERS

A. Board of Directors

Composition
of Board of
Directors.

69. The Company is managed by a Board of Directors who are appointed by the President of India. The composition of the present Board of Directors is given at Appendix II.

Board
Meetings.

70. The number of meetings held by the Board of Directors during the last three years was as follows:—

Year	No. of Meetings held	Place held	
1961-62	6	Delhi	4
		Alwaye	2
1962-63	5	Delhi	4
		Alwaye	1
1963-64	6	Delhi	4
		Alwaye	2

B. Appointment of Financial Controller and Secretary

71. At present the Company has a Financial Controller who also acts as Secretary.

72. It is an accepted principle of financial control that an executive decision should be examined from the financial angle before implementation. The Committee feel that the position in HIL is anomalous because the Secretary, in his executive capacity, might have to do things which the Financial Controller might object to. The Committee recommend that the post of Financial Controller and Secretary should be separated and if there is not enough work for a full-time Secretary, an Officer at an appropriate level may be appointed to discharge those functions.

C. Apprentice Training Scheme

73. The Apprentice Training Scheme of the HIL, introduced in 1956, provides for training to three types of apprentices:—

1. Grade I Apprentices:—Chemical Engineering Graduates
2. Grade II Apprentices:—Diploma Holders and Science Graduates
3. Grade III Apprentices:—Matriculates with Trade training

74. The duration of training for all the three cadres is one year. A Grade I apprentice has to enter into an agreement with the Company to serve it for a minimum of three years. Grade II and III apprentices have to execute a similar bond for one year.

75. The strength of apprentices on the roll of the Company from 1956-57 onwards was as follows: Strength of apprentices.

Year	Apprentice Grade I	Apprentice Grade II and III
1956-57	3	11
1957-58	4	16
1958-59	Nil	9
1959-60	Nil	6
1960-61	Nil	6
1961-62	Nil	10
1962-63	Nil	11
1963-64	Nil	13

76. It will be seen that since 1958-59 no chemical engineering graduate has been attracted to Grade I of the scheme. The HIL has stated that on account of considerable expansion in the chemical industry both in the private and public sectors, there is shortage of qualified chemical engineers and also the terms of appointment both in remuneration and future advancement did not compare well with those in larger undertakings. Chemical engineers were, therefore, reluctant to accept apprenticeship. The poor response to Grade I has been ascribed to the bond condition also. The Managing Director stated during evidence that it was proposed to modify the rules and advertise in a different way to attract qualified persons. Reasons for poor response to grade I of scheme

Comparative
scale of pay
in other
undertakings.

77. It is evident from the table below that the stipend and scale of pay offered by some other undertakings to chemical engineering graduates is more than those offered by HIL:

Stipend

- (i) Hindustan Insecticides Ltd. Rs. 200/- p.m.
- (ii) Fertilisers and Chemicals Travancore Ltd. Rs. 275/- p.m.
- (iii) Travancore Cochin Chemicals Ltd. Rs. 250/- p.m.

Scale of pay offered on completion of training

- (i) Hindustan Insecticides Ltd. Rs. 250—10—350—
EB—15—425
- (ii) F. A. C. T. Rs. 250—370 of Rs. 300—500
- (iii) T. C. C. Rs. 260—25—310—30—400—40—600

78. The Committee note that during the last six years no chemical engineering graduate could be attracted to join Grade I of the Apprentice Training Scheme. They feel that if there was no response from qualified persons to join the scheme, ways and means should have been evolved in the early stages to make the scheme attractive. The Committee regret to note that this was not done. Recently proposals have been made to modify the rules relating to the scheme, but these have yet to be implemented.

As and when the present expansion programmes of the HIL are sanctioned, there will be need to employ a larger number of qualified personnel. It is, therefore, necessary to build up within the organisation a nucleus of qualified and trained persons who could be entrusted with the operation of the new plants that may be set up. It may also be expected that with this expansion, the future prospects in the Company would be enhanced. The Committee suggest that the scheme should be modified in such a way as would enable the prospective candidates to draw pay which are comparable with that in other undertakings and also assure a fair chance of promotion in higher posts.

D. Health Hazards

Study of
working
environ-
ments of
Units.

79. During 1957-58 the Chief Adviser, Factories, Ministry of Labour and Employment carried out sampling and analysis of different toxic substances like chlorine, chloral, monochlorobenzene and DDT in the working environments of the Delhi Unit. Certain recommendations were made for reducing the toxic contents in certain sections. It was stated in the report of the Chief Adviser, Factories that till then no cases of occupational diseases had been reported, but close watch should be kept for possible early symptoms of poisoning.

80. At present all the workers are medically examined once in six months by HIL's Medical Officers. It is stated that the doctors had not pointed out any cumulative adverse effect on the health of workers.

81. When the Committee visited the Delhi factory in September, 1964, certain representatives of employees stated that the long term effects of the gas on their health might be harmful. They desired that some preventive measures might be explored to safeguard their health.

82. *The Committee find that no detailed study of the working environments of the Delhi or the Always Unit has been carried out since the report of the Chief Adviser, Factories was submitted in 1958. They recommend that a study should be made immediately. This would incidentally allay the doubt of the employees about the possible harmful effects of working environments on their health.*

E. Location of Head Office

83. In February, 1964, the Head Office of the Company was shifted from the Delhi Unit to Defence Colony, New Delhi. This accommodation has been rented for Rs. 1,250 per month. The staff working in the Head Office consists of 3 officers and 14 other staff, but the number is likely to be increased. One room is reserved for the visiting officers and Directors on payment of charges.

Shifting of
Head Office
to Defence
Colony.

84. Explaining the reasons for shifting of the Head Office to a separate place, it has been stated that the expansion of the Delhi Unit and the commissioning of the Always Unit necessitated employment of additional staff. As the office accommodation in the Delhi Unit was inadequate it was considered necessary to have more accommodation. The original intention was to build additional office accommodation, but keeping in view the expansion programme of the Unit and the limited space available, it was decided to rent additional accommodation and shift therein personnel not connected with the day to day administration of the Unit. When this question was discussed during evidence, the representative of the Ministry expressed the view that HIL had two Units and in order to take an objective view of things, its head office should not be in the building of one Unit. He added that the proximity of the head office led to a tendency to refer almost every case to the head office.

85. *The Committee feel that the renting of private accommodation in a relatively expensive locality not only adds to the working cost of the Company but is also open to criticism. They consider that before renting private*

premises efforts should have been made to secure accommodation from Government pool. The Committee suggest that this may be done now. The requirements of the Company are on a modest scale and it should be possible for the concerned Ministry to allot suitable accommodation.

VII
FINANCE AND ACCOUNTS

A. Profits

86. A statement which gives certain figures relating to the financial position and results of working of the Company during the years 1960-61 to 1963-64 is at Appendix III.

87. The profitability ratios as measured by the sales of the HIL during the previous four years were as follows:—

Sales	1960-61	1961-62	1962-63	1963-64
	(Rs. in lakhs)			
Delhi	59.42	70.79	89.99	89.65
Alwaye	69.71	61.06	70.57	66.02
	<u>129.13</u>	<u>131.85</u>	<u>160.56</u>	<u>155.67</u>
<i>Gross Profit after charging depreciation</i>				
Delhi	4.16	14.76	22.31	25.84
Alwaye	24.22	15.38	21.11	10.00
	<u>28.38</u>	<u>30.14</u>	<u>43.42</u>	<u>35.84</u>
<i>Ratio of Gross Profit to sales</i>	21.98%	22.86%	27.67%	23.02%

88. The profitability ratios as measured by the capital employed were as follows:—

	1960-61	1961-62	1962-63	1963-64
	(Rs. in lakhs)			
Gross Profits	28.38	30.14	43.42	35.84
Capital employed	158.11	174.25	184.84	195.56
Ratio of gross profit to Capital employed	18.6%	17.3%	23.5%%	18.2%
Residual net profit (after tax and dividend)	17.58	16.07	10.60	10.72
Ratio of net profit to capital employed	11%	9.3%	6.8%	5.5%

89. It will be seen that the percentage of net profit to capital employed has shown a declining trend after the year 1960-61. While this percentage was 11 per cent in 1960-61, it has come down to 5.5 per cent in 1963-64. This is evidently due to the fact that reserves are added every year due to the addition of net profit, but these are not employed in the business to yield more profit.

B. Inventories

Increase in inventory of spare parts.

90. The inventory of spare parts at the close of the years 1961-62 to 1963-64 was as follows:—

(Rs. in lakhs)

	1961-62	1962-63	1963-64
Delhi	8.17	9.46	9.80
Alwaye	9.55	15.71	16.06
	<u>17.72</u>	<u>25.17</u>	<u>25.86</u>

91. It will be seen that the inventory of spare parts at Alwaye Unit increased from Rs. 9.55 lakhs in 1961-62 to Rs. 15.71 lakhs in 1962-63. This increase is stated to be due to the bulk purchase of spares worth Rs. 6.5 lakhs in 1962-63. As regards stock of spare parts, it is stated that most of them are imported and due to the time lag involved in imports, a stock of two years' requirement was considered normal. On this basis a closing inventory of about Rs. 7 lakhs for each of the units is stated to be reasonable. HIL now proposes to engage the services of a technical firm for the review of inventories with a view to rationalise it.

92. *The Committee recommend that immediate action should be taken to review the inventories and bring them down to the minimum required. Also, steps should be taken to develop within the organisation a system for keeping continuous watch over inventories.*

C. Packing Materials

Expenditure on packing materials.

93. The following statement gives the expenditure incurred on packing materials during the last three years:—

Year	Delhi		Alwaye	
	Expenditure (Rs. lakhs)	Percentage to Sale	Expenditure (Rs. lakhs)	Percentage to Sale
1961—62	5.35	7.59%	2.60	4.27%
1962—63	5.29	6.08%	2.61	3.79%
1963—64	4.57	5.15%	2.60	3.98%

94. It will be seen that the percentage of packing materials consumed to sales is considerably higher at Delhi than at Alwaye. When the Committee discussed during evidence the reasons for the higher cost at Delhi, the Managing Director stated that this was mainly due to the fact that despatches from Delhi were more.

95. This explanation is not convincing. The higher percentage of cost of packing materials to sales at the Delhi Unit could only be due to the fact that the rates at which these materials are purchased for the Delhi Unit are higher. *The Committee recommend that the reasons for this higher cost should be enquired into and steps taken to reduce the same.*

D. Sundry Debts

96. The amount outstanding under the head 'Sundry Debtors' at the close of the years 1961-62, 1962-63 and 1963-64 was Rs. 23.85 lakhs, Rs. 44.12 lakhs and Rs. 75.92 lakhs respectively. The rise in the amount is stated to be due to the fact that there has been considerable delay in the payment of bills by the National Malaria Eradication Programme authorities to whom the bulk of the DDT produced by HIL is supplied. One of the reasons for the delay is stated to be that if there is a change in the selling price, Government sanction for the revised rates becomes necessary and this takes time. During evidence, it was stated that the matter had been taken up with the Ministry of Health and the position had since become easier.

Delays in realising outstanding debts.

97. The value of DDT sold during the year 1963-64 was Rs. 156.65 lakhs. Thus in terms of the total sales, the sundry debts represented about six months' turnover.

98. *It is surprising that the amounts outstanding against the National Malaria Eradication Programme authorities should be so high. Such outstandings create working capital problems. Timely action does not appear to have been taken by the HIL for realisation of these dues. The presence of the representatives of the Ministry of Health and the NMEP in the Board of Directors of HIL has not evidently been effective in expediting payment. The Committee recommend that energetic steps should be taken by the HIL to realise the outstanding dues.*

VIII

CONCLUSION

99. After an examination of the working of the Hindustan Insecticides Ltd., the Committee feel that the company has on the whole done well. But at the same time its performance must be viewed against the background that it had been functioning under a monopolistic condition has on the whole done well. But at the same time with an assured market (about 87 per cent of its product is sold to the Ministry of Health), and its prices have been fixed leaving a sufficient margin of surplus.

100. It should be the endeavour of the company to make available its products to agriculturists and public health agencies at a cheaper price. With greater efficiency and reduction in cost of production, the financial results would remain unaffected. The Committee have pointed out some of the shortcomings noticed in the working of the company in previous Chapters. The more important of these are:—

- (i) The Company has not been able to check the rise in the cost of production of DDT. (paras 26—28).
- (ii) The period taken in repairs and maintenance of the plant is on the high side. (para 38).
- (iii) The Company has not been able to recover and sell all of its by-products effectively. (paras 44—51).
- (iv) The rejections occurring in the formulation of DDT at the Always Unit are high. (para 34).

101. The Committee hope that HIL will review its performance from time to time and take effective measures to overcome the various shortcomings.

PANAMPILLI GOVINDA MENON,

NEW DELHI;

Chairman,

April 5, 1965.

Committee on Public Undertakings.

Chaitra 15, 1887 (Saka).

APPENDIX I

(Vide para 66)

Statement showing the tentative assessment of the requirement of different insecticides in 1965-66 and 1970-71, the indigenous capacity already under production and the capacity that is proposed to be set up.

Name of the item	1965-66 targetted demand	Existing capacity (i.e. capacity in existing)	Capacity under implementation	Gap between 1965-66 and capacity since licensed/ & approved	Capacity under consideration	1970-71 tentative demand as assessed by the pesticide penal	Remarks
1	2	3	4	5	6	7	8
(All figures are in tonnes)							
<i>Insecticides</i>							
A. Chlorinated Hydrocarbons							
B.H.C.	15,000	7,200	750	7,050	9,000	25,000	Hindustan Insecticides have been planning to put up a unit with 3000 tonnes capacity. Similar capacity has also been proposed by Hindustan Organics. M/s. Tata Chemicals Mithapur and M/s. Pesticide Ltd. Bombay have also applied for expansion in their capacity by 1500 tonnes each.
Lindane	150		75	75	300	800	Tata Fison's application for a capacity of 300 tonnes is under examination by the Ministry.
D.D.	6,000	2,80	Nil	3,200	1,400	8,000	M/s. Hindustan Insecticides have been planning to double the capacity of their Delhi Unit.
Endrin	900	Nil	600*	300	400*	2,500	*The entrepreneur have since applied to pur-up a bigger plant with 100 tonnes capacity.

1	2	3	4	5	6	7	8
							The project is however held up as the terms of foreign collaboration are under consideration by the Government since June, 1963.
Chlordane	150	Nil	150**	..	..	300	**The project is held up as the terms of foreign collaboration are under consideration by the Government since June, 1963.
Heptachlor	25	Nil	50**	..	..	50	
Aldrin	200	nil	nil	200	nil	600	No proposal for its manufacture so far because of low present demand.
B. Organo Phosphatics							
Parathion	500	..	700		nil	1,200	
Malation	500	190	72	238		1,000	The existing units can operate multiple shift to produce upto 600 tonnes.
Diazihon						300	
Dime-thoate					220	300	M/s. Tata Fison have been issued a letter of intent in respect of their proposal for a capacity of 220 tonnes.
Phospho-midon					636	300	M/s. Ciba of India have applied for a unit with 636 tonnes capacity.
D.D.P.V.					276	50	M/s. Ciba of India have applied for a unit with 276 tonnes capacity.
Thiodan	..					200	
C. Carbomates							
Carbaryl					360	700	M/s. Pesticides Ltd. have been issued a letter of intent in respect of their proposal for a capacity of 360 tonnes.
Fumigants							
Methylene Dichloride (for ED/CT mixture).	7,500	300	5,240	1,960	nil	9,500	M/s. Pesticides Limited (capacity 3000) they have made very little progress. M/s. Mettur Chemical

1	2	3	4	5	6	7	8
							(capacity 540) awaiting finalisation of technical terms. M/s. Excel Industry (capacity 1200). Their main plant may be ready towards the end of 1965. M/s. National Organic Industries (capacity 500) they have made very little progress.
Ethlene Dibromide	250	108	360			250	No production due to shortage of Bromine from internal source.
Calcium Cyanide	200	..	..	200	..	400	No proposal has been received for the manufacture of these chemicals so far because of low present demand.
Methyl Bromide	50			50		300	
Aluminium Phosphide	10			10	..	150	
<i>Weedicides</i>							
2:4-D:2:4:5-T; M.C.P. A. and others	1,500	50	1,500	..	..	2,500	One of the schemes M/s. Atul Products (capacity 1200) is held up as the terms of foreign collaboration are under consideration by the Government.
<i>Fungicides</i>							
Copper Oxy Chloride	2,000	2,84	..	..	***	3,200	***Production restricted due to shortage of copper. A few applications for additional capacity have been recommended for rejection as the already installed capacity is lying idle for want of copper.
Organo Mercurials	100	66	25	9	..	1,000	The existing units can operate multiple shift to produce upto 250 tons.
Thiocarbonates	500	..	2,500	..	924	1,500	M/s. Pesticides have been issued letter of intent in respect of

1	2	3	4	5	6	7	8
							their application on for 540 tonnes capacity.
Wettable Sulphur	500	..	590				M/s. Ciba India have applied for a capacity of 384 tonnes.
Colloidal Sulphur	..	500		..		..
Dusting Sulphur	4,000	..				7,500	Production in small scale sector.
<i>Rodenticides</i>							
Zinc Phosphate, Tatabin & others	750	300	50	400	..	1,000	Existing units can operate multiple shifts to produce upto 500 tonnes.
<i>Other Pesticidal Materials</i>							
Nicotine Sulphate, Acaricides, Nematocides, etc.	500			500		1,000	For production of Nicotines sulphate from Tobacco waste a small scale unit was put up at Guntur (A. P.) but it could not operate successfully. The rest of the items are newer products.

APPENDIX II

(Vide para 69)

Composition of the Board of Directors of Hindustan Insecticides Ltd.

Non-Officials

1. Maj. Gen. Himmat Singhji (*Chairman*)
2. Dr. Yudhwir Singh
3. Shri N. K. Bhat (Asst. Secretary, INTUC)
4. Shri K. P. Madhavan Nair
5. Shri Rohan Lal Chaturvedi
6. Shri K. G. Wodeyar
7. Dr. K. P. Karnath
8. Shri M. K. K. Nayar (*Managing Director, FACT*)
9. Dr. I. C. Chopra (*Incharge of Regional Research Laboratory, Jammu*)

Officials

10. Shri N. Chidambaram (*Representative of the Administrative Ministry*)
11. Shri N. Srinivasan (*Representative of Directorate General, Technical Development*).
12. Shri Gurdev Saran (*Representative of the Ministry of Finance*).
13. Dr. S. P. Ramakrishnan (*Representative of Ministry of Health*).

Managing Director

14. Shri B. B. Mathur.

APPENDIX III

(vide para 86)

Financial position and results of working

	1960-61	1961-62	1962-63	1963-64
(Rs. in lakhs)				
A. Capital Structure				
1. Authorised capital	100·00	100·00	100·00	100·00
2. Paid-up capital	97·00	97·00	97·00	97·00
3. Borrowing from government	26·95	25·33	23·14	97·00
4. Net Worth.	158·11	174·24	184·84	195·56
5. Working capital (on the basis of 5/12th of cost of production).	51·40	42·65	47·10	47·28
6. Ratio of Loans to Equity capital	1 : 3·6	1 : 3·9	1 : 4·2	1 : 5·6
B. Internal Resources				
1. Reserves & Surplus	61·11	77·24	87·84	98·56
2. Depreciation Provision	11·64	11·42	11·02	12·56
C. Liabilities				
1. Deferred	26·95	25·33	23·14	17·20
2. Current	44·91	30·11	43·72	44·69
TOTAL	71·86	55·44	66·86	61·89
D. Assets				
1. Fixed Assets	76·81	76·79	71·89	69·31
2. Current Assets	149·47	148·72	158·86	171·08
3. Intangible Assets	3·68	4·17	23·14	17·06
TOTAL	229·96	229·68	253·89	257·45
4. Percentage of fixed assets to total assets	33·40	33·43	28·31	26·92
5. Ratio of fixed assets to total capital	1 : 2·60	1 : 2·30	1 : 2·60	1 : 3·2
6. Ratio of current assets to current liabilities	3:33:1	4·94 : 1	3·63 : 1	3·83 : 1
E. Sales	129·13	131·85	160·56	155·57

	1960-61	1961-62	1962-63	1963-64
F. Inventories				
1. Value of inventories	45.44	47.73	47.30	54.76
Ratio of sales of inventories	2.83:1,	3.59:1	3.39:1,	2.84:1
G. Profitability				
1. Gross profits before depreciation and interest	41.16	42.70	55.58	49.44
2. Depreciation	11.64	11.42	11.02	12.56
3. Gross profit before tax & after interest	28.38	30.14	43.42	35.84
4. Net profit after tax & interest	17.58	16.14	16.42	16.54
5. Interest paid	1.14	1.14	1.14	1.04
6. Tax paid	10.00	14.00	27.00	19.30
7. Dividend	..	..	5.82	5.82
H. Percentages				
1. Percentage of gross profit to sales	21.98	22.86	27.67	23.02
2. Percentage of gross profit to total capital employed.	18.06	17.34	23.5	18.2
3. Percentage of net profit to total capital	11.21	9.27	8.88	8.46
4. Percentage of net profit to sales	13.61	12.24	10.23	10.62
5. Percentage of net profit to net worth	11.12	9.23	9.88	8.46
6. Percentage of profit to equity Capital	18.12	16.84	16.93	17.05

APPENDIX IV

Summary of conclusions/Recommendations

S. No.	Ref. to para No. in the Report	Summary of Conclusions/ Recommendations
1	2	3
1	10	The Committee note that the Delhi Unit pays Rs. 128 more per tonne for the purchase of chlorine as compared to the Alwaye Unit. Since chlorine is a major raw material used in the production of DDT, its high cost at Delhi Unit has evidently affected the cost of production of that Unit. The Committee suggest that the possibility of obtaining chlorine at a cheaper price for the Delhi Unit should be explored.
2	14	The Committee regret to note that a period of five years was taken in a minor scheme for providing a pipe line for supply of chlorine to the Delhi Unit while all the time expenditure was being incurred in transporting chlorine in containers. No agreement was entered into with D. C. M. Chemicals nor any target date fixed for completion of the scheme. There was also considerable delay in placing order for the import of the necessary equipment. The Committee trust that similar omissions and delays will be avoided in future.
3	17	The factors responsible for the higher consumption of raw materials at Delhi do not appear to have been properly examined. The Committee recommend that this should be done now.
4	20	As compared to the Alwaye Unit the raw material cost per tonne of technical DDT was higher at Delhi by Rs. 307, Rs. 565 and Rs. 216 during 1961-62, 1962-63 and 1963-64 respectively. Also, there has been a substantial increase in the cost at Delhi during 1962-63 and at Alwaye during 1963-64. The Committee feel that there is need to examine why the expenditure has been rising and to take steps to reduce it.

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- 5 23 The value of imported material consumed per tonne of output has come down during 1962-63 and 1963-64 as compared to 1961-62, but the total expenditure incurred on the purchase of the materials has increased during those years. The Committee apprehend that these materials are being purchased in excess of requirements. They recommend that the matter should be examined with a view to rationalise the purchase procedure. Also, steps should be taken to obtain the materials or substitutes that are available from indigenous sources so that dependence on imported materials is reduced and savings in foreign exchange effected.
- 6 28 The Committee find that the cost of production of technical DDT has increased during 1962-63 and 1963-64 in both the Units. The selling price of DDT produced by HIL is also the highest in the world market. It is of utmost importance to keep a proper check on this rise in the cost of production and the Committee suggest that the HIL should examine the working of the Units and take steps to effect economy in costs.
- 7 32 The Committee consider it unfortunate that the power cut at Alwaye was for about 5 months in 1963 and 6 months in 1964 which resulted in substantial shortfall in the production of DDT during those years. It is evident that the schemes for development of power have not kept pace with the increasing demand from the Alwaye region and this has affected the production of various industrial establishments including the DDT factory. The Committee hope that Government would examine the matter so as to ensure adequate power supply to this Unit in future.
- 8 34 The Committee are unable to understand how until more than six years after the commencement of production at the Delhi Unit, the rejection percentage of formulated DDT was as high as 48.29 per cent. At Alwaye also this percentage was high and stood at 52.5 per cent at the end of 1960-61. All such rejected material had to be reprocessed in the Unit and this would have considerably affected the cost of production. Although there has been an improvement
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in both the Units after 1960-61 the Committee are concerned to note that the rejections are still 10·3 per cent at the Alwaye Unit. The Committee recommend that the cause of high percentage of rejections should be investigated and steps taken to bring it down.

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The Committee note that the number of days for which the Delhi and Alwaye plants were shut down for repairs and maintenance is higher than the period of 15 days considered normal for a similar plant in U. S. A. It is also a matter of concern that the repairs and maintenance period has increased in both the Units during 1963-64 as compared to the previous year. The circumstances which necessitate shutting down of the plants for longer duration should be examined and remedial measures taken so as to ensure that the maintenance period conforms as far as possible to the normal standards.

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The Committee consider that the present selling price of DDT to trade needs a downward revision for two reasons. Firstly, HIL's margin over cost of production is on the high side. Secondly, the price of HIL DDT is more than the landed cost of imported DDT. It is, therefore, not surprising that HIL did not succeed in marketing even a small quantity of its product put on sale to trade. The Committee feel that the price of DDT needs to be revised.

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The Committee hope that the advice of the Director-General of Technical Development regarding the marketing of hydrochloric acid would be sought. They suggest that HIL should also make efforts to find buyers for this product.

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The Committee regret to note that after the breakages in the equipment for the Sulphuric Acid Purification Plant were noticed, there was a delay of more than 1½ years in importing the replacements. The HIL was thus deprived of substantial savings that could otherwise have been effected from the sale of the purified acid.

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Although the purification plant at Alwaye was commissioned in November, 1963, the purified acid has not been accepted by the buyer so

far because of its smell and colour. The Committee suggest that the matter may be got examined by technical experts so as to be able to produce the acid which would be acceptable to the buyers.

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The Committee regret to note that although the process for manufacture of chloral hydrate was evolved towards the end of 1962, the market survey for the product had not been completed even upto early 1965 and the plant remains closed for want of a market. The Committee hope that with the market survey and export possibilities it will be possible to produce according to the full capacity of the plant and sell the entire output.

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As early as 1962-63, Government had become aware that DDT would be available from the following year only on loan basis and would have to be paid for in foreign exchange. During the year 1963-64, 9,200 long tons DDT 75 per cent were imported from U.S.A. under Development Loan Fund for the NMEP at a cost of about Rs. 2.20 crores. The setting up of a 1,400 tonne DDT plant (technical, i.e. 100 per cent) would have cost only Rs. 65 lakhs inclusive of a foreign exchange component of Rs. 25 lakhs. It is strange that the expansion programme of HIL is being held up for the last few years due to non-availability of foreign exchange, while scarce foreign exchange resources are being utilised for the import of the product. The Committee feel that this is a clear case of bad policy in the matter of allocation and management of foreign exchange resources. They consider that a decision to expand the indigenous capacity could have been taken earlier, and in any case by 1962-63. The Committee trust that this would be done without further delay.

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No final decision has been taken as regards the location of DDT plants in future, although the thinking of the Government is that these would be located near the proposed petrochemical plants. As valuable foreign exchange is being lost in the import of DDT, the Committee feel that the manufacture of insecticides

based on the by-products from the petro-chemical plants should receive urgent attention. They suggest that suitable steps for setting up of the D.D.T. plants based on by-products of petro-chemical industries should be initiated early so that the country's requirements in the Fourth Plan period could be met from indigenous capacity.

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The Committee find that the pace of production of insecticides by the HIL has been slow. During the last ten years the production has been in the sphere of D.D.T. only where it has reached a capacity of 2,800 tonnes. Benzene Hexachloride (BHC) is one of the major insecticides. Although a proposal for its production was made four years back (in 1961-62), no final decision has been taken so far. The Committee are of the opinion that an early decision should be taken in the matter.

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As the gap between the existing indigenous production of BHC and the Fourth Plan requirement is 18,000 tonnes, the Committee further feel that it is time that a decision is taken urgently for the expansion of the present indigenous capacity to meet the country's requirements in full.

As regards insecticides other than DDT and BHC, the Committee note that some of these insecticides have been developed in the private sector but there is still a gap between the demand and the indigenous capacity. As a sum of approximately Rs. 2 crores is spent annually on the import of insecticides other than DDT, greater efforts are needed to increase the indigenous capacity of these insecticides. The Committee recommend that the policy of the Government as to the types of insecticides proposed to be developed by the HIL and the targets of their production should be determined.

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It is an accepted principle of financial control that an executive decision should be examined from the financial angle before implementation.

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The Committee feel that the position in HIL is anomalous because the Secretary, in his executive capacity, might have to do things which the Financial Controller might object to. The Committee recommend that the post of Financial Controller and Secretary should be separated and if there is not enough work for a full-time Secretary, an Officer at an appropriate level may be appointed to discharge those functions.

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The Committee note that during the last six years no chemical engineering graduate could be attracted to join Grade I of the Apprenticeship Training Scheme. They feel that if there was no response from qualified persons to join the scheme, ways and means should have been evolved in the early stages to make the scheme attractive. The Committee regret to note that this was not done.

As and when the present expansion programmes of the HIL are sanctioned, there will be need to employ a larger number of qualified personnel. It is, therefore, necessary to build up within the organisation a nucleus of qualified and trained persons who could be entrusted with the operation of the new plants that may be set up. It may also be expected that with this expansion, the future prospects in the Company would be enhanced. The Committee suggest that the scheme should be modified in such a way as would enable the prospective candidates to draw pay which are comparable with that in other undertakings and also assure a fair chance of promotion in higher posts.

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The Committee find that no detailed study of the working environments of the Delhi or the Always Unit has been carried out since the report of the Chief Adviser, Factories was submitted in 1958. They recommend that a study should be made immediately. This would incidentally allay the doubt of the employees about the possible harmful effects of working environments on their health.

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- 22 85 The Committee feel that the renting of private accommodation in a relatively expensive locality not only adds to the working cost of the Company but is also open to criticism. They consider that before renting private premises efforts should have been made to secure accommodation from Government pool. The Committee suggest that this may be done now. The requirements of the Company are on a modest scale and it should be possible for the concerned Ministry to allot suitable accommodation.
- 23 92 The Committee recommend that immediate action should be taken to review the inventories and bring them down to the minimum required. Also, steps should be taken to develop within the organisation a system for keeping continuous watch over inventories.
- 24 95 The Committee recommend that the reasons for the higher cost of packing material at Delhi should be enquired into and steps taken to reduce-the same.
- 25 98 It is surprising that the amounts outstanding against the National Malaria Eradication Programme authorities should be so high. Such outstandings create working capital problems. Timely action does not appear to have been taken by the HIL for realisation of these dues. The presence of the representatives of the Ministry of Health and the NMEP in the Board of Directors of H. I. L. has not evidently been effective in expediting payment. The Committee recommend that energetic steps should be taken by the HIL to realise the outstanding dues.
- 26 99-101 The Committee feel that the HIL has on the whole done well. But at the same time its performance must be viewed against the background that it had been functioning under a monopolistic condition with an assured market (about 87 per cent of its product is sold to the Ministry of Health), and its prices have been fixed leaving a sufficient margin of surplus.
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It should be the endeavour of the company to make available its products to agriculturists and public health agencies at a cheaper price. With greater efficiency and reduction in cost of production, the financial results would remain unaffected. The Committee have pointed out some of the short-comings noticed in the working of the company in this Report. They hope that HIL will review its performance from time to time and take effective measures to overcome the various shortcomings.
