



सत्यमेव जयते

**GOVERNMENT OF INDIA
TARIFF COMMISSION**

**REPORT
ON
The Revision of Raw Rubber Prices**



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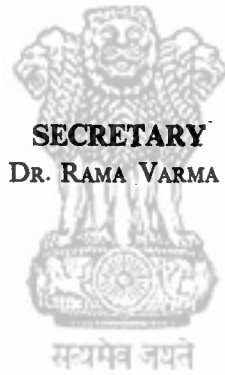
BOMBAY 1960

PRINTED IN INDIA, BY THE MANAGER, GOVT. OF INDIA PRESS,
NASIK ROAD, PUBLISHED BY THE MANAGER OF PUBLICATIONS, DELHI
1958

Price : Rs. 1.75 nP. or 2 Sh. 6 d.

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GOVERNMENT OF INDIA
MINISTRY OF COMMERCE AND INDUSTRY
RESOLUTION

New Delhi, the 23rd August, 1960.

Tariff Commission's Report on the revision of raw rubber prices

No. 16(4) Plant (B)/60.—In Government's Resolution No. 16(2)-Plant (B)/57, dated the 4th April, 1959 (14th Chaitra, 1881), the Tariff Commission was requested, under Section 12(d) of the Tariff Commission Act, 1951, to conduct necessary enquiries in regard to the cost of production of rubber and to submit a report on the fair prices for raw rubber of different grades and qualities. The Commission has submitted its report wherein the following recommendations have been made :—

- (1) There is no reason to change the present practice of fixing prices f.o.b. Cochin.
- (2) No special weightage in the price for small holdings is necessary.
- (3) An element of Rs. 9 per 100 lbs. for depreciation should be provided in the fair price for rubber on the condition that the continuance of this element in full may be reviewed after two years if it is found that growers still make insufficient provision for replanting and the work in this regard is not being properly done.
- (4) Cess and sales tax should be excluded from the Statutory prices, as these items are variable and do not strictly form part of the price.
- (5) It is not necessary to fix the price of sole crepe.
- (6) The price of R.M.A. 1 grade rubber should be fixed at Rs. 146 per 100 lbs. or Rs. 160.94 per 50 kilograms F. O. B. Cochin exclusive of sales tax and cess. The prices for other grades except that for preserved latex should be fixed according to the grade differentials in force at present. These prices should remain in force upto 30th September, 1963.
- (7) To cover the cases of latex of different concentrations, it will be sufficient if the basic price of latex concentrates excluding the cost of container is fixed on the basic price of R.M.A. 1 by adding (a) premium of Rs. 17.50 per 100 lbs. of D.R.C. in the case of normal latex upto 35 per cent concentrates, (b) a premium of Rs. 33 per 100 lbs. for latex concentrates 36-50 per cent., and (c) a premium of Rs. 43 per 100 lbs. for concentrates over 51 per cent. which will include 60 per cent concentrated latex.

(ii)

- (8) The amount required for replantation would be Rs. 16 per 100 lbs. at current costs. Out of this Rs. 9 will be covered by the depreciation element, the balance amount required should be levied as a development cess to be recovered from the consumers in addition to the existing cess for grant of substantial replanting subsidies by the Rubber Board to implement effectively the programme of rehabilitation of plantations.
- (9) The additional cess of Rs. 7 per 100 lbs. recommended should be utilised to grant subsidies to those who require them for replantation with high yielding planting material. In granting the subsidy, special care should be taken that under no circumstances low yielding material is used for replanting.
- (10) Necessary steps should be taken to ensure that the Rubber Board is in a position to examine and sanction subsidy expeditiously and see that it is being properly utilised.
- (11) As small holdings of rubber play a significant role in the economy of Kerala, by providing employment on a large scale there should be no positive steps whether by Agrarian reform or otherwise to discourage them from continuing in production. They should continue to receive, where they are able to establish their ability to do so, subsidy and other financial aids from the Rubber Board for replanting with high yielding planting materials.
- (12) In future no licence should be given for planting of rubber with ordinary seedlings and encouragement should be given to economic holdings to undertake planting with high yielding material.
- (13) To avoid immediate drop in production, replanting should be undertaken on a planned basis.
- (14) High yielding planting material should be distributed to small growers at cheap rates. If local nurseries cannot provide the material, the Rubber Board should be given facilities to import sufficient quantity of high-yielding planting material suited to the soil conditions of the rubber growing areas in the country.
- (15) State Governments should take up the question of affording legitimate relief from taxation in respect of the provision for depreciation.
- (16) It is necessary that a separate financial agency should be set up to grant financial assistance for the development of a long-term crops like rubber particularly for stepping up the tempo of new planting.

2. Government accept recommendations (1) to (3) above.

3. In regard to the recommendation of the Commission in (4) above, it is proposed to accept the recommendation that cess should be excluded from the statutory price; it will, however, continue to form part of the statutory price for a short while pending the enforcement

(iii)

of the Rubber Amendment Act, 1960. As regards sales tax, Government consider that it will be in the interests of the producer and the manufacturer if the price is fixed inclusive of the sales tax.

4. Government accept the recommendation (5) mentioned in paragraph 1 above.

5. There is an imperative need to increase the production of raw rubber in the country by undertaking replantation on a large scale. In view of the widening gap between production and consumption and the prevailing price of rubber in the World market any reduction in the price of raw rubber at this juncture, however small it may be, will have unhealthy repercussions on the industry. Government do not, therefore, consider it desirable to implement the recommendation of the Tariff Commission in regard to the price of rubber, which will result in a slight reduction in the price for the producer.

The price of R.M.A. 1 grade will, therefore, continue to be maintained at Rs. 149.50 per 100 lbs. or Rs. 164.80 per 50 kilograms. F.O.B. Cochin, exclusive of the Cess. Inclusive of the cess the Statutory prices will continue to remain at Rs. 155.75. A notification fixing the prices of latex of different concentrations is being issued separately.

6. Government also accept recommendations (7) and (8) mentioned in paragraph 1 above.

7. In regard to recommendation (9), the necessary legislation to provide for the collection of additional cess has since been enacted.

8. Government have taken note of recommendations (10) to (14) and steps will be taken to implement them to the extent possible.

9. Government propose to bring recommendation (15) above to the notice of the State Governments concerned for necessary action.

10. Recommendation (16) is under examination by the Government.

ORDER

ORDERED that a copy of the Resolution be communicated to all concerned and that it be published in the *Gazette of India*.

C. S. RAMACHANDRAN,
Joint Secretary to the Government of India.

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REPORT ON THE REVISION OF RAW RUBBER PRICES

1.1. The price of raw rubber has been under control since 1943 with a short break in 1946-47. The prices fixed in 1943 were reviewed and revised from time to time, the last revision taking place in 1955. Subsequently, further representations were received by Government from the rubber plantation industry for an upward revision of prices on the ground that labour and other costs had increased considerably since 1955. The rubber manufacturing industries on the other hand expressed apprehension that any increase in raw rubber price might affect their competitive position *vis-a-vis* imported products. Government were satisfied, after examining the representations received from manufacturers as well as from producers of raw rubber, that there was a *prima facie* case for a fresh examination of the cost structure of the industry and referred the case to the Commission under Section 12(d) of the Tariff Commission Act, 1951. A copy of the Government Resolution dated 4th April 1959 is given in Appendix I. Mention is made in the Resolution of a representation received from the manufacturing industry that the basis of control prices should not be confined to f.o.b. Cochin purchases and sales.

Origin of the inquiry.

1.2. Under the Rubber Control and Production Order, 1942 Government fixed the price of raw rubber early in 1943 at Rs. 77-5-0 per 100 lbs., in line with the prices obtaining at that time in Ceylon. Though this price was revised subsequently, the first attempt to fix price in India on the basis of cost of production was made only in 1946. In 1947 the Rubber (Production and Marketing) Act was passed and thereafter the prices were fixed in consultation with the Price Advisory Committee of the Rubber Board constituted under the Act. However, in October 1950, the Rubber Board by a resolution requested the Government of India to refer the representation of the producers for a revision of price to the Tariff Board. Thereupon the case was referred by Government to the Tariff Board and a detailed investigation was conducted by the Board in 1951 into the cost of production of rubber and also the problems facing the industry, including the claim for protection and assistance. The Board recommended for a period of one year a price of Rs. 128 per 100 lbs., inclusive of Rs. 6.82 for rehabilitation and a provision for sales tax at Rs. 1.90, for R.M.A. I grade of rubber. The prices for other grades were left to be determined according to the grade differentials then in vogue. The recommendation was accepted by Government and the new prices were brought into force with effect from 21st May 1951 for a period of one year. In March 1952 Government announced its decision to continue the control over price and distribution of raw rubber and requested the Tariff Commission, which had then replaced the Tariff Board, to recommend a fair price to the industry beyond 21st May 1952. The Commission undertook the necessary investigation and recommended a price of Rs. 138 inclusive of a rehabilitation allowance of Rs. 6.82 and

Rs. 2.04 for sales tax per 100 lbs. for R.M.A. 1 for a period of three years. It also recommended that the Rubber Board should keep a continuous watch on the cost of production of the rubber plantation industry and should circumstances cause a variation in the cost of production by 10 per cent or more on either side, the Board should take up the matter with Government for securing necessary action for the revision of prices. Government accepted the above recommendation and brought the new prices into force with effect from 28th October 1952. Later, on the basis of a representation from the industry the price of R.M.A. 1 was increased to Rs. 150 per 100 lbs. in February 1955 and to Rs. 155.75 per 100 lbs. in September 1955. The former increase of Rs. 12 was given partly to meet the increase in the cost of production and partly to enable producers to put by adequate funds for replanting. The latter increase was to cover the enhanced rate of cess to be collected under the Rubber Act, 1954 which was put up from 8 annas to Rs. 6-4-0 per 100 lbs. with effect from 1st August 1955. These prices are prevailing even to-date.

Scope of the inquiry. 2.1. The scope of this inquiry covers all items at present under control. It was represented to us that the producers were charging a higher price for 60% DRC (dry rubber content) centrifugal latex than the control price for 55% DRC latex and that this type should also be brought under control. A few other raw rubber products like sole crepe are at present outside price control, not being on the notified price list. In representations to us as well as in the discussions it was sought to bring these matters within the scope of our inquiry. We have considered them and made our specific recommendations in paragraphs 12.14.2 and 12.14.3.

2.2. Another point to which the Government resolution had drawn our attention is whether there is any need to continue the present basis of fixing prices f.o.b. Cochin. The question of adequacy of the grade differentials in the present price list was also raised and discussed. These matters have been dealt with in paragraphs 10.2 and 10.4.

Method of inquiry. 3.1. On 21st July 1959 the Rubber Board was addressed for certain preliminary information on the present position of the rubber industry. We also obtained the balance-sheets and profit and loss accounts of a number of rubber plantation units. On 7th October we held discussions with Shri K. N. Kaimal, Rubber Production Commissioner on the various problems of the industry. Questionnaires were issued to the different associations of planters on 27th October 1959. This was followed by separate questionnaires to the Rubber Board, individual plantations and the manufacturing industries and their Associations.

3.2. A press communique was issued on 29th October 1959 inviting those interested in the inquiry to obtain copies of the relevant questionnaires and send their replies before 30th November. The list of firms, associations and individuals to whom the questionnaires were issued and from whom replies were received is given in Appendix II. We also invited the views of the State Governments of Kerala, Madras and Mysore and the Chief Commissioner of Andamans on the present position and problems of the rubber industry in their respective regions. The Trade Representatives abroad of the Government of India also furnished us with useful information about the present position of the rubber industry in Malaya, Ceylon, Indonesia and North Borneo.

3.3. We visited a representative cross section of the small holdings as well as large plantations in Kerala and Madras between 7th and 11th January 1960. We also met the representatives of Travancore-Cochin Petty Owners Association, United Planters Association of Southern India, the Association of Planters of Kerala and the Central Travancore Agricultural Association on 7th January at Kottayam. The following day we met the representatives of Quilon District Planters Association at Punalur. The names of the plantations which we visited are given in Appendix III.

3.4. Our Cost Accounts Officers examined the costs of production in twelve estates selected by us after consulting United Planters Association of Southern India of Conoor and the Rubber Production Commissioner. They also examined the costs of production of two small holdings below 50 acres. The names of the estates costed by our Cost Accounts Officers are given in Appendix IV.

3.5. A public inquiry was held in the Commissions office in Bombay on 5th March 1960. Prior to that we met the representatives of the producers associations on 4th March and also held discussions with the representatives of the costed units from 1st to 3rd March. The list of persons who attended the public inquiry and those who appeared before the Commission from 1st to 4th March is given in Appendix V. The Commission had also the benefit of separate discussions with the Chairman, Rubber Board, the Rubber Production Commissioner and Shri N. Sankara Menon, I.A.S., a former Chairman of the Rubber Board.

4.1. The Report (1951) of the Indian Tariff Board on the prices of raw rubber and protection and assistance to the Rubber Plantation Industry has given a comprehensive survey of the rubber industry in the country. The Report (1952) of the Tariff Commission on the revision of prices of raw rubber has taken the survey up to the middle of 1952. The present review is confined to the subsequent period from the middle of 1952 to 1959.

**Developments
since 1952.**

4.2. Under the Rubber (Production and Marketing) Act, 1947, all owners of rubber estates are required to get their names registered with the Rubber Board. In the initial stages the registrations were far from complete due partly to the organisational deficiencies of the Board and partly to lack of familiarity of small producers, who owned about 40.28 per cent of the area planted under rubber, with the provisions of the Act and the Rules made thereunder. Today the Rubber Board is more alive to the need for maintaining accurate statistics of area under rubber, production, stocks, imports and domestic consumption. Further, rubber producers are also anxious to get their names registered with the Rubber Board in the hope that such registration may help them to obtain exemption from the land ceilings proposed in the Kerala Agrarian Relations Bill, if it is finally decided to exempt plantations from such ceilings. Of late the registration has improved. There are, however, defects in the recording of production. The 1955 Rules require only estates above 50 acres to submit their monthly production to the Board. The production of holdings below 50 acres which constitute 44.09 per cent of the tappable area is only an estimate prepared by the Board. In a situation where external prices are high and the indigenous product is in short supply unscrupulous growers and those who are not under a legal obligation regularly to submit returns to the Rubber Board, might under-declare their production. Thereby they avoid not only exposure to any possible charge of selling above control prices, but also evade the full incidence of the rubber cess and the sales tax. One has, therefore, to be cautious in drawing conclusions from the available data.

4.3. We have given in Appendix VI details of registered acreage under rubber, tappable area, production and yield in 1952 and 1958. There are certain features in the development of this industry which require special mention. In 1952 the total area under rubber was 172,786 acres of which tappable area was 159,528 acres. The acreage in 1958 increased to 286,567 of which the tappable acreage was 173,556. The recorded increase of 113,781 in the registered acreage between 1952 and 1958 may be due partly to the improvement in registration and partly to the attempts of producers to inflate the acreage. But on the whole we should take note of the fact that new plantings have taken place on a large scale. The area planted from 1953 to 1958 and the material used for planting are given in Appendix VII. Of the total newly planted area of 100,563 acres during the six years 1953-1958, 80,838 acres were holdings of 50 acres and below. Of the total new planted area, 55,940 acres, *i.e.* 55.63 per cent were planted with ordinary seedlings, 11,146 acres, *i.e.* 11.08 per cent with budded material and 33,477 acres, *i.e.* 33.29 per cent with clonal seedlings. The maximum new planting took place during 1955-1957. It increased from 21,184 acres in 1955 to 27,895 acres in 1957 and then dropped to 11,148 acres in 1958. It would appear that most of the land fit for cultivation of rubber available with the private agencies was brought under rubber during this period. Compared to new planting, very little re-planting took place during 1953-1958; the total area replanted being 9,467 acres. The area replanted and the materials used for replanting from 1953 to 1958 are given in Appendix VIII.

4.4. The large-scale new plantings have made certain changes in the structure of the industry. In 1952 small holders (*i.e.* those who held 50 acres and below) accounted for 40.29 per cent of the total registered acreage. In 1958 the share of the small holder increased to 56.66 per cent. The number of small holders having 5 acres and below rose from 10,903 in 1952 to 43,405 in 1958; but the acreage owned by them has, despite the reported increase, shown up a smaller average per unit. This is a factor which has to be taken into account in the formulation of any development plan for this industry. The problem of small holdings is not peculiar to India. It may be stated here that in Malaya about 37 per cent of the planted acreage represents holdings below 25 acres while in Ceylon 28.3 per cent comes under holdings below 10 acres.

4.5. The economy of rubber cultivation depends on the yield and quality of latex obtained from the trees which is to a large extent determined by the seedlings used for planting. For statistical purposes, the Rubber Board has divided plantings into three classes, namely, ordinary, budded and clonal. Under normal conditions trees planted with clonal seedlings may yield as high as 1,200 lbs. of latex, while ordinary seedlings may under the best conditions yield only not more than 400 lbs. per acre. The yield from budded trees depends on the planting materials used.

4.6. Of the total registered acreage of 172,786 in 1952, 138,186 acres, *i.e.* 79.97 per cent was planted with ordinary, 24,841 acres, *i.e.* 14.38 per cent, with budded and 9,759 acres, *i.e.* 5.65 per cent, with clonal seedlings. The tappable area in that year was 159,528 acres out of which 131,098 acres, *i.e.* 82.18 per cent, was planted with ordinary, 21,193 acres, *i.e.* 13.28 per cent, with budded and 7,237 acres, *i.e.* 4.54 per cent, with clonal. The average yield per acre of holdings above 50 acres was 351 lbs., of holdings below 50 acres 175 lbs. and for the industry as a whole 279 lbs. Since then the position has changed. In 1958, the latest year for which information is available, of the 286,567 registered acreage, 197,399 acres, *i.e.*, 68.88 per cent, was under ordinary, 40,250 acres, *i.e.* 14.05 per cent, under budded and 48,918 acres, *i.e.* 17.07 per cent, under clonal. Of the tappable area of 173,556 acres, 138,588 acres, *i.e.* 79.85 per cent, was planted with ordinary, 24,781 acres, *i.e.* 14.28 per cent, with budded and 10,187 acres, *i.e.* 5.87 per cent, with clonal. In 1958, the average yield per acre for holdings above 50 acres was 419 lbs., for holdings below 50 acres 181 lbs. and for the industry as a whole 314 lbs. Holdingwise, the position is as given below :

(In acres)

	Ordinary		Budded		Clonal		Total
	1952	1958	1952	1958	1952	1958	1952 1958
<i>Registered area</i>							
1. Area over 50 acres	72,306	75,716	22,690	30,226	8,186	18,264	103,182 124,206
2. 50 acres and below	65,880	121,683	2,151	10,024	1,573	30,654	69,604 162,361
3. Total	138,186	197,399	24,841	40,250	9,759	48,918	172,786 286,567
1 as a percentage of 3	52.32	38.36	91.34	75.10	83.88	37.34	59.71 43.34
2 as a percentage of 3	47.68	61.64	8.66	24.90	16.12	62.66	40.29 56.66
<i>Tappable area</i>							
1. Area over 50 acres	69,120	67,092	19,176	21,764	6,089	8,175	94,385 97,031
2. 50 acres and below	61,978	71,496	2,017	3,017	1,148	2,012	65,143 76,525
3. Total	131,098	138,588	21,193	24,781	7,237	10,187	159,528 173,556
1 as a percentage of 3	52.72	48.41	90.48	87.83	84.14	80.25	59.17 55.91
2 as a percentage of 3	47.28	51.59	9.52	12.17	15.86	19.75	40.83 44.09

4.7. The conclusions emerging from the above analysis are that (i) the over-all area under ordinary seedlings is still predominantly large, (ii) the share of small growers in the total area planted has increased considerably, and (iii) small growers have also shown interest in planting clonal seedlings.

5.1. The demand for rubber is increasing at a rapid rate. The Commission estimated the demand for natural rubber in 1952 at 25,300 tons as against the domestic production of 19,863 tons in that year. The actual consumption of rubber from 1956 to 1959 is given below :—

Year	Consumption of natural rubber	Consumption of synthetic rubber	Consumption of reclaimed rubber	Total
1956	28,996	2,409	3,261	34,666
1957	31,765	3,032	3,837	38,634
1958	34,756	3,252	4,051	42,059
1959	38,663	4,342	4,454	47,459

It will be seen that the consumption of natural rubber increased by 9,667 tons between 1956 and 1959 while production in 1959 at 23,398 tons was short by 15,265 tons. The break-up of the actual consumption of natural rubber during the first eleven months of 1959 by the important industries is given below :—

	Tons
Tyre companies	22,075
Shoe companies	3,016
2 units with consumption above 1,000 tons	2,302
19 units with consumption below 1,000 tons	4,811
Miscellaneous (small units).	3,600
TOTAL	35,804

One more tyre manufacturing unit has just commenced production. We are further informed that three more tyre manufacturing units have been licensed and that one or two of them might go into production in 1961-62. Besides, a large number of units are at present producing various types of rubber goods and some of them have plans for expansion. Taking these factors into consideration, the Working Group appointed by the Planning Commission has estimated the demand for rubber at 52,500 tons in 1960-61.

5.2. As regards the future, it has estimated the demand as follows :—

	Tons
1961 = 62	59,700
1962 = 63	67,000
1963 = 64	74,800
1964 = 65	83,800
1965 = 66	93,800

According to the Working Group the break-up of the demand in 1960-61 into natural rubber, synthetic rubber and reclaimed rubber is 40,000, 6,500 and 6,000 tons respectively. The break-up of the demand by the end of the Third Plan period, *i.e.* 1965-66, is estimated at 54,300 tons natural rubber, 26,000 tons synthetic rubber and 13,500 tons reclaimed rubber.

5.3. We have given the matter our careful consideration. The demand for natural rubber has been rising at the rate of 3,000 tons a year while the consumption of synthetic and reclaimed rubber is kept down to the minimum to meet only such demands as cannot be satisfied with the available supplies of natural rubber in the country. We are, therefore, of the view that the demand for 1960 will be 42,000 tons natural rubber, 5,000 tons synthetic rubber and 5,000 tons reclaimed rubber. As regards the future, though we are unable to make an accurate forecast, in the absence of a clearer picture of the likely development of industries depending on rubber including synthetic rubber, we are of the view that the estimates made by the Working Group represent the trend in the growth of future consumption.

6.1. *Natural rubber*.—Production of rubber since 1952 is given below :—

Year	Production (tons)			Percentage production	
	Small growers	Large growers	Total	Small growers	Large growers
1952 . . .	5,075	14,788	19,863	25.55	74.45
1953 . . .	5,570	15,566	21,136	26.35	73.65
1954 . . .	6,200	15,293	21,493	28.85	71.15
1955 . . .	6,204	16,277	22,481	27.60	72.40
1956 . . .	7,610	15,834	23,444	32.46	67.54
1957 . . .	7,110	16,657	23,767	29.92	70.08
1958 . . .	6,198	18,130	24,328	25.48	74.52
1959 . . .	6,171	17,227	23,398	26.37	73.63

It will be seen from the above statement that the production increased from 19,863 tons in 1952 to 24,328 tons in 1958, an increase of 22·5 per cent. The contribution of the small grower to the total production was estimated at 25·55 per cent in 1952 and continued at the same level in 1958. The average yield per acre of 314 lbs. in India of both small and large growers taken together is much below that of Malaya 417 lbs. and Ceylon 414 lbs. The reported production declined from 24,328 tons in 1958 to 23,398 tons in 1959. This is attributed to heavy rainfall during the year; but it might be due to the defect in reporting to which we have drawn attention in paragraph 4.2.

6.2. *Synthetic Rubber.*—There has been no production of synthetic rubber in the country. Recently a licence has been issued to a company for the manufacture of synthetic rubber at Bareilly. The factory, it is reported, will have an initial capacity of 20,000 tons which may eventually be raised to 30,000 tons.

6.3. We give below the estimated demand for natural rubber, production and the anticipated shortfall as estimated by the Working Group appointed by the Planning Commission.

Year	Estimated demand for natural rubber	Estimated production of natural rubber	Difference between demand and production of natural rubber
1960-61 . . .	40,000	26,000	14,000
1961-62 . . .	42,700	28,000	14,700
1962-63 . . .	44,000	30,300	13,700
1963-64 . . .	45,800	34,400	11,400
1964-65 . . .	48,800	39,400	9,400
1965-66 . . .	54,300	40,800	13,500

6.4. It should be clear from the above that the gap between domestic production and demand for natural rubber is not likely to narrow down in the immediate future. On the other hand it may even increase with expansion of industry during the Third Plan period. In the case of natural rubber it takes a minimum period of about 8 years from the time trees are planted to realise production. That would mean that during the Third Plan period increased production could be expected only from trees already planted. At the same time it should also be remembered that a large number of trees are due for felling and replanting on a large scale will have to be undertaken hereafter. In estimating future production, it is therefore, necessary to take into account the likely loss in current production due to the felling of trees for replanting. The Working Group referred to in paragraph 5·1 has stated that by manuring mature and immature low yielding areas which are under poor soil conditions, by adopting proper protective measures against secondary leaf-fall diseases, by taking to intensive methods of

tapping and use of yield stimulants, by concerting measures for fuller co-operation between labour and employer so as to increase labour output, the estimates of production could be improved by 1,700 tons in 1962-63, 1,600 tons in 1963-64, 1,600 tons in 1964-65 and 4,200 tons in 1965-66.

7. We have not received any serious complaint about the quality of rubber produced in the country. The Rubber Board in its reply to questionnaire has stated that the standards of sheets, latex and crepe are fairly well known and follow the same pattern in all rubber growing countries. It would appear that grading of rubber is done in this country according to the pattern prevalent in other rubber growing countries. We are, however, informed that in a sellers' market lower grades are often passed on as high grade and in buyers' market the reverse often happens. In the former situation, which prevails now, we have received no complaints that even small and un-organised producers cannot get proper grade price for their output.

8.1. In the world output of rubber India does not occupy a significant place. The plantation industry in the country as well as the manufacturing industry nevertheless have a particularly favoured position in the context of our controlled economy. Unlike the big producers of natural rubber like Indonesia, Malaya and Ceylon, which do not have a manufacturing industry of their own but cater to the raw materials requirements of the rubber manufacturing industry all the world over, India has a plantation industry, the output of which is readily taken up by her rapidly growing indigenous manufacturing industry. Measures taken from time to time for development and attainment of self-sufficiency have given protection as well as fillip to the rubber plantation industry.

8.2. There is, however, a demand from indigenous producers that in the context of world prices having risen to an extraordinary extent during the last ten months, the controlled price of Indian rubber should be raised to keep pace with the world trends. But already the increasing demand for raw material by the manufacturing industry, which has to import substantial quantities of natural rubber as well as synthetics to make up the shortfall in their requirements, is making it difficult for them to keep their costs down. The rubber plantation industry as well as the rubber manufacturing industry in the country have been functioning as insulated industries. To the mutual benefit of both and to the maximum benefit of the national economy, a proper integration of the two sectors is necessary. For any such objective, the desideratum is a fair price to the grower of rubber, which would offer a fair return on investment to the industry and give necessary inducement to increase the production of natural rubber. Only thereby can the demand of the manufacturing industry be fully met ultimately obviating the need for imports.

**World trends in
rubber—Rubber sub-
stitutes natural—ver-
sus synthetic rubber.**

8.3. In view of its small size, the Indian output of raw rubber has no surplus for export. The growing output of natural rubber has to keep pace with the development of the manufacturing industry enabling the latter to diversify its production and to find export markets.

8.4. In this context one should also take note of the growing role of substitutes for natural rubber like synthetic rubber and various types of plastics. Some apprehensions are expressed on the future of natural rubber in India because of the growth of the synthetic rubber industry. Experience of western countries, where the development of synthetic rubber started about three decades ago and the process of development was accelerated by shortages of the material during World War II, show that there will be a place for natural rubber. The world utilisation of natural rubber is relatively stationary at about 2 million long tons. But the consumption of synthetic rubber has been estimated to increase to over 1.6 million long tons in 1960. Significant trends in the growth of consumption indicate an increase of 30 per cent in the United States of America, which is the largest consumer and an increase of 200 per cent in the Soviet Union and East European countries. It is estimated that in 1960, U.S.A. will use 1.65 million tons of rubber, of which more than 66 per cent will be synthetic. Over the next 10 years 1960-1970, it is estimated that the world consumption of rubber will go up by 60 per cent. As raw rubber availability is more or less nearly constant and it will take the best part of a decade for new areas to be brought into production for natural rubber, the growing demand can be met only by the synthetics, whose production may double during the period reducing the share of natural rubber from half to one-third. In 1958, Indonesia supplied 36 per cent, Malaya 34 per cent and other countries 30 per cent of the world's natural rubber. Indonesia's production fell from 304,000 tons in 1953 to 238,000 tons in 1958 due to various internal problems. They had affected replanting in the industry and it is stated in fact that less than 10 per cent acreage has been replanted since 1945. Malaya, which is vigorously replanting, might, it is estimated, just be able to increase the output to equal the drop in Indonesia. Hence, world availability of natural rubber is not expected to exceed 2 to 2.3 million tons for some time to come.

8.5. On this basis, some are inclined to take the view that the present world trends of price increases for natural rubber may continue over a long period and may not go down. Although, with the growing utilisation of synthetic rubber, there should be a curb on further increase in price, the greater availability of synthetics may not entirely counter the price trends in natural rubber. The growth of synthetic capacity may at best bring down the price of synthetic rubber to levels at which it would become a serious competitor of natural rubber, when they can be readily substituted. The demand for natural rubber can only be maintained by keeping down its cost.

8.6. Despite these factors and even after the setting up of the first plant in India with an initial capacity of 20,000 tons, which would rise to 30,000 tons for the production of synthetic rubber, it is considered

that the future of natural rubber would not be seriously affected. In our integrated economy, the producer of natural rubber will continue to have a fair price and also a ready market within the country for all his increased output. But this should give no room for complacency to the rubber plantation industry. As it will continue to fulfil its role as a producer of an important raw material of strategic and national importance, the industry has to concentrate its efforts on lowering its cost of production by replanting with higher yielding materials and also by obtaining higher yields per acre through employing better technological processes.

9.1. We have shown in paragraph 6.3 the wide gap between demand and supply of raw rubber in the immediate future. As a rubber tree takes seven to eight years to start giving yield, the only solution for the immediate future is to import the requirements of rubber as are in excess of domestic production. That will involve a heavy drain on our foreign exchange resources. Steps should, therefore, be taken urgently to step up domestic production so as to catch up with demand that will develop in future. There are two methods by which this could be done on a long term basis. The first is new planting with high yielding planting materials on a large scale and the second is replanting of old and low yielding trees with high yielding materials. It should be remembered that to bring down the cost of production of rubber in the country in line with costs elsewhere, planting and replanting with high yielding materials cannot be delayed. Otherwise, the high cost of indigenous raw rubber will remain a drag on our manufacturing industry. Against this background of the need for large-scale replanting and new planting the price policy of this industry has to be viewed.

9.2. *Growers' case for price increase.*—The case in support of the rubber growers' claim for an increase in the controlled price of rubber has been summarised in the reply of the Rubber Board to our questionnaire and is given below. Composed as the Board is of representatives of various interests in which apparently the weightage at present is in favour of the growers they could not reach unanimity of opinion in the matter.

“As there was no unanimity of opinion among the various interests represented on the Board in regard to this question, the views of the different interests have been recorded separately as under :

I. The general grounds on which the producer members are claiming an increase in the price of raw rubber are given below :

(1) The composition of units in terms of size has greatly altered, requiring an increase in the weightage to be provided for small growers. In 1952 the weightage was worked out on the basis of 72% for large growers and 28% for small growers. Today the percentage of acreage will be roughly 55% for small growers and 45% for large growers.

(2) There has been a rise in taxation in Kerala which has eroded the allowance available for rehabilitation and the margin of profit. Agricultural income-tax on rubber has increased upto 62%, and sales tax from 1.45% to 2%. Panchayat tax, Profession tax and Corporation or Municipal tax, the latter levied on companies located within municipal or city limits, are additional financial commitments introduced since 1952.

(3) The Tariff Board's assumption that all rubber estates do or can earn Rs. 200 per acre on felled rubber is not valid. Felled rubber trees are unsaleable in certain localities; elsewhere at the most not more than Rs. 75 per acre has been realised. Frequently the felled trees are left to rot in the field in order to provide extra humus.

(4) Borrowing is increasing, as the cost and volume of production has been rising, and the capacity to save has been falling; besides there is an error in fixing 4% for interest on borrowals when the actual is $5\frac{1}{2}$ to 12%.

(5) Costs of supplies and services have sharply increased during the period. Costs of fertiliser, fungicides, chemicals, packing materials and transport have gone up considerably.

(6) Salaries, wages and allowances for both estate staff and labour increased substantially since 1952 as a result of Tripartite Agreements in 1956 and 1957.

(7) The Employees Provident Fund Act, 1952, has been extended to plantation factory workers since 1956 and to all other plantation workers since 1957.

(8) Heavy expenditure for welfare and amenities of workers, consequent on the implementation of the Plantations Labour Act of 1951 in 1954 has increased the cost of production appreciably. The Kerala Maternity Benefits Act of 1957 (which increased the period of benefit from 56 to 84 days) and the National Festival Holidays Act of 1958 (which increased the number of paid holidays from 2 to 7 days per annum) also add to increased costs.

(9) The Tariff Board based its calculations on return on investment on the capitalised value of Rs. 1,200 per acre. This figure, which was unrealistic even in 1952, is now more correctly put at Rs. 2,000 plus cost of land.

(10) The Tariff Board calculated return at $12\frac{1}{2}$ % for 30 years, the productive life of a rubber tree. Since the investment should cover the period from planting to yielding, the return should be calculated on the basis of 40 years. The actual cost increase in each item will of course be available in the returns called for from individual estates.

(11) The Rehabilitation or Depreciation element of Rs. 4.44 net provided in the cost structure was insufficient even in 1952. It is strikingly so now. The cost of planting up one acre on up-to-date lines using high yielding planting materials will not be less than Rs. 2,000 per acre.

Taking into account an average yield of 700 lbs. per acre for the 30 years of the productive life of a tree $\frac{(2000)}{(30 \times 7)}$ full depreciation should work out to Rs. 9.50 per 100 lbs. Since rubber plantations are a depreciating asset and since there is no provision for depreciation in the Agricultural Income tax Law in the States of Kerala and Madras, the industry claims that in fixing a controlled price this element should also be provided for in the price structure.

The above factors which have led to an increased cost of production since 1952 are incontestable. The statistics in support of the claim are not, however, available to the Board. These should be brought to light with the cost accounting of the 12 selected estates.

The above answers cover also points (a), (b) and (c) raised in this question.

II. Shri P. T. Punnoose, M.P., expressed the view (1) that he would not support any increase in price if it were to increase the selling price of manufactured goods; (2) that since the margin of profit now earned by manufacturers was so high, even a slight increase in the price of rubber need not necessarily lead to an increase in the price of manufactured articles; and (3) that any increase in the price of raw rubber, unless it was closely related to the increase in wages and amenities of plantation labour and staff, was not justified.

III. Sarvashri Haksar and Phillip, the manufacturers' representatives, opposed the producer members' reply for the following reasons:—

- (a) The producer members on their own admission, contained in the last paragraph of their reply, cannot substantiate their claim with facts;
- (b) A repetition of the memorandum submitted by the producers to the Commission was unnecessary;
- (c) The Board should not venture any opinion on a matter like this unless they are in possession of sufficient data to justify the expression of such an opinion;
- (d) This was not a matter for expression of an opinion by the Board or anybody else but one to be determined by the Commission.

As regards Sri Punnoose's comment regarding manufacturers' margin of profit and consumer prices, the manufacturer members felt that as it has no reference to facts it did not merit consideration.

IV. Dr. Kapur (representing interests other than Labour and Manufacturers) said he could not support the producer group's answer. He added that competition resulting from the use and availability of synthetic rubber at competitive price within the country and the fact that plastics are replacing rubber in many of its applications should be kept in view in the enhancement of the price of natural rubber.

V. The member representing 'other interests' on the Board (Mr. Kershaw) said that he supported the claim of the producer members."

9.3. Before proceeding to discuss the cost of production of Indian raw rubber, it would be as well to discuss the financial position of the Indian rubber plantation industry. An approach to costs from this angle will give a proper perspective. An appraisal of their problems will also give a proper corrective to mere cost estimates. We had asked for balance-sheets and profit and loss accounts statements for the years 1955-56 to 1958-59 from public limited companies operating rubber estates. Of the balance-sheets received for 1955-56 to 1957-58, it was found that many units were engaged in activities other than plantation of rubber; and 28 units were primarily engaged in the production of rubber which formed the main business. We also received from 15 of these 28 companies their balance-sheets for the year 1958-59.

9.4. Though the sample of twenty-eight companies even among the estates managed as public limited companies may not be regarded as fully representative, it can indicate the trends in financial position and working results of the organised sector of the industry. Since the corporate units in this sector account for the greater share of raw rubber production, their conditions of working would also reflect the effect of cost trends in the less organised raw rubber units. The salient features of the analysis are that during the period from 1955-56 to 1957-58 the value of assets used in the business of these 28 companies (excluding investments, intangible assets and assets not used in business) increased from Rs. 411.74 lakhs to Rs. 432.56 lakhs. While the gross value of the fixed assets rose from Rs. 340.03 lakhs to Rs. 368.99 lakhs, the element of working capital diminished from Rs. 42.37 lakhs to Rs. 15.85 lakhs during the same period. Investment in fixed assets was financed largely from internal sources and to some extent from borrowings. The paid-up capital of the companies increased from Rs. 205.89 lakhs in 1955-56 to Rs. 225.01 in 1957-58 but reserves showed a downward trend from Rs. 14.92 lakhs to Rs. 86.87 lakhs, thereby reducing the net worth from Rs. 320.81 lakhs to Rs. 311.88 lakhs. The borrowings increased slightly from Rs. 41.50 lakhs in 1955-56 to Rs. 45.10 lakhs in 1957-58. The bulk of the capital employed was in the net value of fixed assets which constituted 95.38 per cent while working capital formed only 4.62 per cent of the total value of assets in 1957-58. The major portion of capital employed was contributed by the net worth which constituted about 88.16 per cent in 1955-56 and 86.84 per cent in 1957-58, while borrowings formed only 11.84 per cent in 1955-56 and 13.16 per cent in 1957-58. It will be evident that on the whole the financial position of the companies as revealed by the analysis was sound and though the net worth of these undertakings tended to diminish somewhat during the period under review, it provided as high as 86.84 per cent of the total capital employed by 28 companies in 1957-58 and 90.11 per cent in respect of 15 companies in 1958-59, whereas borrowings constituted 13.16 per cent and 9.89 per cent respectively for the same periods.

9.5. As regards the operating results during the period under review realisations from sales increased progressively from Rs. 157.98 lakhs to Rs. 178.58 lakhs. Return from business in rubber in the sense

usually adopted by us was obtained from the profit and loss accounts after adding back the interest charges, managing agents' remuneration and provision for taxation and deducting therefrom the income from sources other than rubber. Profit thus arrived at showed a declining trend from Rs. 68.44 lakhs in 1955-56 to Rs. 54.65 lakhs in 1957-58. The actual return on capital employed dropped from 19.52 per cent to 15.94 per cent and that on the value of gross block declined from 19.44 per cent to 14.57 per cent during this period. Net profits which were arrived at after allowing for actual interest charges and managing agents' remuneration stood at Rs. 61.92 lakhs in 1955-56 and Rs. 46.86 lakhs in 1957-58. Provision of taxes worked out to about 41.2 per cent in 1955-56, 53.6 per cent in 1956-57, 52.8 per cent in 1957-58 and 53.9 per cent in 1958-59. Net profits after taxation indicated a return on capital employed of 10.4 per cent in 1955-56 and of 6.5 per cent to 8.3 per cent in the subsequent years. Related to the total net worth employed in the business, net profits worked out to 11.8 per cent in 1955-56 and about 7.5 per cent to 9.2 per cent in the next three years. Related to the actual paid-up capital the net profits worked out to 17.7 per cent in 1955-56 and 9.9 per cent to 12.6 per cent in the following years. From the net profits after taxes, the proportion distributed as dividend was 83.7 per cent in 1955-56, 97.4 per cent in 1956-57, 96.9 per cent in 1957-58 and 87 per cent in 1958-59. The balance was retained as reserves. The dividends actually paid worked out to 14.8 per cent on the paid-up capital in 1955-56, 11 per cent in 1956-57, 9.6 per cent in 1957-58 and 10.9 per cent in 1958-59. It should be explained that the taxes actually provided must have relation to all profits derived from agricultural sources; but in the above calculation it has been assumed that the whole tax was payable on income from rubber only.

10.1. Since it was done last in 1952, there has been no detailed examination of costs. As explained in paragraph 4, considerable changes have taken place in the structure of the

Cost of production.

industry since then and the over-all average yield of rubber increased from 279 lbs. per acre in 1952 to 314 lbs. in 1958. The increase in yield was higher in the case of large holdings than the general average and it reached 419 lbs. per acre in 1958 as compared to 351 lbs. per acre in 1952. It also seems likely that increases in the costs of individual items would have been absorbed to some extent by the increased yield and higher production. It would not, therefore, be fair to allow increases in cost on individual items as claimed by the growers without a proper examination of the cost structure. We accordingly decided to undertake a fresh investigation into the cost of production of the industry and for that purpose selected representative units and ascertained their costs of production for the two years, 1957-58 and 1958-59. After arriving at the cost of production on the basis of data thus obtained we have projected the costs for a period of 3 to 5 years after taking into consideration the trends in production and costs of individual items. In determining the fair return to the industry we have taken into consideration the industry's past performance, the dividends declared in the

past, resources available with it, additional requirements of funds for replantation and expansion and liabilities like taxation, bonus, etc. We have also provided separately a suitable element for depreciation which is not normally allowed in determining the cost of production of agricultural commodities.

10.2. *Grade differentials to continue.*—The present price schedule provides for suitable differentials between various groups as well as between various grades within the group. It has stood for a long time and probably continues to be based on accepted world market differentials. The producers are satisfied with the existing differentials and requested that the same should be continued. We do not propose to make any change in the existing differentials except for a slight modification in the premium payable on preserved latex as recommended in paragraph 12-14-3.

10.3. *Rubber cess and sales tax.*—The present control price includes rubber cess and sales tax. The manufacturers represented to us that these should be excluded from the statutory prices. We have given the matter our careful consideration and have decided to exclude cess and sales tax from the statutory prices, as these items are variable and do not strictly form part of the price.

10.4. *Prices fixed F. O. B. Cochin.*—Both the manufacturers as well as the producers of rubber are satisfied with the present practice of fixing prices f.o.b. Cochin. We, therefore, do not find any reason to change the present practice.

10.5. *Extent of coverage.*—A feature of the present price structure is that in the first instance, in 1951 it was based on the costing of five selected estates and four small holdings representing a coverage of about 6,000 acres out of about 1·25 lakh acres. The cost inquiry in 1952 covered the same estates. Since then the increases in prices were given on an *ad hoc* basis. For the present inquiry after consulting the Rubber Production Commissioner, twelve estates and two small holdings were selected for cost inquiry. In doing so we kept note of the suggestion of the United Planters Association of Southern India and included seven units proposed by them in the units selected for costing. Two other units suggested by the UPASI were excluded as it was found later that in one case the ownership had changed hands only recently and in the other no proper accounts were available. They were, therefore, substituted by two estates with low yields. As some of the consumers of raw rubber had represented to us to widen the scope of the inquiry to cover Sole Crepe and Preserved 60% D.R.C. Concentrated Latex made by centrifuging process, we included estates producing these products from the list suggested by the UPASI. Names of the estates costed, their acreage under mature rubber, immature planted area, total and average yield and paid up capital are given in the following statement.

Name of the company	Paid up capital (Rs.)	Name of the estate selected for costing	Location	Acreage		Average yield per acre (Lbs.)
				Mature (Acres)	Immature (Acres)	
Periyār & Pareekanni Rubbers Ltd.	7,00,000	Periyar	Kothamangalam	705	115	190,300
Malayalam Plantations Ltd.	18,12,021	Mundakayam	Mundakayam	2,079	680	753,400
Travancōre Rubber & Tea Co. Ltd.	57,00,000	Manikel & Kuppakayam	Mundakayam	2,820	605	1,058,446
The Kailas Rubber Co. Ltd.	11,85,700	Pathanapuram	Pathanapuram	239	25	131,226
The Midland Rubber & Produce Co. Ltd.	57,70,300	Sittar	Pathanamthitta	570	269	137,980
The Midland Rubber & Produce Co. Ltd. (area let out on contract tapping)		Do.	Do.	100	..	..
Rajagiri Rubber & Produce Co. Ltd.	36,10,000	Shalicy	Punalur	1,245	278	800,181
The Vaikundam Rubber Co. Ltd.	8,80,810	Vaikundam	Kanyakumari Dist.	754	258	466,973
The Tropical Plantations Ltd.	20,00,000	Chittadi	Mundakayam	344	156	127,951
Pullangode Rubber & Produce Co. Ltd.	18,00,000	Pullangode	Pullangode	1,607	334	648,000
Vaniampara Rubber Co. Ltd.	2,77,320	Vaniampara	Vaniampara	521	265	115,600
Cochin Malabar Estates Ltd.	28,04,579	Kinalur	Kinalur	1,962	450	887,010
Thirumbadi Rubber Co. Ltd.	9,15,300	Thirumbadi	Thirumbadi	1,924	311	725,300
Total tapped area excluding area under con- tract tapping	..	..	..	14,770	6,049,367	410
<i>Small Holdings.</i>						
Proprietor : Shri K. J. Joseph		Karakal	Poonjar	58	..	..
Estimated tapped area				40		9,253
Proprietor : Shri J. Kurian		Anandam	Kottayam	42	3	8,172
						231
						195

Three out of the twelve estates selected were among the five costed in the earlier inquiries. The present coverage is about 15,000 acres out of a tappable acreage of nearly 1.7 lakh acres and the units costed account for about 1/8th of the rubber output. Both in regard to geographical location, size and output, it represents a wider range. In the public inquiry some of the interested parties said that the coverage was not large enough and that their average costs will not be quite representative. It was also contended on behalf of one or two of the selected units that they were model estates rather than representative ones. We have given the matter our careful consideration and are satisfied that the present coverage is much wider than that in 1951 or 1952 costing on which current prices are based. Further, for determining the fair prices for the industry as a whole, a selection to be fairly representative should not include the weaker or less productive units only. In fact some of the selected units have low yield similar to that of small holdings themselves. There is a similarity between the composition of areas and yield of the estates selected with that of all the estates. During 1958, 31 per cent of the tappable area was under budded and clonal seedlings and the average yield for estates was 419 lbs. per acre. For the costed estates the corresponding figures are 24 per cent and 410 lbs. The average yield of the costed units for the two years 1957-58 and 1958-59 were as follows :—

	Lbs. per acre	
	1957-58	1958-59
Simple average	397	408
Weighted average	389	410

On the whole, we are satisfied that the units selected by us are representative of the industry and the average costs determined by us are also quite representative. It should also be noted that over the growing areas as a whole, rainfall, incidence of disease, etc. were about normal during those years.

10.6. In our analysis of costs, we have not taken into account the costs of the two small holdings. On examination, it was found that the data available with them were insufficient to draw any conclusions. Nor did the proprietors of the two units though educated and knowledgeable evince any interest in our investigation. However, we have taken note of the demand for a special weightage for small growers and our views on it are given in paragraph 12.11.8.

10.7. We have forwarded the cost report prepared by our Senior Cost Accounts Officer, as a confidential enclosure to this report.

10.8. *Method of costing.*—As in earlier years the total expenditure for each of the costed units has been collected under the following broad heads for the two financial years 1957-58 and 1958-59 :—

- (i) Cultivation and upkeep of mature areas.
- (ii) Tapping and collection of latex and scrap.
- (iii) Processing of rubber products in different grades.

(iv) General charges including—

- (a) Estate, and
- (b) Head Office expenses.

(v) Packing charges.

(vi) Cost of transport and charges upto F.O.B. Cochin.

(vii) First year's expenses on

- (a) Replanting.
- (b) New planting.

(viii) Maintenance of immature areas for the subsequent years separately for each area replanted/new planted in different years wherever possible.

The cess on rubber and the sales tax have been left out of cost. The question of providing return, element of depreciation and rehabilitation etc. has been dealt with separately in connection with estimates for future. The figures worked out by the Cost Accounts Officers were agreed to by all the units costed excepting two. The specific objections of the latter were carefully considered and modifications in costs have been carried out where justified. In determining the trends of expenditure for manure, spraying, cover crops, etc., accounts for three years preceding the last two costed years, viz., 1957-58 and 1958-59 have also been taken into account.

10.9. *Basis of determining cost of individual grades.*—The statutory price list does not cover all the types and grades of raw rubber that are produced by the plantation industry. For example, untreated raw latex, scrap rubber, sole crepe, concentrated latex of 60 per cent D.R.C. etc. are outside the scope of price control. Production of scrap rubber which accounts for as much as 15 to 33 per cent of the total yield from the trees is not separable from production of latex. In some estates the scrap is further processed into E.B.C. grade rubber while in others it is sold as scrap. It has been decided in agreement with the growers of rubber and the manufacturing industry not to alter the present price differential existing between the different grades. If the production in the estates was confined to only these grades of rubber (those listed in the Statutory Price Control Order) then the problem of distribution of the total expenses (or expense plus profit allowed) incurred by the estates between them so as to maintain the existing differentials between the different grades as per the price list, would be simple. Since, however, the estates produce other grades of rubber and also sell raw latex and scrap, it is necessary to adjust the costs pertaining to the latter types against the total costs incurred before the cost or price of the different grades included in the statutory price list is determined by the above method. With the help of the management of the different estates, it has been possible for our Cost Accounts Officers to separate the processing charges allocable to the different groups of product on a reasonable basis and in particular to such grades of rubber processed as are

not found in the price list. But since unprocessed raw latex and scrap are also sold as such it is necessary to separate the expenses pertaining to that proportion of raw latex and scrap which is either sold to third parties or used for processing the grades not in the price list. In short it is necessary to determine the costs separately for raw latex and scrap. The incidence of expenditure on cultivation, upkeep and collection is joint for both raw latex and scrap. As the quality of scrap rubber is inferior to that of raw latex it would not be realistic to treat these two items as of equal value for purposes of costing. Our Cost Accounts Officers, therefore, attempted to distribute the costs upto and including the cost of collection between raw latex and scrap in the ratio of their final values. The prices actually obtained for raw latex and scrap by different estates appeared to be on the high side when compared to the statutory prices of the processed rubber, due, perhaps, to the present seller's market in raw rubber. Therefore, the Cost Accounts Officers attempted to derive the basic values on the basis of controlled prices for R.M.A. sheets and the E.B.C. sheets, after deducting therefrom the central sales tax, excise duty, charges to F.O.B. Cochin, packing charges processing charges, rehabilitation allowance, interest and return allowed in the prices. The basic values thus obtained both for the year 1957-58 and for 1958-59 would reasonably seem to be Rs. 85 for latex and Rs. 66 for scrap per 100 lbs. Our Cost Accounts Officers distributed the costs upto collection between latex and scrap in this ratio. To this arrangement, which in our view is realistic and theoretically the correct approach, but which in fact represented a deviation from the method of costing adopted in our earlier report, the representatives of the industry have demurred. They have contended that latex and scrap are not different products but the same products to be costed in the aggregate on production. We have, therefore, agreed in view of the fact of better realisations for scrap as such, to let allocation of costs of cultivation, upkeep and collection *i.e.* up to the stage of processing be apportioned on the aggregate quantities of latex and scrap collected.

10.10. *General expenses.*—This includes estates general expenses and head office expenses. The former includes all charges incurred in connection with the estate together with all the payments made to the workers and staff such as general expenses on account of labour including provident fund contribution, travelling expenditure, medical expenses, holiday pay, educational expenses, etc. as well as the pay and allowances of the estate general staff. Bonus and gratuity have been separately treated. Head office expenses include management expenses chargeable to the estate. These do not include managing agents' commission, as this is an item payable out of the return allowed as profit on capital employed. The general expenses have been allocated on the basis of direct wages to each of the cost groups, *i.e.* maintenance and up-keep collection charges and processing, in spite of these being often clubbed together as a single item. This would help to show more accurately the actual costs of rubber at different stages as we find that in this manner only can the costs of different stages be precisely worked out.

10.11. *Allocation to mature and immature area.*—The allocation of general expenses to cultivation and maintenance of immature areas should, according to accepted principles of costing, be done separately although in the ultimate analysis the entire expenditure is met from the earnings of the mature and rubber producing areas. In our opinion the cost should not be allowed to fluctuate merely for the reason that in one year there is no replanting or maintenance of immature area while in another year more than normal expenditure is incurred for these purposes. The costs should only provide for the normal expenditure under these heads. Therefore, a separate computation of the general expenses along with the direct costs of replanting, new planting and maintenance of immature areas would help to give a better overall picture of the cost on this account, as also to avoid loading of the current costs of production with a disproportionate amount of general expenses when in any one year more than normal proportion of total acreage is replanted or maintained as immature area. As there is no general practice of funding resources for the purpose of replanting, this convention in costing is not being properly appreciated. In fact, at the hearings the representatives of growers urged that overheads like head office expenditure should not be separately allocated as between mature and immature areas and that being a fixed element, which is incurred irrespective of whether there is planting or replanting, it should be borne by the price realised from the products of the mature areas. It was observed even at the time of our (1951) report that the treatment of replanting expenses lacked uniformity. Some reckoned it as revenue while others reckoned it as capital. On this basis in the previous costing all expenses relating to new planting and replanting had been excluded from the basic costs and the proportion of general overheads and other charges applicable to these sections also were excluded. Estate managements agreed to this at that time. At the hearing on this occasion there were some who opposed this step as a change in the old method which is not correct. In the light of the representations made we have, however, agreed to the limited departure from the previous method namely, to allocate head office expenses solely to cost of mature areas.

10.12. *Costs of cultivation and upkeep.*—Under this head wages include expenditure on direct labour charges in connection with the following operations :—

- (a) weeding and pruning
- (b) forking and manuring
- (c) spraying, dusting and other pest control measures
- (d) cost of laying and maintaining cover crops, shade trees, etc.
- (e) maintenance of fences and boundaries
- (f) cost of maintenance of tools
- (g) miscellaneous expenses

As all these operations also involve the use of materials the expenditure under *Stores* has been separately collected for (a) manuring (b) cost of chemicals for dusting and spraying etc. against diseases or insect pests (c) miscellaneous items.

10.13. *Collection charges.*—Similarly collection charges *i.e.* tapping expenses and gathering of latex, etc., have been worked out under the heads wages, stores and transport. Transport is upto the point of delivery of latex or scrap to the estate's processing unit.

10.14. The average cost of cultivation and upkeep and collection charges for the twelve units worked out as under :—

		Rs. per 100 lbs.	
		1957—58	1958—59
Estate A		72.40	75.35
Estate B		67.13	73.22
Estate C		71.27	64.69
Estate D		51.51	55.86
Estate E		65.94	84.83
Estate F		44.96	49.39
Estate G		48.49	48.27
Estate H		81.05	71.36
Estate I		75.68	71.04
Estate J		104.65	98.26
Estate K		66.15	65.84
Estate L		74.28	74.31
ESTATE WEIGHTED AVERAGE		65.48	65.86
SIMPLE AVERAGE		68.63	69.37

It will be seen that there was no significant increase in costs in 1958-59 though the rates of minimum wages were increased in the year 1958.

10.15. The break-up of the average cost of cultivation and upkeep and collection charges for 100 lbs. for the twelve costed units for the year 1958-59 is as follows :—

	Weighted average	Simple average
	Rs.	Rs.
A. Cultivation and Upkeep		
Wages—		
Weeding and Pruning	2.84	2.97 ¹
Forking and manuring	0.14	0.23
Spraying, dusting and other pest control measures	1.99	2.11
Cover crops, shade trees, etc.	0.12	0.21
Fences and Boundaries	1.08	1.03
Maintenances of tools	0.08	0.21
Miscellaneous	1.12	1.04
TOTAL WAGES	7.37	7.80

	Weighted average	Simple average
	Rs.	Rs.
Stores—		
Manuring.	0.77	0.89
Spraying, dusting and other pest control measures	3.65	3.63
Miscellaneous	0.32	0.40
TOTAL STORES	4.74	4.92
GENERAL EXPENSES	6.61	6.64
TOTAL CULTIVATION AND UPKEEP	18.72	19.36
<i>B. Collection</i>		
Wages	24.50	27.07
Stores	1.07	1.35
Transport	0.33	0.30
General expenses	21.24	21.29
TOTAL COLLECTION	47.14	50.01
TOTAL	65.86	69.37

Production of latex and scrap is the main activity of a rubber grower. Hence in arriving at the final average cost, costs of latex and scrap have been taken at the average of all the twelve estates.

10.16. *Costs of processing and packing—*

10.16.1. *Processing Cost.*—This has been worked out separately under the heads salaries, wages, power and fuel, repairs and maintenance and depreciation, etc. These cover all direct and indirect expenditure included in processing. At the processing stage since expenditure varies from Group to Group listed in the Statutory Price Control Order, e.g., groups 1, 2 and 3 covering R.M.A. sheets or groups 4, 5, 6 and 7 (flat bark) which include crepe product, concentrated latex, etc., separate processing costs have been worked out for each group on the basis of actual expenditure incurred by the costed units. None of the costed units, however, produce 35 per cent preserved normal latex or 50 to 55 per cent concentrated preserved latex by the creaming process. Having decided to maintain the same price differential as is included in the statutory price control order and to treat latex and scrap alike, the processing charges of all the different grades of products comprised within groups 1 to 7 (flat bark) of the statutory price control order have been merged together. To this have been added the appropriate proportion of cost of latex and scrap and the cost of packing and transport to Cochin. The aggregate of these expenses has been allocated among the different grades produced in such a manner as to maintain the existing price differentials. The excess of the cost of R.M.A. 1 sheet determined in the above manner over the average cost is shown as the grade

differential. In the previous inquiries production was taken to include scrap (even when it was not processed) in arriving at the processing charges. So far as the present inquiry is concerned we have followed the more rational method of relating the processing charges only to the quantity processed.

10.16.2. *Packing charges.*—They are made up of the cost of materials like gunnies and packing labour. We have noticed that bare back packing, which obviates the need for separate packing material, has come into vogue. Packing charges for different groups of products have been worked out as far as possible separately for the costed units. The packing charges relating to products under Groups 1 to 7 (flat bark) have been merged together and treated in the manner stated in the previous paragraph.

10.16.3. The average processing and packing charges are shown below :—

		Rs. per 100 lbs.	
		1957—58	1958—59
Estate A	.	13.10	15.48
Estate B	.	14.59	15.11
Estate C	.	23.30	20.92
Estate D	.	9.09	9.26
Estate E	.	17.60	25.79
Estate F	.	11.14	13.52
Estate G	.	10.66	7.40
Estate H	.	17.61	15.10
Estate I	.	15.86	16.36
Estate J	.	13.07	11.14
Estate K	.	..	..
Estate L	.	27.46	18.64
ESTATE WEIGHTED AVERAGE		15.03	15.29
SIMPLE AVERAGE		15.77	15.34

At K estate none of the products within groups 1 to 7 (Flat Bark) was processed. The average has therefore been calculated on the basis of the figure of the remaining eleven estates. Processing charges differed widely from estate to estate and in 1958/59 they ranged from Rs. 7 to 26 per 100 lbs. One of the reasons for such variation may be that some units process their scarp into E. B. C. grades while others are engaged only in producing R.M.A. sheets. But there were other reasons also. For example, in one estate in which the processing charges increased sharply from Rs. 17.60 in 1957/58 to Rs. 25.79 in 1958/59, an area of about 100 acres had been let out for contract tapping which resulted in a sharp fall in the quantity processed while the

expenses remained more or less stationary. Again in another estate a large quantity of latex was sold in the raw state which reduced the quantity to be processed, without any corresponding economy in expenses. These show that there is scope for economy in the processing charges of the individual estates.

10.16.4. The break-up of the average processing and packing charges for 1958-59 is shown below :—

Rs. per 100 lbs.		
	Weighted average	Simple average
<i>Processing charges</i>		
Salaries	1.49	1.40
Wages	4.49	4.67
Power and Fuel	1.43	1.38
Stores	1.03	1.18
Repairs & Maintenance	0.98	0.93
Depreciation	0.60	0.53
Sundries	0.38	0.24
General expenses	3.98	4.06
Total processing charges	14.38	14.39
Packing charges	0.91	0.95
Total processing and packing charges	15.29	15.34

10.16.5. The grade differential for equating the average costs to that of R.M.A. 1 grade rubber is shown below :—

Rs. per 100 lbs.		
Name of the Estate	1957—58	1958—59
Estate A	1.46	1.90
Estate B	2.78	2.64
Estate C	6.79	7.04
Estate D	0.97	0.37
Estate E	0.37	0.33
Estate F	2.96	2.51
Estate G	0.42	0.45
Estate H	0.05	0.03
Estate I	4.14	4.71
Estate J	3.11	3.06
Estate K . . . . .	..	..
Estate L	3.38	1.17
WEIGHTED AVERAGE.	3.11	3.19
SIMPLE AVERAGE	2.40	2.20

10.17. *Transport and handling charges from estates to F.O.B. Cochin.*—The basis of the present statutory price is f.o.b. Cochin though not all the costed units sell their entire production at Cochin. Sales are even effected at the estate itself as also in other towns. The transport charges to Cochin have, therefore, been estimated wherever necessary and the average has been arrived at for both the years which per unit of 100 lbs. works out to Rs. 3.45 on the weighted average basis and Rs. 3.15 on the simple average basis for the costed units.

10.18. *Total Cost of production.*

10.18.1. The total cost, f.o.b. Cochin, of R. M. A. 1 sheets for 1958-59 works out as follows :—

	Rs. per 100 lbs.	
	Weighted average 1958—59	Simple average 1958—59
1. Latex (<i>vide</i> paragraph 10.157)	65.86	69.37
2. Processing charges and packing. (<i>vide</i> paragraph 10.16.3)	15.29	15.34
3. Grade differential to equate the cost of production to R.M.A. 1. (<i>vide</i> paragraph 10.16.5)	3.19	2.20
	84.34	86.91
4. Estimated freight and handling to f.o.b. Cochin. (<i>vide</i> paragraph 10.17)	3.45	3.15
	87.79	90.06
The yield per acre corresponding to the above cost was.	410 lbs.	408 lbs.

10.18.2. The statement below shows the actual production in different groups 1 to 7 for the costed units in 1958-59 and the pattern of production within those groups for estates which furnished returns to the Rubber Board for 1958.

	Costed units 1958—59 %	As given by Rubber Board for 1958 %
Group 1	57.3	54.2
Group 2	17.9	14.1
Group 3	1.4	4.2
Group 4	2.8	13.0
Group 5	16.5	9.9
Group 6	2.6	4.4
Group 7	1.5	0.2
	100.0	100.0

For groups 1 and 2 the figures furnished by the Rubber Board are less than those for the costed units, but this is more than compensated by the higher percentage for group 4 products which are superior to groups 1 and 2 products. Further, as production under groups 5 to 7 where the products are inferior to group 1 is higher for the costed units, the grade differentials which have been adopted on the actual basis for equating the cost of production to R.M.A. 1 would, if anything be more favourable to the industry.

10.19. *Cost of replanting.*

10.19.1. Apart from production of rubber, one of the important activities of an estate is the replanting of areas having overage trees, so as to maintain or improve the yield of the estate. One method of ascertaining the cost of replanting would be to collect the expenses actually incurred for replanting an area in the past and maintaining it till it matures and yields rubber. But this has not been considered to be a suitable method for the following reasons :—

(a) The period of maintenance being long, the expenses actually incurred will not be representative of the present day level of expenses.

(b) A proper verification of expenses incurred in the past was not possible.

After careful consideration it was decided to compute the replanting costs on the basis of costs for the latest two years. The possibility of estimating the total cost of replanting from the recorded expenses of replanting and maintenance in any one year arises from the fact that the immature areas in any year would have been replanted/new planted in different years. Thus it is possible to ascertain not only the cost of replanting in the first year but also the cost of maintenance of immature areas in the second and subsequent years separately for different areas. Although areawise break-up of costs was not available in some of the estates costed, sufficient data were available to enable us to make a reasonable assessment of the expenses of replanting and maintenance of immature area. The costs of replanting (first year's expenses) differed according to the method adopted, nature of the area replanted, etc. But the costs of maintenance for subsequent years actually arrived at for the individual estates were comparable with one another barring a few exceptions. It was also found that there was no significant trend in variations in the first year's expenses of replanting between the two years 1957-58 and 1958-59. Hence the first year's expenses were arrived at the average for both the years 1957-58 and 1958-59. As regards maintenance charges for the subsequent years, since there was an upward trend in 1958-59, we thought that it would not be fair to the industry to take the average of 1957-58 and 1958-59. The charges have accordingly been computed on the basis of expenses for the year 1958-59.

10.19.2. It is assumed that usually a replanted area will have to be maintained for about 7 years and that it comes into bearing in the 8th year. In some of the units costed it was seen that replanted areas were being maintained even in the 9th year. We have, therefore, taken that a replanted area will on an average have to be maintained for 8 years and that it would come to bearing in the 9th year. The replanting costs computed on the above basis worked out to—

Direct cost	Rs. 1,420
Estate general expenses	Rs. 792
	<hr/> Rs. 2,22

It was seen that sale proceeds from the trees felled for clearing an area for replanting varied widely from estate to estate depending on its location. The average credit actually realised during 1957-58 and 1958-59 was about Rs. 125 per acre. Nevertheless, in computing the direct costs, a lower credit of only Rs. 80 per acre has been taken on the basis Re. 1 per tree for an average stand of 80 trees per acre which is the average for the costed units. We have also excluded in the case of one estate the cost of terracing which was as high as Rs. 270 per acre. The benefits of such terracing once done are likely to continue for long and cannot be treated as in the nature of ordinary expenses for replanting.

10.19.3. The estimates of the cost of replanting or new planting furnished by the different estates were more or less the standard estimate of cost suggested by UPASI. Some figures given by individual holdings including a Government plantation show wide variations. We have also examined the costs incurred by the Rubber Board in maintaining an immature area. After taking into consideration all the relevant factors, we are satisfied that our computation of cost of replanting in the foregoing paragraph is reasonable and fair to the industry.

11.1. Having dealt with the actual costs, it would be interesting to compare them with the experience in the neighbouring countries like Malaya and Ceylon. We have been unable to get any up-to-date information about the present conditions and costs in the rubber industry in Ceylon and Malaya. But we have seen the report on Malayan Rubber Industry, 1954 by the Mission of Enquiry into the Rubber Industry of Malaya. We were also able to obtain through the High Commission of India in Ceylon some data about the cost of production in that country in 1955, 1956 and 1957.

**Cost in Malaya
and Ceylon.**

11.2. The report on the Malayan Rubber Industry has noted the ratios of expenses under various heads to the total expenditure of estates planted with old rubber giving a low yield. These ratios as well as the

corresponding figures for costed units in India with yield upto 400 lbs. per acre are shown below :—

	Malaya %	India %
Cultivation	12	14
Tapping	40	34
General charges, depreciation and maintenance of plant .	30	39
Processing, packing and despatch	8	13
	<u>90</u>	<u>100</u>

The Mission seems to have been confronted with difficulties similar to those we have faced. The actual expenses incurred would not reflect for each year the true cost including true incidence of replanting. "On an estate planted wholly with high-yielding trees, nothing may be spent on replanting for many years, while on a mature estate, it may be inexpedient to replant in any one particular year and wise to spend a large amount on replanting in another. It is not correct, however, to assume that in a year in which no replanting has taken place the cost of producing rubber is lowered, and that in a year in which more than normal expenditure on replanting has been incurred the cost of production has thereby been increased. A provision for the loss of capital resulting from the ageing of trees is part of the true cost of producing rubber in the same way as provision for depreciation of plant and machinery is a cost." This supports the methods adopted by us in earlier and the present inquiries for allocating the estate general expenditure to immature areas. For, with sporadic increase in the replanted areas, it is not only the direct costs on that area that contribute to an abnormal rise in the cost of raw rubber, but also the general charges pertaining to the entire areas, which are loaded on the production from a reduced area.

11.3. In Ceylon, the costs of production of sheet rubber in 1955, 1956 and 1957 was 95·7, 94·5 and 87·5 cents per lb. respectively, which would work out to roughly as many rupees per 100 lbs. Crepe, preserved latex and sole crepe generally costed about Rs. 3 more. Wages accounted for 57 to 60 per cent of cost. The largest single item of expenditure was on tapping, which accounted for about 35 per cent. It is interesting to note that the costs of stores for manuring, spraying and other pest control measures, which were available separately for the years 1955 and 1956 were only Rs. 4·33 and Rs. 4·30 per 100 lbs. respectively for these years.

12.1. In projecting the prices for the future on the basis of the costs for the period 1958-59 we have taken note of the fact that the price should be prescribed in a manner that should be considered as fair and allow for variations that may arise during the price period. The price fixed in 1952 continued till 1955 and the *ad hoc* increase in the latter year still holds good. It will be reasonable to estimate the projection of future prices over a period of three to five years.

**Estimates of
future costs
and fair prices.**

12.2. For estimating the costs for future it is first necessary to estimate the yield. It is seen that for the rubber estates the yield has been rising steadily from year to year from 1952 onwards. For example, the average yield in 1952 for the estates was 351 lbs. per acre while in 1958 the average yield rose to 419 lbs. per acre. In paragraph 10.19.2. we have assumed that on an average the replanted/new planted area may be assumed to come into bearing in the 9th year. On this basis the acreages under budded or clonal seedlings that are likely to come into bearing in the next 5 years are known from the figures for replanting and new planting published in the Indian Rubber Statistics. Taking into account the fresh areas that are likely to come into bearing in the next 5 years and assuming that 1/30th of the bearing area will normally be replanted each year it has been estimated that the average yield during the next five years would be about 460 lbs. per acre for the estates. We have utilised this yield to estimate the element of depreciation/rehabilitation to be provided in the price. For all other purposes including return on capital the estimates have been based deliberately on the average yield for the costed units in 1958/59 to provide a reasonable margin to the growers.

12.3. The factors to be taken care of in estimating the future costs and fixing a fair price may be summarised as under :—

(a) Minimum wages have increased with effect from 1958 and the Employees Provident Fund Act, 1952 has been extended to all plantation workers since 1957.

(b) The number of paid holidays has been increased from 2 to 7 since 1958.

(c) The cost of amenities to be provided according to the rules made by the Kerala Government under the Plantation Labour Act.

(d) Amounts to be provided to enable the estates to be treated properly with manure, spraying, dusting and other pest control measures, and any rise in cost of stores.

(e) Provision for gratuity.

(f) Provision for bonus.

(g) Depreciation on the cost of existing stand of rubber trees.

(h) Provision for replanting/new planting.

- (i) Return on capital employed.
- (j) Weightage for higher cost of small growers.
- (k) Effect of possible change in pattern of production.

We shall deal with the above items *seriatim* :

12.4. As far as the incidence of increase in the minimum wages and provident fund is concerned, since our estimates are related to the latest year 1958-59 no further adjustment has been considered necessary on this account, except in regard to the increase in number of paid holidays.

12.5. The Kerala Plantation Labour Rules, 1959 were issued in April 1959 requiring the plantations to afford to their workers a variety of amenities including the running of garden hospitals by plantations employing more than 1,000 workers, requiring provision for housing, leave and maternity benefits, issue of umbrella or blankets, etc. to workers. These are being implemented gradually. But to the extent that some of these amenities like housing, leave and maternity benefits, umbrella, blankets, medical facilities etc. were already being provided and their incidence do not uniformly apply to all the units in the industry there would be no need to add substantially to the element that has already entered into the costing for 1958-59.

12.6. It would be seen from paragraph 10.15 above that for 1958-59 the expenditure (including wages) on (a) manuring, (b) spraying dusting and other pest control measures and (c) cover crops was Rs. 1.12, Rs. 5.74 and Re. 0.21 respectively per 100 lbs. At the public inquiry the representatives of growers contended that these figures should not be taken as representative as the low incidence was due to non-availability of sulphur, manure and other materials due to delays and difficulties in getting import permits etc. They claimed that for proper maintenance of their estates a sum of Rs. 35 per acre should be provided for dusting with sulphur, a sum of Rs. 65 for spraying and about Rs. 52 per acre for application of manure in two different stages: pre-monsoon and post-monsoon. However desirable this norm of expenditure may be, it will be seen that though in our costing in 1952-53 a sum of Rs. 15.47 (manure Rs. 1.50, spraying Rs. 10.82, dusting Rs. 2.50 and cover crops Re. 0.65) was provided under the above heads, only Rs. 7.07 per 100 lbs. was found to have been incurred during 1958-59. The actual expenditure incurred does not compare unfavourably with expenditure incurred on similar items in Ceylon. The figures derived from the costs incurred by the twelve units are representative in the sense that these estates are spread over different geographical areas, their sizes vary and they have also followed different manuring and plantation methods. In respect of the chemicals required for manuring, spraying and dusting and expenses on cover crops, our Cost Accounts Officers have collected data for the past five years. The following table gives the average expenditure per acre for the past five years on

chemicals for spraying, dusting and manuring and on cover crops compared with the corresponding expenses incurred during 1957-58 and 1958-59.

(Cost per acre.)

	Average for 5 years	1957-58	1958-59
Manure	2.9	4.0	4.7
Spraying and dusting	14.2	15.3	12.7
Cover crops	0.7	0.6	0.7
TOTAL	17.8	19.9	18.1

It will be seen that the expenditure per acre on the average for the twelve estates is in line with the average for the last five years. There is a general correlation between the expenses incurred on cultivation and upkeep and the yield obtained per acre by the individual estates. Higher expenditure on manure, spraying and dusting is usually accompanied by higher yield either in the same year or in subsequent years. At the open session the growers disputed the point that the incidence of these charges could be sporadic, despite the fact that the costing showed negligible costs incurred by some estates and as much as Rs. 70 per acre (including wages) is incurred for spraying, dusting, etc. by one estate. We examined the claims of the industry carefully and are satisfied that no special consideration is necessary in this matter, as our estimates of cost are based on the experience of a representative cross-section of the industry stretching over a period of 5 years. However, ample provision has been made in the contingencies to take care of normal variations in cost.

12.7. We have provided a sum of Rs. 5 per 100 lbs. as contingencies to cover any rise under the heads dealt with under paragraphs 12.4 to 12.6 such as additional holidays, extra amenities, cost of stores, etc. as also any extra expenditure for manuring and spraying, etc.

12.8. Gratuity is to be paid to all permanent workers on retirement at the rate of 15 days wages for each year of service. The payment of gratuity is no doubt a new incidence; but its amount could only be computed on the mean average figure based on normal age at retirement and estimated service period for which gratuity would become due. Making allowance for exclusion of temporary staff not qualifying for gratuity from the present wage bill of costed estates, an *ad hoc* provision has been proposed for gratuity. Taking note of these factors, we consider that a sum of Rs. 2.00 per 100 lbs. would be adequate as provision for increased liability under this head.

12.9. Bonus—

12.9.1. A system of bonus in the shape of lump sum payment as a percentage of the wages earned by workers seems to have come into vogue in the plantation industry since 1946. Payments appeared to have been made until recently by the industry on a voluntary basis. In the case of profit-sharing bonus or other voluntary payment, it is not customary to include such bonuses in assessing the costs of production, as it is expected that this should be paid out of the margins allowed in the price for return on capital. With the growth of the trade union movement, labour in the plantation industry is reported to have become more bonus-conscious and its payment has become a matter of almost enforceable legal obligation. For the three years 1957, 1958 and 1959, the matter had to be settled finally by a Conciliation Agreement which is being enforced under the aegis of the State Government. Under this agreement, rubber estates, which admeasured over 200 acres, had to pay bonus at the rate of $7\frac{1}{2}$ per cent of the annual total monetary earnings of the workers; those below 200 acres $6\frac{2}{3}$ per cent and those who do not fall within the purview of the Plantation Act $6\frac{1}{4}$ per cent. The rates do not apply to non-bearing areas only and extend to temporary and casual workers also. The Agreement also provides for payment from 1960 on a suitable formula, which is yet to be fixed.

12.9.2. The Industry has contended that though under the Supreme Court formula of bonus, the large majority of plantation companies would have no surplus for distribution of bonus the State Governments have refused to refer the bonus disputes to Tribunals with the result that the companies have been more or less forced to give bonus regardless of their making profits. They have, therefore, argued that either the Commission should allow this type of enforced bonus, which is like a deferred wage, as an element in the cost of production, or allow a higher percentage of return on capital to provide for payment of bonus. In the circumstances of the case there is some force in the contention that the liability on this account is inescapable like any item of cost. In the absence of any definite agreement in regard to the quantum of bonus to be paid to the workers, there is no guarantee that fresh claims over any provision that we may make would not arise later. We are not, therefore, agreeable to make any *ad hoc* provision for bonus as an element of cost. We consider that there is no need to depart from the usual practice of allowing such payments to be made out of the return on capital.

12.10. Depreciation/Rehabilitation—

12.10.1. In 1951 the Tariff Board provided in the price of rubber an element of Rs. 4.44 net exclusive of tax (Rs. 6.82 gross) for purposes of development and rehabilitation of the industry. It also recommended that, if it was found at the end of the year that the rubber growers were not properly utilising the amount, Government should consider whether the fair selling price which was paid to the growers should be reduced by the amount of this element. In 1952 the Tariff Commission

found that most of the estates had set apart some amount for rehabilitation and though the industry pressed for a larger provision, the Commission did not accept the claim and recommended that the element of Rs. 4.44 net exclusive of tax (or Rs. 6.82 gross) which was included in the 1951 price should be continued in order to provide the necessary incentive to the industry to launch a programme of development. The element was calculated on the basis of a net replanting cost of Rs. 1,000 per acre to be recovered over a period of 30 years on an expected yield of 750 lbs. per acre. In 1955 when an *ad hoc* increase of Rs. 12 per 100 lbs. was sanctioned, it was stated to include a further element for rehabilitation. As mentioned in paragraph 9.2. the industry has represented about the inadequacy of this element and the basis for its calculation.

12.10.2. While referring the present case to us Government have observed that the producers of raw rubber have not utilised the rehabilitation element adequately. We accordingly asked the growers, associations of planters and the Rubber Board to inform us whether any special fund for rehabilitation purposes had been credited by the growers as well as the extent to which such funds had been actually utilised for replanting. It was found that barring a few exceptions none of the growers, whether small holdings or large estates including companies, have created any special fund out of this element. Some producers asserted that this rehabilitation allowance has been absorbed in subsequent rises of their costs.

12.10.3. We were furnished by Shri N. Sankara Menon, ex-Chairman of the Rubber Board, with a statement showing production of natural rubber from June 1951, the total replanting element (replantation), the area which could have been replanted every year and maintained out of this element and the area actually replanted every year. Till the end of 1956, *i.e.*, prior to the starting of the Rubber Board's replanting subsidy scheme, the amount realised as rehabilitation element aggregated to Rs. 95.65 lakhs. On an average estimated expenditure for replanting of Rs. 1,000 per acre and assuming Rs. 400 as the liability of the first year, he calculated that 14,500 acres could have been replanted from 1952 to 1956 as against 6,028 acres actually replanted. For the years 1957 and 1958 while the replanting and rehabilitation element of the price was sufficient for replanting 2,393 acres and 2,040 acres respectively, the area actually replanted were 3,285 and 2,843 acres respectively. According to Shri Sankara Menon on the whole upto the end of 1958 only 12,156 acres were replanted whereas even without subsidy 18,926 acres should have been replanted. It is not possible for us to accept this assessment as it does not take account of the rise in the cost of replanting that has taken place subsequent to our last inquiry in 1952. It should not also be overlooked that the higher tempo of replanting in 1957 and 1958 was largely due to the stimulus of subsidy.

12.10.4. UPASI has stated that on an average yield of 300 to 400 lbs. per acre the amount realised on account of rehabilitation element during the period 1952—59 would range from Rs. 100 to 135 per acre. In the context of re-planting cost exceeding Rs. 1,700 per acre, the allowance would be sufficient for replanting 6 to 8 per cent of the total acreage while the actual re-planting has exceeded 8 per cent besides the new acreage which was opened up. Identical views have been expressed in the reply we have received from the Rubber Board, which has further stated that as against a possible credit of Rs. 1½ crores to the rehabilitation fund, the total area rehabilitated during the same period without subsidy was 6,614 acres and the area re-planted during 1957-58 with subsidy was 6,826 acres.

12.10.5 As regards the lack of progress in replanting the general explanation of growers was that the rehabilitation allowance was inadequate and that they had spent much more than Rs. 125 per acre recovered over a period of eight to nine years on the acreage planted. This argument is not sustainable. The rehabilitation amount is collected not on the basis of each acre actually replanted but on the growing output of the estate's existing tappable acreage as a whole. For example, even if only 1 acre out of 30 is replanted, the recovery for replanting and maintenance of that area would be Rs. 533 per year on a yield of 400 lbs. per acre of 30 acres area at a net rehabilitation allowance of Rs. 4.44 per 100 lbs.

12.10.6. From the evidence and as a result of our inquiry, we are not in a position to state that the industry as a whole has utilised the rehabilitation allowance purposefully, though there is evidence to show that notwithstanding the inadequacy of the inducement provided by the present rehabilitation allowance, discerning growers have done more than their normal replanting quota. This was to be expected, as the cumulative increase in the output of areas replanted with high yielding materials has operated to their advantage. We do not wish to pass a sweeping judgment on the performance of the industry as a whole in the matter of replanting. Suffice it to say that replanting supplemented with new planting on an extensive scale is necessary if the output of rubber plantations has to reach eventually the production target of rubber needed by the manufacturing industries over the next ten years.

12.10.7. Various replanting schemes have been considered from time to time under the aegis of the Rubber Board and we understand that a lot of preparatory work has already been done by the working group appointed by the Planning Commission in connection with the Third Five Year Plan. At present the assistance given by the Rubber Board is extended out of the resources built up from the levy of cess of one anna per lb. which is the maximum leviable under the Rubber Act. We understand that under the scheme for replanting and new planting proposed by the Working Group it may be possible with double the amount of cess to double the output of rubber by 1970. It has been

suggested that if the resources available to the Rubber Board are augmented by increased cess, the replanting programme for rubber could be stepped up progressively from 7,500 acres in 1960 to 10,000 acres in 1965. To help the grower to replant with high yielding material, the level of subsidy should be enhanced from the present figure of Rs. 300 to 400 to Rs. 1,000 per acre. Since this scheme is under consideration by experts and would finally come up before Government for approval, and we have not been officially asked to comment on it, the details thereof have not been discussed fully. But we are satisfied that to achieve the objective for which this replanting scheme is being considered, additional finance by way of an element in the price or a general levy or both would be required.

12.10.8. In the present stage of the plantation industry the largest number of growers consist of small holders. Since out of a total of about 50,000 growers about 120 only are companies with a proper statutory audit, we feel doubtful whether a large element in the price ostensibly ear-marked for rehabilitation would be properly utilised for the purpose for which it is allowed. Officials connected with the rubber industry are sceptical about the wisdom of entrusting the whole rehabilitation allowance with growers instead of funding it with the Board. On the other hand, the representatives of growers are vehemently opposed to parting with the rehabilitation element which they claim with some force is really the depreciation element in the price which they are entitled to retain. They have also urged that constituted as the Rubber Board now is, it cannot handle separately accounts of 50,000 growers if the rehabilitation cess is either funded with the Board or separately maintained subject to withdrawals being authorised by the Board. Apart from the magnitude of the task there is also some apprehension from growers' representatives that administrative delays and red tape would hamper the quick utilisation of the rehabilitation fund, when it is actually needed by them.

12.10.9. Even as it is, there is a fear that because of the large number of small growers and small dealers there is some leakage in collection of the cess amount. If the rehabilitation allowance also is to be collected as a cess from the grower the potential loss of revenue may be much higher. We understand that a proposal to simplify collection by putting the liability to pay the cess on consumers of rubber is being actively considered. We are independently of the view that this is a good method to improve the collection of cess.

12.10.10. In the circumstances we suggest a compromise proposal on the rehabilitation allowance. According to our scheme based on the computation of replanting cost given in paragraph 10.19 a standard element as for depreciation on cost of the stand of trees may be included in the price realised by the grower. The residual element required for proper rehabilitation of plantations may require to be given as an incentive for development. Described as a development cess, it need not be given direct to the grower but it may be added to the existing rubber cess to be administered by the Rubber Board as described in

paragraph 12.10.7. Necessary statutory changes would have to be carried out since the maximum cess leviable now stands at one anna in the rupee.

12.10.11. Taking the economic life of a rubber tree at 30 years a reasonable rate of depreciation would be 3 per cent per annum on a straight line method on the original cost of stands. In the balance sheets of the several companies costed, the original cost of plantation and the cost of land are shown together and are not separately available. Where present holders of the estates have purchased from original planters and have paid lump sums to cover both the cost of land (which is a non-depreciable asset) and cost of plantation, the original cost of plantation excluding cost of land could not be ascertained. It has been estimated, however, that on an average the original cost of planting would not have been more than Rs. 700 per acre. The figure was derived by estimating the cost of new plantations since 1944-50 periods at Rs. 1,200 per acre and that of earlier plantations at about half the figure which, we consider, should be reasonable on the price level prevailing at that time. While it may be correct, following the analogy for wasting assets in industry, to relate fair depreciation to the estimated cost of stands of rubber trees at Rs. 700 per acre, the quantum so fixed will not be realistic in the present state of the plantation industry and its financial requirements. As stated in paragraph 12.10 the present composite element in the price for depreciation/rehabilitation was found inadequate when it was actually used for replantation. As against the basis of Rs. 1,000 net per acre and a yield of 750 lbs. per acre on which the element of Rs. 6.82 (inclusive of tax) is worked out, we have estimated the full cost of replanting an acre and maintaining it till it reaches maturity at Rs. 2,200. Further although the yield from the replanted area may be taken at 750 lbs. per acre, the cost of replanting has to be earned on the average yield of the entire mature area which is estimated at 460 lbs. per acre in the next five years. We observe that a provision exists in the Madras Agricultural Income Tax Act by which a plantation industry can charge to its current revenue its current expenditure on replanting within limits regardless of the original cost. A similar provision has been made in the Indian Income Tax Act in respect of the tea plantation industry. The Commission in the past had also tacitly recognised this point in providing a composite element for depreciation-cum-rehabilitation. While this practice may not commend itself on a theoretical basis for allowing the rubber plantation industry as depreciation the full present day replacement costs, we are convinced that it would not be fair to the rubber plantation industry, as it is to-day to assess depreciation only on the estimated *original* cost. Instead of basing depreciation on Rs. 700 per acre of plantation we have considered it fair to take a figure of Rs. 1,400, which incidentally covers the current cost of replanting excluding general expenses as computed by us. On the projected yield figure of 460 lbs. per acre for the present price period, depreciation at 3 per cent will then work out to approximately Rs. 9 per 100 lbs. of rubber. The grower of rubber cannot expect the consumer to pay a price which will reimburse him in full his replanting

expenditure at current day costs. To the extent that such replanting means creation of capital assets (as in the case when replanting with higher yielding strains which will fetch higher income in future), the grower must be prepared to meet it out of his own resources. We accordingly recommend that an element of Rs. 9 per 100 lbs. may be provided in the fair price for rubber on the condition that the continuance of this element in full may be reviewed after 2 years if it is found that growers still make insufficient provision for replanting and the work in this regard is not being properly done.

12.10.12. This brings us to the question of anomaly in the taxation of rubber which also impedes the proper development of the industry. Under the Agricultural Income Tax Laws of Kerala and Madras States the income from rubber is assessed to agricultural income-tax. The law allows depreciation and development rebate only on plant and machinery though in the rubber plantation industry rubber trees constitute the main asset of the industry. The claim of the growers is that agricultural income-tax should allow depreciation allowance on this main capital asset, in the same way as the Central Income Tax does in the case of non-agricultural industries. We are informed that under the Kerala Agricultural Income Tax Act, 1950, the replanting expenses are not allowed as outgoings of a revenue nature. But under the Indian Income Tax Act in respect of Tea and under the Madras Agricultural Income Tax Act, 1955, actual expenditure for replanting is allowed as a revenue expenditure. Under the latter Act the amount is restricted to what is necessary for replanting $2\frac{1}{2}\%$ of the acreage; and if expenditure is not incurred in any year, the allowance for the year or years is allowed to be carried forward for a period of three years. But if the amount is provided as depreciation for subsequent utilisation for the same purpose, it is not allowed as an item of expenditure for purposes of Agricultural Income Tax.

12.10.13. The absence of a proper provision for depreciation and the failure thereby to garner the resources for replanting has been one of the reasons responsible for the neglect and the lack of progress in the rubber plantation industry. The comparatively low yield of rubber is mainly due to lack of initiative and method in purposefully planting with high yielding material which is more expensive. It is to remedy this state of affairs that in 1951 the Tariff Board recommended a depreciation and rehabilitation allowance of Rs. 6.82 in the price. It is anomalous that this element in the price which is in fact borne by the consumer (who is a manufacturer meeting his separate tax liability) should be taxed to agricultural income tax. Thereby a sizable portion of the amount which the consumer has to pay through the statutory price for securing his raw material supply is taken away for general fiscal purposes and the objective of developing an essential industry remains unfulfilled. On account of the importance of the rubber plantation industry, its significant role in the economy of the areas in which it is located, its vital contribution to the economy of the country as well as to the revenues of the State and its high employment potential.

we would strongly urge that the State Governments should take up the question of affording legitimate relief from taxation in respect of the provision for depreciation.

12.10.14. Normally the replacement of the wasting assets should be effected with the accumulated depreciation provided in the past, and to provide for any rise in replacement cost, prudent businessmen provide out of their profits additional sums. Had the industry from the start followed the practice of replanting its areas with overage trees regularly with improved varieties, the yield today would have been much higher and the incidence of actual cost of replanting per 100 lbs. of rubber would have been much less. When it reaches the stage that with further replanting the yield cannot be improved upon but can only be maintained, the whole of the expenditure for replanting a normal proportion of the total acreage can be considered to be of a revenue nature. The situation today is that even the depreciation on original cost of the overage acreages has not been accumulated; and adequate reserves have not been built up by the industry to cover increased cost of replanting. In the circumstances, the Commission is of the view that for a limited period, some assistance should be given to the industry which together with the depreciation element provided for in the price (as per paragraph 12.10.11), should enable the industry to undertake replantation of a normal proportion of the total planted area. Taking the economic life of rubber trees at 30 years, it would be reasonable to provide for replanting 1/30th of the mature area each year. Assuming as stated in paragraph 10.19.2 that a replanted area will come into bearing in the 9th year, the above norm of replantation will mean that while 1/30th of the bearing area is replanted each year another 7/30th of the bearing area will have to be maintained as immature area at various stages of immaturity. Thus in any year a provision should be made to cover the expenses of an immature area of 8/30th of the bearing area or 8/38th of the entire planted area. In para 10.19.2, it has been shown that the cost of replanting one acre and maintaining it for the subsequent 7 years till maturity would be—

	Rs.
Direct expenses	1,420
Estate general expenses	792
TOTAL	2,212

This total expenditure looked at from another angle may be stated to be equal to the cost of replanting in any year one acre and maintaining 7 acres in various stages of immaturity. Thus for each acre of bearing area in any year, normal provision should be 1/30th of the amount. This will be as shown below :—

	Rs.
Direct costs	47·3
Estate general expenses	26·4
TOTAL	73·7

In the immediate future, the production is likely to be on the average, 460 lbs. per acre and, therefore, Rs. 16 per 100 lbs. would be required for replantation at current costs. Out of this Rs. 9 will be covered by the depreciation element as per paragraph 12.10.11. The balance amount required should, therefore, be available out of the Cess fund for payment of subsidy.

12.10.15. It was stated in paragraph 12.10.7 that to enable the Rubber Board to raise its rate of subsidy to Rs. 1,000 per acre, it would be necessary to impose an additional cess over and above the present cess. It is proposed, therefore, to levy a development cess of Rs. 7 to be recovered from the consumers in addition to the existing cess. Out of this cess, the growers whose replanting schemes are approved should get an amount not exceeding Rs. 1,000 per acre. We have suggested this element of Rs. 7 to be recovered as a development cess in order that state taxation may not curtail further the money recovered for development of the industry from the consumer of rubber. It has to be given as a proper inducement to the grower for improving and enhancing the production of raw rubber. Unlike in the case of the depreciation element, which growers are claiming to retain with them even if it becomes subject to taxation, we have considered that this element for development should be funded with the Board so as to ensure that it is used properly. By leaving it to the discretion of the growers, the funds may not be properly applied and the ultimate object for which this levy is to be made from consumers will remain unfulfilled.

12.10.16. It may be mentioned that the Working Group appointed by the Planning Commission has considered that a replanting subsidy of Rs. 1,000 per acre is enough to implement a plan of bringing 40,000 acres under cultivation within 5 years and which could be financed from an aggregate cess double the amount of the present levy of 6.25%. In these circumstances, a provision of Rs. 9 for depreciation and rehabilitation in the hands of all growers and the existing rubber cess augmented by a new development cess of Rs. 7 per 100 lbs. collected by the Rubber Board for grant of substantial replanting subsidies would go far to implement effectively the programme of rehabilitation of plantations.

12.11. *Capital employed and return—*

12.11.1. In the previous two inquiries, return on capital was, following the usual practice, allowed as a percentage on the original value of fixed assets. For computing the value of these assets, however, since the Board in its 1951 inquiry found that the basis of valuation of land and development, etc. adopted by the estates was not scientific, it was of the view that any value fixed on the basis of such accounts might not represent the correct position. The Board, therefore, considered that the alternative was to take the paid-up capital as

the basis to arrive at a reasonable figure for this purpose. From the examination of published accounts of the five estates then costed the paid-up capital per acre of mature plantation area worked out to Rs. 1,191 which was rounded off to Rs. 1,200 per acre. This amount of Rs. 1,200 per acre of mature area was taken to represent the fixed capital of the industry. The Board allowed a gross return at the rate of $12\frac{1}{2}$ per cent on the paid-up capital and estimating the yield at 350 lbs. per acre, the amount of return on fixed assets worked out to Rs. 42·86 per 100 lbs. Estimating the element of working capital as equivalent to 3 months' cost of production, the Board allowed a rate of interest at 5 per cent, which worked out to Rs. 0·89 per 100 lbs. The Tariff Commission in its report of 1952, adopted the same basis of paid-up capital and decided that Rs. 1,200 per acre should be taken to represent the fixed capital of the industry. Allowing the return at the same rate but assuming a higher yield per acre at 400 lbs. per acre, the return on capital per 100 lbs. worked out to Rs. 37·50. The element of working capital was estimated to be equivalent to 3 months' cost of production and interest at 5 per cent was allowed. On this basis the interest charges worked out to Rs. 1·07 per 100 lbs.

12.11.2. The industry has represented that to treat the paid-up share capital as equivalent to fixed capital of the industry is unfair because considerable investment both in carrying out replanting and new planting at progressively rising costs has been incurred. Estates may have utilised internal resources or borrowed capital for financing such investment and the value of fixed assets of progressive units in the industry was likely to be in excess of the paid-up capital. In the case of some of the big companies, which are composite units, that have been costed, the separate paid-up capital relating to rubber or to one of the units under rubber would have to be reckoned on an *ad hoc* basis. The representatives of the industry urged, therefore, return should more appropriately reflect capital employed than the paid-up capital. We have considered carefully the various aspects of this matter and have decided to take the basis of capital employed in the industry for calculating return thereon, as has been done in the case of non-agricultural industry.

12.11.3. Net fixed assets of the various component companies can be divided into three broad groups, viz., (i) land and development, (ii) plant, machinery and buildings for processing rubber and (iii) other fixed assets such as office buildings, quarters, etc. The last two cause no difficulty as precise figures relating to them are available from the statement showing the calculation of depreciation for agricultural income-tax. Where such calculations were not separately available for an estate, the figures calculated by the company have been adopted. For the first group the figures have been taken from the latest balance sheets, but adjustments have been made for such of the amounts as have been considered of a capital nature during the periods costed. Some companies were composite units comprising several estates under either rubber or rubber and tea. In such cases the figures have been taken

from the records of the company whenever separately available. In other cases it has been estimated on the basis discussed with the company.

12.11.4. In paragraph 12.10.11 we have provided depreciation on the original investment on mature areas reckoned at 3 per cent. This should, therefore, be adjusted for the next few years against the value of land and development. But since the value of development is likely to go up because of new planting/replanting in the future, we have left the figures arrived at as at the end of the year 1958-59 unaltered for purpose of computing employed capital. In calculating the figures of land and development and other fixed assets (excluding the net values of factory building and plant and machinery) per 100 lbs. the total amounts were divided by the actual production for 1958-59. The net value of factory buildings and plant and machinery was related to only the quantity of rubber processed. The figures of net assets per 100 lbs. for different costed units at the end of 1958-59 as worked out for the 12 estates costed is given below.

(Rs. per 100 lbs.)			
Estate	Land and Development	Other fixed assets	Total
A	210.91	48.90	259.81
B	182.19	81.73	263.92
C	321.54	47.42	368.96
D	250.86	36.68	287.54
E	811.61	117.09	928.70
F	279.04	33.67	312.71
G	186.01	23.46	209.47
H	273.62	80.10	353.72
I	242.12	60.62	302.74
J	267.70	43.29	310.99
K	188.01	78.36	266.37
L	249.00	76.34	325.34

12.11.5. The figures for one estate (Estate E) would appear to be abnormally high. One of the reasons for such high incidence appears to be the high proportion of immature areas in the estate and drop in production in 1958-59 as a result of letting out 100 acres on contract tapping. The figures for estate E have been excluded and we have on the basis of data for the remaining eleven estates adopted a weighted average of Rs. 300.08 and a simple average of Rs. 296.51 per 100 lbs. as the value of net fixed assets for the industry. Working capital has been taken as equivalent to 3 months' cost of production less depreciation and it comes to Rs. 22.25 and Rs. 23.06 per 100 lbs. on the weighted average and the simple average basis respectively. The total capital employed has, therefore, been reckoned at Rs. 322 per 100 lbs. on the weighted average basis and Rs. 320 on the simple average basis.

12.11.6. In the past two reports return at the rate of 12½ per cent was provided on paid-up capital per acre of mature planting. The industry has now claimed that the rate of return should be adequate not only to allow payment of the tax free dividends more or less at the levels obtaining during the past 3 years, but also include a positive element of incentive for the development of the industry so that more acreage could be replanted or new areas brought under rubber. It was urged that ever since control on prices of raw rubber was enforced the industry has been at a disadvantage, since it had the benefit of higher prices over the level of world prices only for brief intervals and the price control redounded to the advantage of the consumer. Since April 1959 international price of rubber is ruling high. Being a plantation industry based on agriculture, rubber growing involves the risks of fluctuations in rainfall, plant diseases and pests over which the industry has no control. To compensate for these factors a better return is claimed for rubber than for other industries. We have already reconsidered the basis on which return on capital is to be calculated. Since on the basis of our latest cost the normal incidence of all factors which have gone to raise the cost of production since 1951 has been fully taken into account, we are of the view that a return at 12·5 per cent should be adequate to provide for (a) managing agency commission, (b) taxation, (c) bonus, and (d) a fair margin for reasonable dividends. A wider margin for reserves for rehabilitation of industry is unnecessary as a liberal provision has been made separately for this end. Further an industry which is going to be subsidised on a large scale for its replantation, should adopt a conservative policy for declaring dividends. It may also be mentioned that our estimates of future costs and profits are based on the actual production achieved in 1958-59, and with the higher yield achievable during the price period, the industry may get better margin than what has been actually provided.

12.11.7. It will be noticed from the analysis of the balance sheets of the 28 companies engaged mainly in the production of rubber, discussed in paragraph 9·4 that of the total capital employed the value of fixed assets constitutes about 88 per cent for the year 1955-56 and 95 per cent for the next 3 years. The working capital element constitutes the balance of 12 per cent in 1955-56 and 5 per cent for the next 3 years. Capital sources were either net worth, comprising of paid-up capital and reserves which contribute 87 to 90 per cent while the balance was borrowings. The net fixed assets in 1955-56 were wholly met out of the net worth of business but in the following years it was supplemented to the extent of 5 to 9 per cent by borrowings. These results would indicate that bulk of the capital employed was represented by the value of fixed assets, while the element of working capital was comparatively small. In view of the trends we have noticed in the corporate sector of the industry, we have considered that our computation of capital employed and net fixed assets would also be in keeping with the trends in the small holding in the industry and redound to their benefit. The low incidence of borrowing for capital shows the extent to which available resources within the industry have been used. This

also discounts the claim for price increase on the ground that the industry has had to borrow extensively and at very high rate of interest. After considering all relevant factors, we are satisfied that our assessment of the capital employed and return (*vide* paragraph 12.11.5 and 12.11.6 respectively) is fair.

12.11.8. *Weightage for small grower.*—In 1951 the average yield of the costed estates was 360 lbs. per acre. While estimates for future costs were based on this production, the estimated future yield of 350 lbs. per acre was adopted for the purpose of distributing certain overheads. An extra allowance of 10 per cent was then considered a sufficient incentive for the small holders and the price adopted was based on a formula of giving weightage according to the ratio of output which then stood at 72 per cent for estates and 28 per cent for small holdings. In 1952 the simple average yield for the costed units was 419 lbs. and again while the estimated costs corresponded to this yield, an estimated yield of 400 lbs. was adopted for distributing certain overheads. Although the cost data for small holdings were not satisfactory, an extra allowance of 15 per cent was allowed and weightage was given in working out the average cost of production of large and small holdings in the ratio of 72·28. In terms of costs per 100 lbs. this worked out only to 2·8 per cent and 4·2 per cent in these two years. A similar weightage formula for fixing the average cost figure was asked for by the representatives of the industry but we have not agreed to this. The simple average yield per acre of the existing estates was about 408 lbs. and weighted average of 410 lbs. for 1958-59. The future yield has been estimated at 460 lbs. per acre *vide* paragraph 12.2, but we have adopted the lower average of 408/410 lbs. for our estimate of costs and this should afford a suitable cushion to the small growers. Of the 15,000 acres covered by the costed units, over 11,000 acres were under ordinary seedlings so that despite the high average of 628 lbs. per acre in 1958-59 for the residual area planted with budded and clonal seedlings, the overall average has been brought down to 410 lbs. by the low yield under ordinary seedlings which in two estates was as low as 170 and 242 lbs. per acre. These figures are comparable with the output of small holdings which have no budded or clonal plantings. Costs should not depend on overall averages of all areas under rubber or even tapable areas as this will be vitiated by the high expenses and low production of marginal and sub-marginal areas of old plantations and un-economic holdings. In our considered opinion the special weightage for small holdings is not necessary for other reasons also. The small holder has certain advantages in the matter of being able to avoid some of the heavy statutory incidences of labour amenities and taxation, which larger estates cannot escape. He has usually lower overheads and can under existing arrangements and will in future receive more concessions by way of subsidy and other forms of assistance from the Rubber Board. Hence, it is our view that it would retard the progress of the industry and give only extra unearned differential gains to the larger units in the industry if ostensibly on behalf of small holdings an artificial weightage is given by way of price increase and a common price for them as well as for the larger units is fixed at a higher level.

12.12. *Effect of change in pattern of production—Choice of basic grade for costing—*

12.12.1. The figures groupwise of natural rubber production and of groupwise purchase of indigenous raw rubber by manufacturers from 1952 to 1958 given to us by the Rubber Board are included as Appendix IX. Till 1956 all the rubber produced was shown under one group or other. Since 1956, Rubber Board decided to introduce a new item, namely 'ungraded' in the rubber statistics. This new item was previously distributed among the other groups on an assumed basis. As a result it would appear that there was a fall in production under groups 1 to 3 which previously included a proportion of what is now shown as ungraded rubber. The statistics of groupwise purchases of raw rubber by manufacturers indicate that the figures reported under group 1 increased progressively in 1957 and 1958 over those in the earlier years while those for group 2 remained fairly stable and there has been a decline in purchase of group 3 products. It has to be presumed that the manufacturer buys his indigenous requirements only at the controlled grade price and that he has reported the figures to the Rubber Board correctly. In this context we would in passing refer to a complaint of the parties at the public inquiry that in the present position of shortages of natural rubber, manufacturers as well as consumers are apt to charge and pay higher prices by merely upgrading the rubber. If the growers had resorted to this as a source of evading control, consumers appear to be equally willing accessories. We are not, therefore, inclined to take seriously the suggestion of the representatives of the manufacturers (qua consumers) that in order to check this tendency the present differentials have to be narrowed down. In all circumstances we consider that it would be preferable to let the present group and grades differentials stand.

12.12.2. At the public inquiry the manufacturers' representatives argued that the highest proportion of raw rubber that they could purchase was group 1 rubber while the next highest was group 2. In the circumstances they failed to understand why the grade representing the average costs was taken to be between R. M. A. 3 and R. M. A. 4 in the Commission's report of 1952. Taking the group with the largest output as the representative grade for a price fixation would, therefore, be fair and understandable. On the other hand, the representatives of growers demanded that there should be no deviation from the basis adopted in the Commission's report of 1952. It is obvious that in 1952 the Commission fixed the basic grade on an *ad hoc* basis which might have worked out to the advantage or disadvantage of the industry. We, therefore, decided to adopt the usual and more rational method of arriving at the basic cost of any grade by adjusting the price realisations due to grade differentials from the total cost. We are satisfied that by this method the total realisation from all the grades produced according to the pattern we have envisaged would be equal to our estimate of cost together with profits. The industry cannot, therefore, have any legitimate complaint about the method we have adopted. We also found that had we arrived at the average cost as in 1952 and equated

the same to an average grade between R.M.A. 3 and R.M.A. 4 the results would not have been in any way better to the growers. It will be seen from paragraph 12.11.4. that while arriving at the capital employed for purposes of providing return, the net costs of plant and machinery and factory building have been related only to the quantity processed. Thus we have provided for a higher margin of profit for processed rubber than on unprocessed latex or scrap.

12.12.3. The only problem that remains to be dealt with is the question that with a change in the pattern of production the costs may change. We have already shown in para 10.18.2 that the pattern of production in the costed units is more favourable to the industry from the point of view of estimating costs or prices than the general pattern of production for the industry. In paragraph 10.16.5 it is shown for the costed units that in the two years 1957/58 and 1958/59, the weighted average grade differentials rose by 8 nP. per 100 lbs. whereas the simple average fell by 20 nP. in the second year. It will be seen, therefore, the variations are not much in relation to the total costs. It is seen from the statistics furnished by the Rubber Board that the pattern of production for the industry as a whole does not change significantly from year to year. We are thus satisfied that any minor variations in the costs due to small changes in the pattern of production will be amply covered by the contingencies provided and the various cushions included in the estimates.

12.13. The fair price of raw rubber of R.M.A. 1 grade may now be computed as under :—

	(Rs. per 100 lbs.)	
	Weighted average	Simple average
Cost of latex	65.86	69.37
Processing charges including packing	15.29	15.34
Provision for gratuity	2.00	2.00
Provision for contingencies.	5.00	5.00
Freight and handling f.o.b. Cochin	3.45	3.15
	91.60	94.86
Depreciation on plantation Cost f.o.b. Cochin	9.00	9.00
	100.60	103.86
Grade differential to equate cost of production to R.M.A. 1 grade	3.19	2.20
Cost of R. M. A. I. grade f. o. b. Cochin	103.79	106.06
Return at 12.5% on employed capital	40.25	40.00
Total price for R.M.A. 1 grade to be retained by the growers	144.04	146.06
Cess existing	6.25	6.25
Additional cess recommended	7.00	7.00
Price f.o.b. Cochin for consumers excluding sales tax	157.29	159.31

Although it would be justifiable to base the price on weighted average figures, we have taken the simple average figure which is more favourable to small growers and also to the industry as a whole. We, therefore, recommend that the price of R.M.A. 1 grade rubber be fixed at Rs. 146 per 100 lbs. or Rs. 160.94 per 50 kgm. F. O. B. Cochin exclusive of sales tax and cess. The prices for other grades except that for preserved latex should be fixed according to the grade differentials in force at present. These prices should remain in force upto 30th September 1963. We also recommended that the additional cess recommended should be utilised to grant subsidies to those who require them for replantation with high yielding planting material. In granting the subsidy, special care should be taken that under no circumstances low yielding material is used for replanting. We also recommend that necessary steps should be taken to ensure that the Rubber Board is in a position to examine and sanction subsidy expeditiously, and see that it is being properly utilised.

12.14. *New items for inclusion in the price list—*

12.14.1. The representatives of the manufacturing industry requested that the following varieties of raw rubber should be brought under the Price Control Scheme, viz., Sole Crepe and 60% D.R.C. concentrated latex made by the centrifuging process.

12.14.2. As for the demand to include sole crepe and other new forms of rubber it was pointed out by the representatives of growers that this would take away their initiative to produce new varieties of specialised products, which certain sections of the manufacturing industry were demanding and whose increased production would be helpful both to the growers' interests as well as the manufacturers' interests. There are not more than twelve producers of sole crepe and the annual production is less than 500 tons. Representatives of manufacturers, who claimed that sole crepe should be regarded as natural rubber and, therefore, brought as a new item under price control, however, admitted that the process of preparing sole crepe from lace crepe by pressing layers of lace crepe into laminated sheets was a manufacturing operation in the same way as vulcanizing is claimed as a manufacturing process. Shoe manufacturers admitted that in the form it is supplied it was ready to be cut and used as sole for shoes. Prices of products made out of sole crepe are not under control. For preparation of special products requiring high quality grades of rubber, e.g., surgical goods, pale latex crepe, latex concentrates could be used. Having regard to the circumstances, we do not consider it necessary to fix the price for sole crepe. Nor in the absence of general demand do we feel it necessary to add to the list of controlled items of raw rubber. There has been no general suggestion that there has been abuse of price control and we are, therefore, inclined to agree that it is best to leave out of the scope of the controls such special products. This would provide the best incentives for their development and with the growth of such specialised products their imports may be obviated.

12.14.3. The representatives of the rubber growers, however, agreed to the inclusion of 60% D.R.C. concentrated latex in the Price Control Scheme. We have examined the cost of production of such

grades of rubber inclusive of the wastage involved. It is seen that the existing premium for 50 to 55% concentrated preserved latex is much higher than the actual extra costs involved. We are, therefore, inclined to agree that while the manufacture of such quality grades require to be encouraged, the present price differentials in the shape of premium alone of normal latex (35%) and 50-55% concentrated preserved (by creaming process) latex are on the high side. The creaming process is different from the centrifugal process which requires more equipment and machinery. We are informed that by adding normal latex to 60% D.R.C. concentrated latex, a form of latex with 48% D.R.C. is being made. To cover cases of latex of different concentrations, we feel it will be sufficient if the basic price of latex concentrates excluding the cost of container is fixed on the basic price of R.M.A. 1 by adding (a) a premium of Rs. 17.50 per 100 lbs. of D.R.C. in the case of normal latex upto 35% concentrates; (b) a premium of Rs. 33 per 100 lbs. for latex concentrates 36-50 per cent and (c) a premium of Rs. 43 per 100 lbs. for concentrates over 51 per cent which will include 60 per cent concentrated latex. We recommend that the prices for preserved latex be fixed as given above. To this limited extent, we have modified the existing price differentials in the price schedule.

12.15. The net price receivable by the growers and payable by the consumers for R.M.A. 1 grade rubber as recommended by us compared with the existing price is shown below. The price recommended is exclusive of sales tax; but for purposes of comparison, we have extended the same element of sales tax as provided in 1952 to the price now proposed:—

	(Rs. per 100 lbs.)	
	Estimate in 1952—53	Present estimate for future
Cost of R.M.A. 1 grade rubber (including grade differential)	90.61	97.06
Less cess included	0.50	..
	90.11	97.06
Depreciation Rehabilitation	6.82	..
Depreciation . . . . .	..	9.00
	96.93	106.06
Interest on working capital.	1.07	..
Return on gross block	37.50	..
Return on capital employed . . . . .	..	40.00
	135.50	146.06
Ad hoc increase in 1955	12.00	..
	147.50	146.06
Price receivable by growers	147.50	146.06
Provision for sales tax	2.04	2.04
Cess (present)	6.25	6.25
Additional cess recommended . . . . .	..	7.00
	155.79	161.35
Price payable by consumer	155.79	161.35
or Roundly	155.75	161.25

Thus for the consumers of rubber, there would be a net increase of about Rs. 5.50 per 100 lbs. which is a reasonable premium for insurance of augmented supply of rubber at lower price in future. Even if the price retained by the grower appears to be less by Rs. 1.44 for the large units who pay tax on the present rehabilitation element of Rs. 6.82 there might even be a net advantage. But what the comparative statement shows up is that the *ad hoc* price increase of Rs. 12 given in 1955 gave a comfortable cushion to the grower who had virtually received compensation in anticipation of cost increases which took place only by stages later on. Taken in this context the provision for the additional development cess of Rs. 7 is a liberal benefit to growers who will share it, though the funding of the amount will remove it from the growers' control and eschew any risk of misapplication. In fact, informed financial opinion about the rubber industry in South East Asia apprehends that any excessive increase in price to the grower will retard the progress of replantation particularly by the large section of small growers, as they will be increasingly reluctant to remove existing overaged trees. Our experience in India in the last seven years also confirms this view. Hence our advice that the element for development should be funded.

12.16. *Effect of price increase for rubber on its manufacturers.*—It will be seen that the price payable by the manufacturer will be increased by Rs. 5.50 per 100 lbs. of Raw Rubber. In this connection, the manufacturers' point of view was also sought to be elucidated by asking them to evaluate the incidence of hypothetical increase of say Rs. 10 per 100 lbs. in raw rubber prices, on the cost of manufactures. Manufacturing units in the country produce more than 138 different rubber articles of which the more important are less than 30, the main items being tyres and tubes of automobiles, bicycles, tractors, aircrafts cabs, etc., rubber for footwear, water-proof fabrics, foam and sponge, rubber products, insulation for cables, etc., and various types of hoses, belts, battery cases and separators, sundry domestic surgical and sanitary products. The manufacturers have reported that the extent of increase in the case of tyres and tubes would be below $3\frac{1}{2}$ per cent; in the case of batteries, less than 1 per cent of the price; in the case of shoes, less than Rs. 8 per 100 pairs or below 3 per cent; in the case of industrial belts, etc. below 2 per cent and in the case of insulated cables etc. and other industrial goods including foam cushions varying between $1\frac{1}{2}$ to $2\frac{1}{2}$ per cent. In the light of these, we should consider that the grant of a small increase in price of raw rubber recommended by us should not prove to be a burden either to the rubber manufacturing industries or their consumers.

13.1. *Lower costs obtainable by higher production.*—As regards the criticism of low productivity of labour employed in the plantation industry despite the periodic cumulative increase in various amenities, we have had no occasion to discuss with labour interests or make a proper assessment independently. But it has been repeatedly mentioned to us by growers as well as by other interests concerned that compared to the output of plantation labour in Malaya or

Other matters

Ceylon, the output in India is definitely lower. Wages represent one of the principal item (about 50 per cent exclusive of provident fund, etc. of the total expenditure) of cost in a plantation industry. The biggest item in labour costs again relates to tapping which may be described as the task of a skilled worker. The task in the industry is limited to about 250 trees per man day as compared with 350 to 400 or more in Ceylon or Malaya. Although tappers' wages are fixed on an outturn basis which usually offers an incentive for doing more work and obtaining more latex by tapping, it was explained to us that labour was unwilling to accept any increases over the 250 tree task load. Further, it is claimed that by a system of tapping two alternative faces rising upto a height of 4 ft. on one side and 4 ft. to 8 ft. on the other for which the use of ladder by the tapper is necessary, a higher yield of about 60 per cent latex could be obtained. Technical opinion does not appear to be unanimous on the efficacy of this 'ladder tapping'. There have not been sufficient experimental data to assess the economics of this new tapping system. It is alleged that it could not be tried in our estates mainly on account of the unwillingness of labour. Organised labour was unwilling to agree to any change in the work loads and stood out for general upward revision of basic rates to cover all grades of workers if this system is to be adopted. Though we are in no position to assess the merits of the case it appears to indicate an area of differences which the labour as well as the employers should settle between themselves. The objects of higher production of rubber and higher productivity of labour both of which will also help to bring down prices or at least prevent a rise in raw rubber costs to the rubber manufacturing industries would, if implemented, be in the interests of the economy as a whole.

13.2. *Marketing arrangements.*—In the opinion of growers' association the existing marketing arrangements, which include the current differentials between groups and grades classified according to quality and prescribed for the grade price of f.o.b. Cochin are satisfactory. In the present shortage of natural rubber we have also not received any complaints that smaller growers are unable to obtain their proper grade prices. In fact, there has been a suggestion that because of scarcity conditions the consumers of raw rubber have had to pay on occasions higher differentials than warranted and that the items not included in the statutory price list have commanded more than a fair price. In this connection it was brought to our notice that the licensing of a large number of petty dealers who have to compete for an insignificant part of the output has given room for abuses, since four-fifths of the produce is sold by growers directly to large consumers in the manufacturing industry. It was alleged that this situation has given rise to thefts in plantations on an extensive scale, doubtless with the connivance of petty dealers as well as others connected with or claiming to be producers of raw rubber. This may be summarised from the views expressed from replies we have received from UPASI. "The theft of rubber is reaching alarming proportions in Mundakayam and the estates where frequent thefts have taken place have to arrange for special police parties to be stationed at the area to undertake special patrols. We feel that the Rubber Board must accept a fair amount of responsibility

for the increase in thefts in that they appear to have issued licences to deal in rubber to people who have no business with rubber producers or manufacturers and it was felt that number of these licensed dealers may purchase more rubber and may even promote the theft of rubber. Moreover, we believe that there are innumerable smaller growers with say 5 or 10 acres of rubber who obtain supplies of raw rubber from nearby estates." This state of affairs seems to be recognised even in the reply that we have received from the Kerala Government. "The present marketing system is fairly satisfactory but the inordinately large number of licensed dealers makes it difficult to check illicit dealing in rubber and evasion of sales tax." We do not know what steps the State Government has taken to stop the leakage of rubber cess and revenue from sales tax. But we should point out that in such a situation there is a great loss in the collection of cess which according to the Chairman of the Rubber Board may be as much as 30 per cent. It is also possible that purchases and sales of rubber are not reported properly and to that extent statistics of production of rubber are vitiated. We understand that already on the basis of the Rubber Board's recommendations steps are under way to effect changes in the Rubber Act, 1947, investing the Board with full discretion in the matter of refusing applications for dealers' licences and providing for the recovery of cess from or on behalf of the consumer, i.e. manufacturers of rubber.

13.3. *Uneconomic units-*

13.3.1. Statistics of rubber acreage over the last five years have shown a great increase in the number of small holdings. The Rubber Board has stated that placing too much reliance on small holdings for meeting the future needs of the country in developing the rubber industry would be unwise. Holdings of 50 acres and below now constitute about 57 per cent of the total acreage. They number nearly 50,000, almost 99 per cent of the total number of estates and holdings big and small. Over 43,000 of these units are below five acres in size and by experience the output of the small holdings has been found to be low compared with that of estates above 50 acres. In most of such holdings rubber offers a living only when it has been grown along with coconut, arecanut, pepper, etc. The Board has pointed out that small holdings are seldom able to follow the standards or norms necessary for planting rubber with high yielding stands and for maintaining the plants properly till they are mature for tapping. Nor do they possess the knowledge and technique for improving the methods of tapping. Bad tapping practice affects the longevity and productivity of trees. Lack of finance as well as proper technique may also prevent the small holders taking measures for tree protection against disease or for improving yield. Use of low yielding planting materials may also have engendered perpetual uneconomic holdings. It has not been denied that a small holder with enough financial resources and knowledge of the technique can also raise a progressively higher output of the existing as well as replanted areas. We have come across a few cases of such well maintained small holdings which could compare with large estates in the matter of productivity.

13.3.2. UPASI had stated in its reply that the term "economic unit" means a plantation acreage capable of supporting an efficient managerial sector, providing reasonable wages and living conditions to the employees and to yield a fair return on investment.' It would be difficult to lay down on this basis a standard for size. For practical purposes it may be stated that 500 acres in the case of plantations and 50 acres in the case of small holdings would be economic units. The Rubber Board seems to consider that for small holdings the limit of 5 acres suggested by the Plantation Inquiry Commission could be regarded as sufficient for an economic unit. Without dogmatising on the point we would only state that at present large holdings are in a better position to undertake economic production of rubber. Nevertheless, as the small holdings play a significant role in the economy of Kerala, by providing employment on a large scale, there should be no positive steps whether by Agrarian reform or otherwise to discourage them from continuing in production. They should continue to receive, where they are able to establish their ability to do so, subsidy and other financial aids from the Rubber Board for replanting with high yielding planting materials.

13.4. *Co-operation.*—Having regard to the large number of small holdings in rubber, whose number grew along-side with the growth in acreage (even involving in the course of the last 10 years a fall in the average acreage per small holding) the Plantation Inquiry Committee considered that there would be great scope for co-operatives among small holders. Small growers in Kerala rely on mixed crops for their livelihood and the fact that rubber plantations are generally concentrated over particular areas provides opportunities for successful functioning of co-operative units. Most of the areas cultivated by small holders have stands older than 30 years and hence the need for replanting is greater for them than in the bigger holdings. The Plantation Inquiry Committee considered that 4 acres, which is the area which could be handled by a single tapper should comprise an economic unit. Insufficiency of land and lack of finance to replant and nurture new stands of rubber are among the greatest handicaps of the smaller grower. Given liberal supplies of high yielding planting materials from indigenous nurseries at reasonable prices, which is on the programme of the Rubber Board and enhanced rates of subsidy, the small holder should be able to replant on a larger scale. Facilities for purchase at reasonable rates manures, spraying and dusting materials etc. are seldom availed of by small growers because of lack of means and lack of technical advice and assistance. Even medium sized holdings cannot avail of ordinary financial aid from banks or financial institutions and have to subsist on precarious borrowings. Unlike the big grower small holders have inadequate marketing facilities. Few holdings of less than five acres could afford to maintain smoke houses and make R.M.A. sheets of uniform quality. They could not obviously process crepe or scrap generally. As they do not have proper grading facilities, they are usually unable to get a proper price. Therefore, for all these purposes, there is significant scope for co-operatives to function actively. Service

co-operatives or multi-purpose societies should have great scope in this set up. Nevertheless, when we sought the views of different interests concerned on this question the uniform reply which we have received from State Government, from growers' associations and individual growers, both large and small, has been that co-operation will not work successfully among existing small holdings in conditions prevalent in the area. Co-operation has to evolve spontaneously with the enthusiasm of those who participate. But we consider that with the increasing assistance from the Rubber Board as well as from the State Government to small growers it should be possible for the State Government as well as the Board to popularise the advantages of co-operation through the activities of the service co-operatives and multi-purpose societies. In particular the build up of such agencies would contribute to the success of the scheme for extending financial assistance for new planting to small and medium holdings, which we have suggested and to which the State Government also appears to have responded favourably.

13.5. *Assistance for new planting—*

13.5.1. We have drawn attention earlier to the widening gap between the demand for natural rubber and its indigenous production. In order to meet the growing demand the existing production of about 25,000 tons has to be stepped up upto 41,000 tons by 1965-66. Though there has been significant increase in the acreage under rubber planted with high yielding materials since 1950 and this will result in increased output in due course, the pace of development has been slow to catch up with the demand. A disconcerting feature in the development is the growth of holdings with less than five acres, most of which are planted with ordinary seedlings. Whatever the reasons for these trends, they should be checked immediately so as to strengthen the economic base of the industry. We recommend that in future no licence should be given for planting of rubber with ordinary seedlings and encouragement should be given to economic holdings to undertake planting with high yielding material.

13.5.2. The objective of the Third Five Year Plan relating to rubber that has been prepared by the Working Group is the speedy realisation of national self-sufficiency in rubber. Apart from the possible economy from the use of synthetic rubber, considerations of self-sufficiency would indicate the need to augment production of both side by side. No substantial increase in production of natural rubber could be achieved from the existing stands, though some increase may be obtained by (a) manuring of mature and immature areas particularly those which suffer from poor soil conditions, (b) adoption of adequate protective measures against secondary leaf fall diseases, (c) adoption of intensive methods of tapping and use of better techniques, e.g., use of rain guards and (d) application of stimulants, which have been known to increase appreciably the yield from old and low yielding seedlings.

13.5.3. The problem, therefore, boils down to (a) felling of old uneconomic rubber trees and replanting the areas so cleared with high yielding materials and (b) new planting on a large-scale. Large areas

are due for replanting. And, in the initial years if replanting is disproportionately high, the immediate drop in production will be considerable. To avoid such a situation, replanting should be undertaken on a planned basis. Along with replanting, if new planting is also undertaken on a large scale, it may be possible to expedite in subsequent years the replanting programme without any fall in production. For such large-scale new planting, the role of small grower will not be insignificant. We would like to reiterate that high yield planting material should be distributed to them at cheap rates. If local nurseries cannot provide the material, the Rubber Board should be given facilities to import sufficient quantity of high yielding planting material suited to the soil conditions of the rubber growing areas in the country.

13.5.4. The Working Group has prepared a planned project for replanting which provides that 7,500 acres should be replanted in 1960 and that in subsequent years the acreage replanted should rise by 500 acres every year reaching 10,000 acres by 1965. The current rates of subsidy being inadequate to meet the cost of replanting, the Group has suggested a subsidy of Rs. 1,000 per acre for replanting and maintaining immature areas. Of this amount, Rs. 400 would be given after satisfactory completion of the prescribed item of work in the first year and Rs. 100 annually in course of six years. The Working Group has observed that implementation of its replanting scheme would result in raising the level of production to 50,000 tons by 1970 and 63,000 tons by 1975.

13.5.5. At present the subsidy is given on a limited basis only for replanting and *not* for new planting, which has been done mainly from private resources. The Working Group has recommended that financial assistance may be provided to existing growers as well as new entrants for setting up of blocks of not less than 5 acres and not exceeding 15 acres. It has suggested a scheme of financial assistance by way of loan, which would be roughly at three-fourths of the assistance given as subsidy on replanting.

13.5.6. We have stated in paragraph 4.3 that there has been a remarkable increase in the acreage under rubber and that such expansion has taken place both among the estates as well as small growers. While much of the new acreage that was brought under rubber since 1952 was financed by the estates and small growers either from their own resources or from borrowings it may not be possible for the industry to find resources for the planned development of rubber industry in the next five years as envisaged by the Working Group. It is estimated that by the end of the Third Plan the consumption of natural rubber would be of the order of 60,000 tons. The target for new planting should be based on the estimated demand for natural rubber ten or fifteen years hence and appropriate expansion should be planned now. The Working Group has tentatively estimated that the demand for rubber of all varieties would be 93,800 tons in 1965 and 160,200 tons in 1970 and 273,600

tons in 1975. Even if the replanting programme is fully implemented the gap between the estimated consumption and production of natural rubber, if the recent trend in the rate of increase in consumption is maintained, would be of the order of 57,000 tons in 1970 and 108,000 tons in 1975. In order to produce an additional quantity of 108,000 tons of natural rubber by 1975, the area to be expanded on the mainland of India during the Third Plan period would be about 3.6 lakh acres. If the expansion is carried out in Nicobar islands this quantity of natural rubber can be obtained from about 2.4 lakh acres. It is estimated that the capital to be invested for planting one lakh acres of rubber and maintenance until the trees come into bearing may amount to Rs. 20 crores. The Working Group has after very careful consideration of the various problems involved in carrying out such a gigantic programme has suggested that the target of organised new planting during the Third Plan period should be 50,000 acres *i.e.*, at the rate of 10,000 acres per year. Assuming the present capital cost of Rs. 2,000 per acre the outlay required for 10,000 acres would be approximately Rs. 2 crores per year. The Working Group has stated that it may be necessary to give financial assistance to encourage such growers as may not be able to find the necessary resources for expansion or setting up new units. It has, therefore, recommended that financial assistance may be provided to existing growers as well as new entrants for the setting up of blocks of not less than 5 acres and not exceeding 15 acres in the form of a loan recoverable in convenient instalments. It is important to note that financial assistance in the form of long-term loan can only be marginal in the sense that the initial outlay must come from the growers' own resources since the assets to be created will be the property of the owners. The Working Group has, therefore, suggested a scheme of financial assistance in the form of a loan of Rs. 750 per acre payable in six annual instalments. We understand that under the existing provisions of the State Financial Corporation Act 1951, the State Financial Corporations are not in a position to grant loans to rubber growers except to the small extent of acquiring plant and machinery for the processing of raw rubber. It is, therefore, necessary that a separate financial agency should be set up to grant financial assistance for the development of a long-term crop like rubber. We were informed by the representative of the Kerala State that the State Government is having preliminary discussions with the Reserve Bank of India regarding the financing of the Scheme of expansion of rubber plantation in the State. We consider that the details regarding the appropriate financial agency as well as the resources to be placed at its disposal for granting adequate financial assistance for bringing new areas under rubber plantation should be worked out as soon as possible. We would like to emphasise that the peculiar feature of the planting of a long-term crop like rubber being that for about seven or eight years after planting the grower gets no return, it would be necessary to arrange the terms of financial assistance in a manner that would involve no obligation for repayment of the principal amount for the first seven or eight years, though the annual interest charges would be payable in the ordinary course.

13.6. *Research and assistance to the industry—*

13.6.1. Appendix X gives a brief account furnished by the Rubber Board of research and extension services undertaken by it on behalf of the rubber plantation industry and the benefits received by the industry from these services. Details of replanting scheme sponsored by the Board are contained in Appendix XI. The Associations representing growers have, however, complained that the technological and research assistance of the Rubber Board have not developed to an extent where the producers may seek their assistance with advantage. The position may be different if either department could function like the Research Institute of Malaya and the Rubber Research Scheme of Ceylon. They could then be of real assistance to the industry.

13.6.2. Considering the organisation of the present Rubber Board as inadequate for the purpose, UPASI has suggested that for effectively carrying out a rapid development programme on the pattern of Malaya and Ceylon a separate Development Board should be set up with a Development Director within the Board with enough powers to act effectively and speedily. Confining ourselves to the limited scope of our inquiry we do not wish to assess the weight of the criticism levelled by the industry against the present organisation or working of the Board. But we would merely point out that it is recognised by every sectional interest connected with the rubber industry that its future depends on early, effective and efficient replanting with a balanced amount of new planting and that to serve this end if a comprehensive scheme like that stated to have been submitted by the Working Group is accepted, every possible defect in the present administrative machinery should be removed in order to make the implementation successful.

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14. As observed in paragraph 8.5 the future of natural rubber would depend eventually on the extent to which its cost of production could be brought down so as to enable it to

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compete with natural rubber produced elsewhere and more still with the synthetic rubber, which is making rapid progress. However, the problem of the domestic industry in the immediate future is a stable price which would enable the industry to undertake adequate replanting and large-scale new planting. In this context the role that labour has to play in an industry which is highly labour intensive is significant. Our high costs despite the fact that there is no shortage of employable workers is due to low productivity of labour and rigid trade union practices. While research and actual experience have demonstrated that by planting budded and clonal seedlings, adopting better maintenance of holdings and by improved methods of tapping, substantial increase in yields can be attained, the resultant benefit can be shared by owners and workers of the industry only if the latter also contribute in full to the enhanced production. If labour in other countries like Malaya can show better productivity there is no reason why indigenous labour which does not lack the skill or capacity should lag behind. Reading

through the replies that we have had from growers who have commented on the mounting incidence of enhanced wages and labour amenities since the last price inquiry, we feel that the complaints were not always justified. To a large extent what labour legislation has sought to achieve was only to bring on to plantations in rubber growing areas, the measures which had become statutory obligations on industry in the rest of the country. At the same time it should be noted that continued increase in labour costs would affect the competitive position of rubber industry and even jeopardise the survival of marginal units which also furnish a good employment potential. A great deal can be done to increase labour productivity if the Rubber Board, on which organisation labour is represented could set up a productivity team to investigate means of increasing the workers' output and bringing down cost. If this is done, the worker will also eventually benefit from his enhanced output. We understand that labour relations in the plantation areas during the last quinquennium were not quite normal. We would, therefore, draw the attention of intelligensia who do not number less in the ranks of labour than that of growers, that the future of our rubber industry, whose prosperity is vital to the economy of the State as well as to the community at large, depends completely on maintenance of industrial peace.

15. Our conclusions and recommendations are summarised as under :—
Summary of conclusions and recommendations.

(1) The demand for 1960 will be 42,000 tons natural rubber, 5,000 tons synthetic rubber and 5,000 tons reclaimed rubber. As regards the future, the estimates made by the Working Group appointed by the Planning Commission represent the likely trend in future consumption.

[Paragraph 5.3.]

(2) The plantation industry in India as well as the manufacturing industry have a particularly favoured position in the context of our controlled economy. As the raw rubber industry will continue to fulfil its role as a producer of an important raw material of strategic and national importance, the industry has to concentrate its efforts on lowering its cost of production by replanting with high yielding materials.

[Paragraphs 8.1 and 8.6.]

(3) The existing differentials between various groups as well as between various grades within the group should be continued except for a slight modification in the premium payable on preserved latex.

[Paragraph 10.2.]

(4) Cess and sales tax should be excluded from the statutory prices, as these items are variable and do not strictly form part of the price.

[Paragraph 10.3.]

(5) There is no reason to change the present practice of fixing prices f.o.b. Cochin.

[Paragraph 10.4.]

(6) There is evidence to show that with the present rehabilitation allowance discerning growers have done replanting; but both replanting and new planting have to be stepped up to attain the production target.

[Paragraph 12.10.6.]

(7) An element of Rs. 9 per 100 lbs. for depreciation should be provided in the fair price for rubber on the condition that the continuance of this element in full may be reviewed after two years if it is found that growers still make insufficient provision for replanting and the work in this regard is not being properly done.

[Paragraph 12.10.6.]

(8) State Governments should take up the question of affording legitimate relief from taxation in respect of the provision for depreciation.

[Paragraph 12.10.13.]

(9) The amount required for replantation would be Rs. 16 per 100 lbs. at current costs. Out of this Rs. 9 will be covered by the depreciation element, the balance amount required should be levied as a development cess to be recovered from the consumers in addition to the existing cess for grant of substantial replanting subsidies by the Rubber Board to implement effectively the programme of rehabilitation of plantations.

[Paragraphs 12.10.14, 12.10.15 and 12.10.16.]

(10) A return of 12.5 per cent on employed capital would be adequate to provide for (a) managing agency commission, (b) taxation, (c) bonus and (d) a fair margin for reasonable dividends.

[Paragraph 12.11.6.]

(11) No special weightage in the price for small holdings is necessary for the reasons set forth in paragraph 12. 11. 8.

[Paragraph 12.11.8.]

(12) The price of R. M. A. 1 grade rubber should be fixed at Rs. 146 per 100 lbs. or Rs. 160.94 per 50 kgm. F.O.B. Cochin exclusive of sales tax and cess. The prices for other grades except that for preserved latex should be fixed according to the grade differentials in force at present. These prices should remain in force upto 30th September 1963.

[Paragraph 12.13.]

(13) The additional cess of Rs. 7 per 100 lbs. recommended should be utilised to grant subsidies to those who require them for replantation with high yielding planting material. In granting the subsidy, special care should be taken that under no circumstances low yielding material is used for replanting.

[Paragraph 12.13.]

(14) Necessary steps should be taken to ensure that the Rubber Board is in a position to examine and sanction subsidy expeditiously, and see that it is being properly utilised.

[Paragraph 12.13.]

(15) It is not necessary to fix the price for sole crepe for the reasons mentioned in paragraph 12.14.2.

[Paragraph 12.14.2.]

(16) To cover cases of latex of different concentrations, it will be sufficient if the basic price of latex concentrates excluding the cost of container is fixed on the basic price of R.M.A. 1 by adding (a) premium of Rs. 17.50 per 100 lbs. of D.R.C. in the case of normal latex upto 35 per cent concentrates, (b) a premium of Rs. 33 per 100 lbs. for latex concentrates 36-50 per cent and (c) a premium of Rs. 43 per 100 lbs. for concentrates over 51 per cent which will include 60 per cent concentrated latex.

[Paragraph 12.14.3.]

(17) The recommendation of the grant of a small increase of Rs. 5.50 per 100 lbs. of raw rubber would not prove to be a burden either to the rubber manufacturing industries or their consumers.

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[Paragraph 12.16.]

(18) The objects of higher production of rubber and higher productivity of labour both of which will also help to bring down prices or at least prevent a rise in raw rubber costs to the rubber manufacturing industries would, if implemented, be in the interests of the economy as a whole.

[Paragraph 13.1.]

(19) As small holdings of rubber play a significant role in the economy of Kerala, by providing employment on a large scale, there should be no positive steps whether by Agrarian reform or otherwise to discourage them from continuing in production. They should continue to receive, where they are able to establish their ability to do so, subsidy and other financial aids from the Rubber Board for replanting with high yielding planting materials.

[Paragraph 13.3.2.]

(20) There is significant scope for service co-operatives or multi-purpose societies in the small holdings of rubber.

[Paragraph 13.4.]

(21) In future no licence should be given for planting of rubber with ordinary seedlings and encouragement should be given to economic holdings to undertake planting with high yielding material.

[Paragraph 13.5.1.]

(22) To avoid immediate drop in production replanting should be undertaken on a planned basis.

[Paragraph 13.5.3.]

(23) High yield planting material should be distributed to small growers at cheap rates. If local nurseries cannot provide the material, the Rubber Board should be given facilities to import sufficient quantity of high yielding planting material suited to the soil conditions of the rubber growing areas in the country.

[Paragraph 13.5.3.]

(24) It is necessary that a separate financial agency should be set up to grant financial assistance for the development of a long-term crop like rubber particularly for stepping up the tempo of new planting.

[Paragraph 13.5.6.]

(25) Labour productivity could be raised if the Rubber Board could set up a productivity team to investigate means of increasing output and bringing down cost.

[Paragraph 13.1 and 14.]

16. Our thanks are due to the growers of rubber, manufacturers of rubber goods, their respective Associations the Chairman and Rubber Production Commissioner, Rubber Board and Shri N. Sankara Menon, I. A. S., a former Chairman of the Rubber Board for the co-operation we have received from them in connection with this inquiry.

K. R. P. AIYANGAR,
Chairman.

S. K. MURANJAN,
Member.

J. N. DUTTA,
Member.

R. S. BHATT,
Member.

RAMA VARMA,
Secretary

BOMBAY ;

Dated 12th May 1960.

APPENDIX I
(Vide Paragraph 1.1)
GOVERNMENT OF INDIA
MINISTRY OF COMMERCE AND INDUSTRY

New Delhi, the 4th April, 1959.

14th Chaitra, 1881.

Resolution

No. 16 (2) Plant (B)/57.—In a Report submitted to Government in September 1952, the Tariff Commission recommended prices for various grades of raw rubber. The prices recommended included an element of Rs. 6·82 per 100 lbs. for rehabilitation purposes. The Commission had also recommended that with a view to giving the necessary incentive to the rubber producers to take up their development schemes, the prices recommended for different grades should be fixed for a period of three years, and that the Indian Rubber Board should keep a continuous watch on the cost of production of the rubber plantation industry. The Commission recommended further that, should circumstances arise warranting a variation in the cost of production by 10 per cent. or more on either side, the Board should take up the matter with Government for securing necessary action for the revision of prices. The Government of India accepted these recommendations and the maximum and minimum prices for various grades and qualities of raw rubber were accordingly fixed with effect from the 28th October, 1952 and notified under Section 13 of the Rubber (Production and Marketing) Act, 1947.

2. On certain representations received from the plantation industry to the effect that the prices fixed as above were inadequate to meet the increase in the cost of production arising from higher labour charges, higher cost of fertilisers, etc. the Government of India reviewed the position in 1955 and decided that the prices for raw rubber fixed in October, 1952 should be raised with effect from the 15th February, 1955, on the basis that the prices of Group I rubber per 100 lbs. F. O. B. Cochin would be Rs. 150 in place of Rs. 138, with suitable adjustment for other grades. While notifying the revised prices accordingly, Government announced that the decision to increase the price had been taken partly to meet the increase in the cost of production and partly to enable producers to put by adequate funds for the replanting of rubber which had to be undertaken on a considerable scale as also for new planting, if necessary.

3. Subsequently, Government increased the rate of cess on rubber under Section 12 of the Rubber Act, 1947 from 8 annas to Rs. 6-4-0 per 100 lbs. with effect from the 1st August, 1955. As the cess was taken into account by the Tariff Commission in working out the cost of production, Government considered it necessary to increase the prices of rubber to the extent of the increase in the cess, i.e. by Rs. 5-12-0 per 100 lbs. The prices for various grades of rubber were accordingly revised and notified with effect from the 24th September, 1955, and those prices are still in force.

4. Government have received further representations from producers for revision of the prices for raw rubber on the ground that the cost of production has increased considerably since 1955 on account of higher expenditure on wages and provision of amenities and Provident Fund benefits to labour. The rubber goods manufacturing industry has represented, on the other hand, that the controlled prices of indigenous raw rubber are already high and that no upward revision of the prices would be justified, particularly because the manufactured articles are not able to withstand competition in the world market. The manufacturing industry has also represented that the controlled prices should not be confined to the F. O. B. Cochin purchases and sales.

5. Government have examined the matter carefully. Although it is felt that the rehabilitation element which was included in the prices fixed for raw rubber has not been utilised adequately by the producers of raw rubber, Government consider that there is a case for referring the question of the prices for raw rubber of different grades and qualities to the Tariff Commission for investigation under Section 12(d) of the Tariff Commission Act, 1951. The Tariff Commission is accordingly requested to conduct the necessary enquiries in regard to the cost of production of rubber and to submit its Report to Government as early as possible.

6. Firms or person interested in the rubber plantation industry or any industries dependent on the use of raw rubber, who desire that their views should be considered by the Tariff Commission, should address their representations to the Secretary, Tariff Commission, Central Government Building, 101, Queen's Road, Bombay.



सत्यमेव जयते

APPENDIX II

(Vide Paragraph 3·2)

List of firms, associations and individuals to whom the questionnaires were issued and from whom replies were received.

*Indicates those who replied or sent memoranda.

**Indicates those who stated either not interested or unable to reply.

(A) *Plantation Companies:*

- *1. The Malayalam Plantations Ltd., Quilon, (Kerala).
- *2. The Cochin Malabar Estates Ltd., Calicut, (Kerala).
- *3. The Travancore Rubber and Tea Co. Ltd., Alleppey. (Kerala).
- *4. The Thirumbadi Rubber Co. Ltd., Calicut, (Kerala).
- *5. The Vaikundam (Travancore) Rubber Co. Ltd., Pullengode, (Kerala).
- *6. The Pullengode Rubber and Produce Co. Ltd., Pullengode, (Kerala).
7. The Anandam Rubber Co. Ltd., Kottayam, (Kerala).
8. The Athimattam Rubber Co. Ltd., Thodupuzha, (Kerala).
- *9. The Balanoor Tea and Rubber Co. Ltd., Gandhi Nagar, Bangalore City (Mysore).
10. The Be Be Rubber Estates Ltd., Punalur, (Kerala).
11. The Cottanad Plantations Ltd., Puthupadi, (Kerala).
12. The Calvery Mount Estates Ltd., Manjeri, (South Malabar, Kerala).
13. The Cavunal Rubber Estates Ltd., Kelachandras Buildings, Chingavanam, (Kerala).
14. The Desamangalam Rubber Estates Ltd., Shoranur, (South Malabar, Kerala).
15. The Glenburn Estates Ltd., Coonoor, (Madras).
16. The Gokul Rubber and Tea Plantations Ltd., Kottayam.
17. The Edamon Estates Ltd., Kanjirappally. (Kerala).
18. St. Joseph Tea Co. Ltd., Thodupuzha, (Kerala).
19. The Jayachandra Rubber and Produce Co. Ltd., Adoor, (Kerala).
20. The Kuttanad Cardamoms Ltd. Calicut, (Kerala).
21. The Karimba Plantations Ltd., Palghat, (Kerala).
- *22. The Kailas Rubber Co. Ltd., Kottayam, (Kerala).
23. The Kuttanad Rubber Co. Ltd., Kainakary, Monkombu (Kerala).
- *24. The Kalpetta Estates Ltd., Calicut, (Kerala).
- *25. The Karikode Rubbers Ltd., Palai, (Kerala).
26. The Malabar Estates Ltd., Alleppey, (Kerala).
27. The Mercara Rubbers Ltd., 8, Mc' Nicholl's, Chetpet, (Madras).
28. The Malabar Produce and Rubber Co. Ltd., Alleppey, (Kerala).
- *29. The Midland Rubber and Produce Co. Ltd., Alleppey, (Kerala).
30. The Mysore Plantations Ltd., Koppa-Kadur, Mysore.
31. The Malankara Rubber and Produce Co. Ltd., Kottayam, (Kerala)
- *32. The Marthoma Rubber Co. Ltd., Alleppey, (Kerala).
33. The Meerankhan and Sons Ltd., Mundakayam, (Kerala).
34. The Malabar Industrial Co. Ltd., Pathanapuram, (Kerala).

(A) Plantation Companies—contd.

35. The Manimala Estates Ltd., Rubynagar.
- *36. The Nilambur Rubber Co.* Ltd. Madras, C/o M/s. Associated Planters Ltd., Beach Road, Kozhikode-1, (Kerala).
37. The Nellithanam Rubber and Produce Co. Ltd., Alleppey, (Kerala).
- *38. The National Planting Co. Ltd., Palai (Kerala).
39. The New Ambadi Estates Ltd., 12, Cave Street, Nagercoil, (Madras).
- *40. The Nelliampathi Tea & Produce Co. Ltd., Alleppey, (Kerala).
41. The Nenmeni Rubber and Produce Co. Ltd., Kottayam, (Kerala).
- *42. The Portland Rubber Estates Ltd., 'Gomathy', Narasimharaj Mohalla, Mysore.
43. Messrs. Pothan Joseph and Sons Ltd., Alleppey, (Kerala).
44. The Pandalur Plantations Ltd., Pattikadu P. O., Palghat, (Kerala).
45. The Peninsular Plantations Ltd., Trivandrum, (Kerala).
46. The Padinjarekara Estates Ltd., Kottayam, (Kerala).
- *47. The Ponmudi Rubbers Ltd., Vallakadavau, Trivandrum-8 (Kerala).
- *48. The Periyar and Parikanni Rubbers Ltd., Palai, (Kerala).
- *49. The Rajagiri Rubber and Produce Co. Ltd., Alleppey, (Kerala).
50. The South Indian Estates and Industries Ltd., Calicut, (Kerala).
- *51. The Southern Plantations Ltd. Oyitty Road, Calicut, (Kerala).
- *52. The Tookoy Rubber (India) Ltd., Palai, (Kerala).
53. The Thamarappally Rubber Co. Ltd., Kottayam, (Kerala).
54. The Tropical Plantations Ltd., Kottayam, (Kerala).
55. The Travancore Rubbers Ltd., Kottayam, (Kerala).
56. United Rubbers Ltd., C/o. Agencies Ltd., Ernakulam Mills Building, Ernakulam, (Kerala).
57. The Vaniampara Rubber Co. Ltd., Trichur, (Kerala).
58. The Valparai Rubbers Ltd., Pallam, Kottayam, (Kerala).
59. The Vadakekalam Plantations Ltd., Mattancherry, Cochin, (Kerala).
60. The Venkulam Rubber Estates Ltd., Ranni, Perunad, (Kerala).
- *61. The Velimalai Rubber Co. Ltd., Kottayam, (Kerala).
62. The Woodland Rubber Estates Ltd., Meenathottathil Buildings, Barton Hills Junction, Trivandrum, (Kerala).
63. The Panampunna Estates Ltd., Kottayam, (Kerala).
- **64. The Devon Tea and Produce Co. Ltd., 2, Errabalu Chetty Street, Madras-1.
65. The Sunghai Plantations (Private) Ltd. Kozhencherry, (Kerala).
66. The Thalayar Rubber Industries Ltd., Thalayar Estate, Thamaracherry P. O., (Kerala).
67. The Manalur Rubber Co. Ltd., Asram Road, Changanacherry, (Kerala).

*(B) Rubber Growers (other than Companies).**I. Above 500 Acres—*

1. S. Kumaraswamy, The Pioneer Works, Nagercoil.
2. N. A. M. Subramania Chettiar, Rayamvarm, Pudukotta, (Madras).
- *3. M. C. Mathew, Partner, Kerala Estate, Kerala Estate P. O., S. Malabar, (Kerala).
4. P. J. Jacob, Mg. Prop: Kainady Estate, Bank Road, Calicut, (Kerala).

(B) *Rubber Growers (other than Companies)*—contd.I *Above 500 acres*—contd.

5. K. M. Moidu Sahib, Moidu Rubber Estate, Kodoor P. O., Malapuram, (Kerala).
- *6. M. P. Cherian, Manamel Plantations, Pudupadi P. O., Malabar, (Kerala).
- *7. T. V. Kochuvareed, Planter, Trichur, (Kerala).
8. M. Mohamed Kunju M. M. K. Transports, Punalur, (Kerala).
9. Karimpanal Brothers, Kanjirapally, (Kerala).
10. Thomas Chacko, Kayalackakom, Pallathu Bangallow, Palai, (Kerala).

II. *100—500 Acres*

- *11. E. K. Mathew, Planter, Cheppad, Haripad.
12. J. Yesudasan, Clovelly, Estate, Tuttapallam P. O., Nilgiris.
13. Mysore Lachia Setty and Sons, Coffee and Rubber Planters, Chigmagalore.
14. P. C. Ray, C/o. Messrs. P. C. Ray and Co. (India) Ltd., 4, Lions Range, Calcutta.
15. Thomas C. Ramapuram, Chickemhully Estate, Siddapur, Coorg.
16. K. George Thomas, M. P., Kittukapallil, Palai.
- *17. K. Kunhi Koman, Natakka, West Eleri, (Kerala).
18. V. K. Abraham, T. C. 836, Rishimangalam, Trivandrum, (Kerala).
19. Haji Koyappathody M. Ahamedkutty, Land Lord, Beach Road, Calicut-1. (Kerala).
20. V. K. Sankaran Nair, Timber Merchant and Commission Agent, Nilambur, Malabar, (Kerala).
- **21. D. T. D'Cruz, Watts Road, Cheriathurayil, Trivandrum-8.
22. P. J. Joseph, Mg. Prop. Philominapuram Estate, Koodathai P. O., Calicut, (Kerala).
- *23. P. R. M. Ramanathan Chettair, Mappadam Rubber Estate, Mappadam, Ramavaramapuram, Trichur, (Kerala).
24. Claramma Mrs. A. C. M. Antharappar, Skinnerpuram Estate, Elamannur, P. O., (Via) Adur, (Kerala).
25. Nair Service Society, Changanacherry, (Kerala).
- *26. Haji N. R. Imbichi Moideen, Good Luck Estate, Malappuram, Pudupadi P. O., Malabar, (Kerala).
27. K. K. Kuruvilla, Anathanam Estate, Kanjirapally, Kerala.
28. T. C. Chacko, Ex-Director of Industries, Pulinkunnu, Kerala.
29. E. J. John, B. Sc., Prop. St. George Estate, Parathode, (Kerala).
30. P. A. Lawley, Foreman Instructor, Industrial Training Institute, Pangode, Trivandrum, Kerala.
31. K.T. Varughese, Kalaikattil, Kaviyur, Thiruvella (Kerala).
32. George Oommen, M.Sc., Thekkeveettil, Puthancavu, Chengannoor (Kerala).
33. N.A.M. Kasi Chettiar, Mg. Partner, Pulinchimalai Estate, Camp : Kuzhithurai, Nagercoil, (Madras).
34. Jose A. Kallivayalil, Mundakayam, (Kerala).
- **35. T.K. Joseph, B.A., B.L., Tharakan Rubber Estate, Vadakkanchery, Cochin, Kerala.
36. Joseph Jacob, B.A. B.L., T.B. Road, Kozhikode.

(B) Rubber Growers (other than Companies)—contd.**III. Below 100 Acres**

37. P.G. Gurjer, Koppa Kadur P.O., Mysore.
38. J. Hudson Williams, Central Hotel, Trichur, Kerala.
39. P.K. Koruthu, Mg. Director, Marthandom Commercial Bank Ltd., Marthandom, Kerala.
40. Dr. K.E. Eapen, Kadamapuzha, Kanjirapally, Kerala.
41. K.V. Abraham, B.A., Karimpanal, Kanjirapally, Kerala.
42. P.C. Abraham, B.A., B. Com., L.L.B., Padinjatekara, Kottayam, Kerala.
43. T.J. Mathew, B.A., C/o. T.J. Joseph, B.A., B.L., Retd. Dist Judge, Punalur, Kerala.
44. V.J. Joseph, M.A., Varapetty, Kothamangalam, Kerala.
45. P.G. Mathew, Retd. Engineer, Kystore, Olai, Quilon.
- *46. C. Ramaswamy Nadar, Ex-M.L.A., Koyilur Rama Vilas Bungalow, Vellarada P.O., Neyyattinkara.
47. M.K. Malathy, Indira Bhavan, Muttom P.O., Haripad, Kerala.
48. M.J. John, Karakunnu Bungalow, Pudupadi, Kaithapoi, Calicut.
49. M.K. Jinachandran, M.P., Vijayamandiram, Kalpetta, Wynad.
50. P.J. Thomas, Payikunne, Palai, Kerala.
51. P.N. Narayanan Nambudiri, Pthumana Illom, Kurichithanam, Vazhoor, Kerala.
52. G. Barton Wright, Orchard Dene, Trichur, Kerala.
53. A.P. Ninan & Sons, Mg. Prop : Atchencoil Estate, Kalthurutti P.O., Kerala.
- *54. J. Thomas, Vadakkal, Bharananganam.
55. M.D. Joseph, B.A. B.L., Mannipparambil, Kanjirappally.
- *56. K.T. Chandy, Kuthuchira, Kadathuruthy, Kottayam.
- *57. J. John, Kattakkayam, Vellikulamgara, Trichur.
58. P.V. Chandy, Vijayapuram Estate, Parakode.
59. K.C. Chandy, Kotheplekal, P.O. Mallappally, Tiruvalla.
60. George Ipe, Lalitha Vilas, Mepral, Thiruvalla,
61. Manager, Little Flower Mount Estate, Bishops House, Tiruvalla.
62. J. Kurien, Kalarickal, Nagapuram, Muttampalam, Kottayam.
63. K.J. Joseph, Kalluvayalil, Vilakkumadam, Poovarny, (Via Palai).

(C) Associations of Rubber Planters

- *1. The Secretary, Association of Planters of Kerala, Kottayam.
- *2. The Secretary, United Planters Association of Southern India, Coonoor.
3. The Hon. Secretary, Rubber Growers' Association of India, Kottayam.
- *4. The Hon. Secretary, Quilon District Planters' Association, Punalur. (Kerala).
5. The Secretary, Trivandrum District Planters' Association, Sri Mulam Club Building, Trivandrum.
6. The Secretary, Central Travancore Agricultural Association, Kanjirappally, (Kerala).
7. The Secretary, Association of Small Holders of Rubber Plantations, Kanjirappally, (Kerala).
8. The Secretary, Association of Planters of the State of Madras, Coonoor.
- *9. The Secretary, Trav.-Cochin Petty Holders' Association, Poovarny. (Kerala).
10. The President, North Trav.-Cochin Small Rubber Growers' Association, Arakunnam (Kerala).

(C) Associations of Rubber Planters—contd.

- *11. The Hon. Secretary, Mundakayam Planters' Association, Mundakayam. (Kerala).
- 12. The Hon. Secretary, Central Travancore Planters' Association, Vandiperiyar, (Kerala).
- 13. The Hon. Secretary, South Travancore Planters' Association, Kalthurithy, (Kerala).
- 14. The Secretary, Kanan Devan Planters' Association, Munnar, (Kerala).
- 15. The Secretary, Nelliampathy Planters' Association, Munnar, (Kerala).
- 16. The Secretary, Nilgri Planters' Association, Thiashola Estate, Kundat Bridge, P.O., Nilgiris.
- **17. The Secretary, Wynad Planters' Association, Kardoora Estate, Mappadi P.O., Malabar.
- 18. Mysore Planters' Association, Mysore Bank Building, Chigmagalur.
- 19. The Kerala Rubber Small Holders' Association, Parakode, (Kerala).

(D) Consumers

- *1. M/s. Bata Shoe Co. (Private) Ltd., 24-Parganas, West Bengal.
- *2. The Associated Rubber & Plastics Ltd., 55, Bentinck Street, Calcutta.
- 3. The Bengal Waterproof Works (1940) Ltd., 32, Theatre Road, Calcutta.
- *4. The Kadar Rubber Manufacturing Co. Ltd., 92, Narkeldanga Main Road, Calcutta.
- 5. M/s. Hind Rubber Works, 175, Bibi Bagani Lane, Tangra, Calcutta-15.
- 6. East India Rubber Works, 161, Chittaranjan Avenue, Calcutta-7.
- *7. The Indian Rubber Manufacturers Ltd., 11 and 12, Esplanade Mansion Calcutta-1.
- *8. The Indian Cable Co. Ltd., 9, Hare Street, Calcutta.
- *9. M/s. Kohinoor Rubber Works, 46/6, Canal East Road, Calcutta-11.
- *10. National Rubber Manufacturers Ltd., Leslie House, 19 Chowringhee Lane, Calcutta.
- *11. The National Insulated Cable Co. of India Ltd., Stephen House, Dalhousie Square East, Calcutta.
- *12. The Central Rubber Works Ltd., 20-B, Tangra Road, Calcutta.
- 13. The New India Rubber Works Ltd., 34-A, Chingrighatta Road, Calcutta.
- *14. Associated Industries Ltd., Go Go Road, Bhavanagar.
- 15. The Gujarat Rubber Works Ltd., Pratap Nagar, Baroda.
- *16. Swastic Rubber Products, Opp. Kirkee Rly. Station, Kirkee, Poona-3.
- *17. Korula Rubber Co. Ltd., 249-A, Worli, Bombay-18.
- *18. Oriental Rubber Industries, Agra Road, Bhandup, Bombay.
- 19. International Rubber and General Industries Ltd., G.P.O. Box No. 843, 69, Marine Drive, Bombay.
- *20. Carona Sahu Co. Ltd., 143, Mahatma Gandhi Road, Fort, Bombay-1.
- 21. Nanco Rubber & Plastics Ltd., P.B. No. 242, Coimbatore.
- *22. Madras Rubber Factory, 2, Erabalu Chetty St., P.B. No. 107, G.T., Madras.
- *23. Ruby Rubber Works, Rubynagar, Changanacherry (Kerala).
- *24. Travancore Rubber Works, Trivandrum.
- 25. National Tyre and Rubber Co. of India Ltd., Post Box No. 17, Kottayam
- *26. South India Rubber Works, Post Box No. 32, Alleppey.

(D) Consumers—contd.

- *27. Amco Batteries Ltd., Badami House, Narasimharaja Square, Bangalore.
- *28. The Bharat Battery Mfg. Co. Ltd., P-11A, Rash Behari Avenue, Ballygunge, Calcutta.
- *29. Associated Battery Makers (Eastern) Ltd., 59C, Chowringhee Road, Calcutta-20.
- *30. Standard Batteries Ltd., 43, Forbes St., Bombay-1.
- 31. The General Lead Batteries Co. Ltd., 9-A, Ramdhone Mitra Lane, Calcutta-4.
- *32. M/s. Fenner Cockill Ltd., Post Box No. 117, Madurai.
- *33. M/s. Modak Rubber Products Private Ltd., Verma's Building, Golanjee Hill Road, Sewree, Bombay-15.
- 34. Supreme Industries Ltd., Wadala, Bombay-31.
- *35. Electrical Manufacturing Co. Ltd., EMC Gardens, 136, Jessore Road, Calcutta-28.
- 36. The Hindusthan Electric Co. Ltd., Thackersey House (3rd Floor), Graham Road, Ballard Estate, Bombay-1.
- *37. Devidayal Cable Industries (Private) Ltd., Gupta Mills Estate, Darukhana, Reay Road, Bombay-10.
- **38. Goodyear Tyre & Rubber Co. of India (P) Ltd., Swadeshi Mills Estate, Tata Road No. 2, Bombay-4.
- **39. India Tyre and Rubber Co. (P) Ltd., Post Box No. 6523, Bombay-26.
- 40. M/s. National Rubber Works, 171/A, Mahatma Gandhi Road, Calcutta-7.
- *41. M/s. Basant Rubber Factory, Opp : Sion Rly. Station, Bombay-22.
- *42. The Dunlop Rubber Co. (India) Ltd., 57-B, Free School Street, Post Box No. 391, Calcutta-16.
- *43. The Firestone Tyre & Rubber Co. of India (Pvt.) Ltd., Hay Bunder Road, Post Box No. 197, Bombay-1.

(E) Consumers' Associations

- *1. Indian Rubber Industries Association, 12, Rampart Row, Bombay-1.
- *2. The Association of Rubber Manufacturers in India, 57-B, Free School Street, Calcutta-16.

(F) Government Departments and Others

- *1. The Rubber Board, P.B. Box No. 43, Kottayam.
- *2. The Chief Secretary to the Govt. of Kerala, Trivandrum.
- *3. The Chief Secretary to the Govt. of Madras, Fort St. George, Madras.
- *4. The Chief Secretary to the Govt. of Mysore, Vidhan Soudh, Bangalore.
- *5. The Chief Commissioner, Andaman & Nicobar Islands, Port Blair.
- *6. The First Secretary (Commercial) High Commission of India in Ceylon, Post Box No. 882, 67, Turret Road, Colombo-3.
- *7. Commission for India, 31, Grange Road, P.O. Box No. 836, Singapore.
- *8. Development Officer (Rubbers), Development Wing, Ministry of Commerce & Industry, Shahjahan Road, New Delhi.

APPENDIX III
[Vide Paragraph 3.3]

List of estates visited by the Commission

Name of the Estate	Date of Visit
(1) Arnakal Estate, Ernakal . . .	6th January, 1960.
(2) Kadmankulam Estate, Mundakayam .	7th January, 1960.
(3) Mundakayam Estate, Mundakayam .	7th January, 1960.
(4) Little Flower Mount Estate, Kottayam .	8th January, 1960.
(5) Primer Park Estate, Pathanapuram .	8th January, 1960.
(6) Shalicary Estate, Shalicary . . .	8th January, 1960.
(7) Vaikundam Estate, Vaikundam . . .	10th January, 1960.



APPENDIX IV

[Vide Paragraph 3.4]

List of estates costed by the Commission's Cost Accounts Officers

Name of the Estate	Name of the Company Proprietors	Name of the Cost Accounts Officer
<i>Estates</i>		
1. Periyar . . .	Periyar & Pareekanni Rubbers Ltd., Palai (Mg. Agents : East India Agencies (Private) Ltd., Palai).	Shri S. K. Basu, Senior Cost Accounts Officer.
2. Mundakayam .	Malayalam Plantations Ltd. (Agents & Secretaries : Harrisons & Crosfield Ltd., Quilon).	Ditto.
3. Manikel & Kup-pakayam.	Travancore Rubber & Tea Co. Ltd. (Mg. Agents : Aspinwall & Co. (Travancore) Ltd., Cochin).	Ditto.
4. Pathanapuram .	The Kailas Rubber Co. Ltd. (Mg. Agents : A.V. George & Co. Ltd., Kottayam).	Shri P. M. Menon, Cost Accounts Officer.
5. Sittar . . .	The Midland Rubber & Produce Co. Ltd. (Mg. Agents : A.V. Thomas & Co. Ltd., Alleppey).	Ditto.
6. Shalicary . . .	Rajagiri Rubber & Produce Co. Ltd. (Mg. Agents : A.V. Thomas & Co. Ltd., Alleppey).	Ditto.
7. Vaikundam . .	The Vaikundam (Travancore), Rubber Co. Ltd., Trivandrum.	Ditto.
8. Chittadi . . .	The Tropical Plantations Ltd., Kottayam.	Ditto.
9. Pullangode . .	Pullangode Rubber & Produce Co. Ltd. (Mg. Agents : Aspinwall & Co. Ltd., Fort, Cochin).	Shri S. R. Mallya, Assistant Cost Accounts Officer.
10. Vaniampara . .	Vaniampara Rubber Co. Ltd., (Mg. Agents : E. Krishna Menon & Co., Trichur).	Ditto.
11. Kinalur . . .	Cochin Malabar Estates Ltd., (Mg. Agents : Peirce Leslie Ltd., Calicut).	Ditto.
12. Thirumbadi . .	Thirumbadi Rubber Co. Ltd., (Secretaries & Treasurers : Peirce Leslie Ltd., Calicut).	Ditto.

Name of the Estate	Name of the Company Proprietors	Name of the Cost Accounts Officer
<i>Holdings</i>		
1. Karakal . .	Mr. K.J. Joseph, Kallivayalil, Palai.	Shri S. K. Basu, Senior Cost Accounts Officer.
2. Anandam . .	Mr. J. Kurien, Kalarickal, Kottayam.	Ditto.



APPENDIX V

[Vide Paragraph 3.5]

List of Persons who attended the Discussions/Public Inquiry.

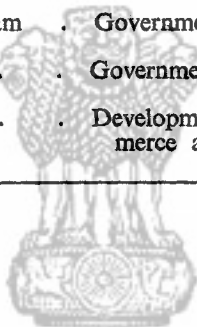
Name	Representing
1st March, 1960.	
1. Shri K. Srinivasan	The Midland Rubber & Produce Co. Ltd. The Rajagiri Rubber & Produce Co. Ltd. (M/s. A. V. Thomas & Co., Alleppey.)
2. „ M.M. Verghese	
3. „ S. V. Aiyar	
4. „ F.A. Murphy	The Pullangode Rubber and Produce Co. Ltd. The Travancore Rubber & Tea Co. Ltd. (M/s. Aspinwall & Co.)
5. „ N.D. Shenoi	
6. „ K.N. Kaimal	The Rubber Board.
2nd March, 1960.	
1. Shri C.V. Jacob	The Periyar & Parikanni Rubbers Ltd. Palai.
2. „ P. T. Verghese	
3. „ S. Seshadrinatha Sarma	The Vaikundam Rubber Co. Ltd.
4. „ K.N. Kaimal	The Rubber Board.
4th March, 1960.	
1. Shri M.K. Kuriakose	UPASI & A.P.K.
2. „ M.M. Verghese	UPASI, A.P.K. and A.V. Thomas & Co.
3. „ A. Hepburn	UPASI & A.P.K.
4. „ K. Srinivasan	M/s. A. V. Thomas & Co.
5. „ S.V. Aiyar	
6. „ F.A. Murphy	M/s. Aspinwall & Co.
7. „ S.S. Sarma	The Vaikundam Rubber Co. Ltd.
8. „ C.V. Jacob	The Periyar & Parikanni Rubbers Ltd., Palai.
9. „ P.T. Verghese	
10. „ K.B. Warriar	The Rubber Board.
11. „ K.N. Kaimal	
12. „ N. Sankara Menon (Former Chairman, the Rubber Board).	(On special invitation).

Name	Representing
5th March, 1960.	
GROWERS/GROWERS' ASSOCIATIONS	
1. Shri M. K. Kuriakose . . .	UPASI, A.P.K. and the Mundakayam Planters' Association. (The Ponmudi Rubbers Ltd. also).
2. „ M.M. Verghese . . .	UPASI, A.P.K. and A.V. Thomas & Co. and Portland Rubber Estates Ltd.
3. „ A. Hepburn . . .	UPASI & A.P.K.
4. „ K. Srinivasan } . . .	M/s. A. V. Thomas & Co.
5. „ S.V. Aiyar. }	
6. „ F.A. Murphy . . .	M/s. Aspinwall and Co.
7. „ C.V. Jacob } . . .	Periyar & Parikanni Rubbers Ltd. and The Teekoy Rubbers (P) Ltd., Palai.
8. „ P.T. Verghese }	
9. „ S. Seshadrinatha Sarma . . .	Vaikundam Rubber Co. Ltd.
CONSUMERS/CONSUMERS' ASSOCIATIONS	
1. Shri F. Kuzelh . . .	Bata Shoe Co.
2. „ Bose . . .	Bengal Waterproof Works (1940) Ltd.
3. „ Sadanand . . .	Oriental Rubber Industries.
4. „ K.M. Premchand } . . .	Associated Rubber Industries.
5. „ M.V. Pai }	
6. „ K.V. Modak } . . .	Modak Rubber Products (Shri K. V. Modak represented Indian Rubber Industries Association also).
7. „ S.G. Pandit }	
8. Dr. F. Acutis } . . .	CEAT Tyres.
9. Shri R.F. Boga }	
10. „ B. Basu . . .	Jai Hind Rubber Products (P) Ltd.
11. „ M.M. Patel . . .	Rubberex Industries (P) Ltd.
12. „ C.S. Desai . . .	Premier Tyres Ltd.
13. Dr. D. Banerjee } . . .	The Association of Rubber Manufacturers in India, Calcutta.
14. Shri A.T. Mathyoo }	
15. „ P. N. Haskar . . .	Dunlop Tyre & Rubber Co. and the Association of Rubber Manufacturers in India, Calcutta.

Name		Representing
16.	Shri Glen D. Wood	Firestone Tyre & Rubber Co. and the Association of Rubber Manufacturers in India, Calcutta.
17.	„ N.G. Dutt	
18.	„ L.M. Jamnadas	Indian Rubber Industries Association, Bombay.
19.	„ K.M. Philip	
20.	„ N.K. Patil	

GOVERNMENT DEPARTMENTS/OTHERS

1.	Shri K.B. Warriar	}	.	.	Rubber Board, Kottayam.
2.	„ K.N. Kaimal				
3.	„ N. Sankara Menon	.	.	.	Former Chairman of the Rubber Board.
4.	„ D. Shanmugasundaram	.	.	.	Government of Madras.
5.	„ P.M. Mathew	.	.	.	Government of Kerala.
6.	„ A. Seetharamiah	.	.	.	Development Wing, Ministry of Commerce and Industry.



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APPENDIX VI

[Vide Paragraph 4.3]

Statement showing the registered acreage, tappable area, production and yield of rubber in 1952 and 1958

Particulars	Estates			Holdings				Total			Grand Total	
	Ordinary	Budded	Clonal	Total	Ordinary	Budded	Clonal	Total	Ordinary	Budded		Clonal
1952												
Registered Acreage	72,306	22,690	8,186	103,182	65,880	2,151	1,573	69,604	138,186	24,841	9,759	172,786
Tappable Acreage	69,120	19,176	6,089	94,385	61,978	2,017	1,148	65,143	131,098	21,193	7,237	159,528
Production (Tons)	..	..	..	14,788	..	..	..	5,075	..	..	..	19,863
Yield (lbs.)	..	..	..	351	..	..	..	175	..	..	..	279
1958												
Registered Acreage	76,716	30,226	18,264	124,206	121,683	10,024	30,654	162,361	197,399	40,250	48,918	286,567
Tappable Acreage	67,092	21,764	8,175	97,031	71,496	3,017	2,012	76,525	138,588	24,781	10,187	173,556
Production (Tons)	..	..	..	18,130	..	..	..	6,198	..	..	..	24,328
Yield (lbs.)	..	..	..	419	..	..	..	181	..	..	..	314

APPENDIX VII

[Vide Paragraph 4.3]

Statement showing the newly planted area and the material used during 1953 to 1958

(In acres)

Year	Estates				Holdings			Total		Grand Total
	Ordinary	Budded	Clonal	Total	Ordinary	Budded	Clonal	Total	Budded	Clonal
1953	295	506	558	1,359	1,791	143	718	2,652	649	1,276
1954	986	762	749	2,497	4,851	659	2,030	7,540	1,421	2,779
1955	2,545	441	990	3,976	11,632	1,064	4,512	17,208	1,505	5,502
1956	1,489	909	2,038	4,436	13,133	1,463	7,256	21,852	2,372	9,294
1957	1,198	1,488	1,977	4,663	12,547	2,102	8,583	23,232	3,590	10,560
1958	860	903	1,031	2,794	4,613	706	3,035	8,354	1,609	4,066
TOTAL	7,373	5,009	7,343	19,725	48,567	6,137	26,134	80,838	11,146	33,477
										100,563

APPENDIX VIII
[Vide Paragraph 4.3]

Statement showing the replanted area and the material used during the years 1953 to 1958

(In acres)

Year	Estates				Holdings				Total			Grand Total
	Or-di-nary	Bud-ded	Clo-nal	To-tal	Or-di-nary	Bud-ded	Clo-nal	To-tal	Ordi-nary	Bud-ded	Clo-nal	
1953	..	377	281	658	18	8	91	117	18	385	372	775
1954	46	376	431	853	50	51	105	206	96	427	536	1,059
1955	335	259	631	1,225	83	80	276	439	418	339	907	1,664
1956	210	650	214	1,074	98	182	275	555	308	832	489	1,629
1957	263	956	391	1,610	215	406	1,054	1,675	478	1,362	1,445	3,285
1958	25	88	394	507	86	106	356	548	111	194	750	1,055
TOTAL	879	2,706	2,342	5,927	550	833	2,157	3,540	1,429	3,539	4,499	9,467

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APPENDIX IX

[Vide Paragraph 12·12·1]

Statement showing the figures groupwise of natural rubber production and of groupwise purchase of indigenous raw rubber by manufacturers from 1952 to 1958

A. Groupwise Production of Natural Rubber

Groups	1952-1958						(In Tons)
	1952	1953	1954	1955	1956	1957	1958
Group 1 . .	8,188	8,434	8,457	8,938	9,126	5,066	5,258
Group 2 . .	3,790	4,118	4,159	4,112	4,315	1,263	1,370
Group 3 . .	1,755	2,039	2,132	2,071	2,388	260	407
Group 4 . .	1,147	1,297	1,165	1,283	1,234	1,356	1,261
Group 5 . .	834	934	1,027	1,183	1,145	915	957
Group 6 . .	563	743	818	875	602	388	423
Group 7 . .	34	38	57	44	41	17	19
Scrap Grades .	2,323	2,353	2,235	2,407	2,809	1,101	1,374
Latex (D.R.C.) .	558	635	838	1,022	1,304	1,480	1,784
Sole Crepe . .	671	545	605	546	480	412	370
Estimates for returns not received and not due. (Groups not known).	..	..	..	..	..	11,493	11,105
TOTAL . .	19,863	21,136	21,493	22,481	23,444	23,767	24,328

N.B.—The figures of production are based on actual returns received from estates above 50 acres and estimates for small holdings and estates which do not submit returns. Till 1956 the estimates so provided were divided into groups and added to the actuals. Thereafter, this practice was discontinued and the quantity estimated was shown separately.

B. Indigenous Raw Rubber Purchased by Manufacturers

1952-1958

(In tons)

Groups	1952	1953	1954	1955	1956	1957	1958
Group 1 . .	8,005	5,541	6,511	7,359	9,472	9,488	10,415
Group 2 . .	4,059	5,951	6,783	6,463	4,332	4,913	4,294
Group 3 . .	1,044	3,397	2,764	1,956	609	1,156	838
Group 4 . .	820	969	921	1,133	1,151	1,293	1,249
Group 5 . .	1,938	1,978	2,084	1,928	2,150	2,151	2,433
Group 6 . .	1,176	1,884	1,919	2,223	1,858	2,056	2,280
Group 7 . .	106	150	135	135	80	86	152
Scrap Grades . .	228	304	94	102	98	89	60
Sole Crepe . .	309	219	197	159	150	178	209
Latex (D.R.C.) . .	578	608	778	1,144	1,436	1,708	1,861
TOTAL . .	18,263	21,001	22,186	22,602	21,336	23,118	23,791

N.B.—These figures are only actuals and do not include any estimates, in respect of those manufacturers who have not furnished the required monthly returns.

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APPENDIX X

[Vide Paragraph 13.6.1]

Brief account furnished by the Rubber Board of research and extension services undertaken by it on behalf of the rubber plantation industry

A. Rubber Research—

In June, 1954, the Government of India, Ministry of Commerce and Industry, accorded administrative approval of a scheme for the establishment of a Rubber Research Institute and Experiment Station for the benefit of the Rubber Plantation Industry in India. According to this Scheme, the Institute will have four Research Divisions—Agronomy, Botany, Plant Pathology and Rubber Chemistry—under a Director. Each Division will have a suitably equipped laboratory, a Research Officer and a Research Assistant to start with. For conducting field experiments the Institute will also have an Experiment Station. The pattern of the Institute is more or less similar to that of other Rubber Research Institutes in the East.

The main functions of the Director of the Institute will be organising the Institute, general planning of research in collaboration with the Research Officers and directing the activities of the Research Institute and Experiment Station. The broad lines of the field of Research of the four divisions are :—

Agronomy.—Study and classification of the rubber growing soils; methods of preparation of the land for planting, problems relating to cultivation and maintenance of the soil in a good state of fertility.

Botany.—Study of the rubber tree, its improvement and all botanical problems from planting to production of the crop.

Pathology.—All problems relating to the health of the tree and controlling the diseases and pests of it.

Chemistry.—Study of the latex and processing it into forms in which raw rubber is required by the manufacturers.

Three of the above 4 divisions—Agronomy, Botany and Pathology—were organised in the latter half of 1955. Small temporary laboratories with some essential equipments were set up for the Agronomy and Pathology Divisions in 1955-56. Owing to lack of laboratory facilities the work of the three Divisions was confined mainly to field experiments at the Experiment Station as well as on estates with their co-operation. Research Assistants to each of these Divisions were appointed during 1958-59. The Botanical and Chemical laboratories could not be set up on account of lack of space in the present offices of the Board and non-availability of rented building in the immediate neighbourhood.

A plot of land measuring 82 acres in the suburbs of Kottayam was acquired by the State Government and handed over to the Board in October, 1955, for establishing the Experiment Station.

The progress of research work undertaken by the Institute has been described in the Half-yearly Reports of the Board, from July, 1955.

The work of the Research divisions may very briefly be summarised as follows :—

Agronomy.—Tentative formulations of manure mixtures based on available figures of soil analysis data and a schedule for manuring of immature and mature rubber has been prescribed and recommended to rubber growers. A series of manurial field experiments on estates in different planting districts have been laid out and conducted with the object of determining the optimum doses of the main plant nutrients (Nitrogen, Phosphoric acid and Potash) for rubber under varying conditions. To gain experience under local conditions, a pot culture experiment was conducted. A survey and classification of rubber soils has been started. All advisory work in respect of manuring and improvement of soil conditions is undertaken by this Research Division.

Botany.—A programme of breeding by hand-pollination between known parents with high-yielding and/or disease resistant qualities, started during the blossom period in 1954, was continued. The object is to develop new clones with these qualities, suited to local conditions. As a result of this work, 960 legitimate mother trees and an equal number of clones have been established in clone trial plots at the Experiment Station. A further quantity of 576 legitimate seedlings is being raised in the nursery and they are due for transplanting and multiplication during the planting season this year. New clones numbering 53, have also been produced from outstandingly high-yielding and *Phytophthora* resistant mother trees selected from various estates and established at the Experiment Station for testing.

In 1956 we received 20 of the most promising high-yielding clones developed by the Rubber Research Institute of Malaya. With the permission of the U. S. Department of Agriculture we also received through the R. R. I. M. 2 *Dothidella* *Phytophthora* resistant clones. All these clones have been established at the Experiment Station and multiplied as far as possible for distribution to estates for experimental planting and testing. Yield stimulants used for rubber in other countries have been tested and locally available oils have been found out as substitutes for the imported oil carrier (palm oil). The R. R. I. of Malaya has kindly permitted the R. R. I. of India to register their patent in respect of the use of 2,4,5-T in India in the name of the latter free of any royalty and an application in this regard is pending with the Patent Office, Calcutta. The Botany Division is responsible for the development of the Experiment Station. Advisory work in respect of all botanical problems is dealt with by this Division.

Pathology.—The Pathology Division has made a systematic study of the main diseases and pests of the rubber tree and prescribed standard treatments for their control. Intensive trials have been and are being carried out to find out a new, speedy and cheap method for the control of the most serious secondary leaf-fall disease caused by *Phytophthora palmivora*. The present method of control—Bordeaux Mixture spray—though effective, is not only slow, laborious and costly, but also impossible to be carried out in many hilly areas owing to severe drought. Low volume spraying of oil-based copper fungicides with a Micron sprayer has been found promising in the trials carried out in 1959. It has been planned to repeat the trials during the 1960 epidemic season, June to August. This Division collaborated with the Botany Division in the selection and breeding of disease-resistant clones. All advisory work in respect of diseases and pests of the rubber tree is undertaken by this Division.

Publications.—The Research Department contributed a number of articles in the Board's Bulletin and issued the following Advisory leaflets :—

Agron. 1/57	Fertilisers for Rubber	English & Malayalam.
Bot. 1/56	Method of germinating Rubber seeds.	Ditto.
Bot. 2/57	The Establishment, Care and Maintenance of Rubber Seedling Nurseries.	Ditto.
Bot. 3/58	Clonal Rubber Seeds	Malayalam.
Bot. 4/58	Notes on Stumping and transplanting of Seedling & Budded Rubber.	English & Malayalam.
Path. 1/57.	Bordeaux Mixture and its Preparation for spraying Rubber Trees.	Ditto.
Path. 2/57.	Sun-scorch of Young Rubber seedlings.	Ditto.
Path. 3/57.	Shoot Rot of Rubber	Ditto.
Path. 4/57.	Bird's Eye Spot of Rubber	Ditto.
Path. 5/58	Pink Disease of Rubber	Ditto.

Experiment Station.—The development work on the Experiment Station started early in 1956. A total of 48 acres has been planted with experimental material, mostly clone testing experiments. An area of 10 acres is covered by nurseries for raising clonal seedlings and budwood not only for use at the Station but largely for distribution to small rubber growers. Of the remaining 24 acres out of the total area of 82 acres, nearly 7 acres of land is covered by old, seedling rubber and the balance is reserved for building sites. The construction of the permanent offices of the Board and the Rubber Research Institute, the foundation stone of which was laid by the President of India, was started recently at the Experiment Station site. The construction work is expected to be completed by March, 1961.

B. Extension Service—

(1) **Organisation.**—The provision of technical advice on improved scientific methods of planting, cultivation, processing the crop, etc. received due priority. This was undertaken first by the Technical Officers of the Board (the Rubber Production Commissioner and two Field Officers). But as the volume of this work increased progressively an extension service was organised towards the end of 1955. To start with, 2 Junior Field Officers and 4 Rubber Instructors under one of the Field Officers were appointed and given the necessary training. The staff of this section has since been increased to 3 Field Officers, 4 Junior Field Officers and 27 Rubber Instructors. Seven more Rubber Instructors will be appointed shortly.

(2) **Functions.**—Besides extension service, particularly among small holdings, of a general nature, the officers and staff of this section are helping in the implementation of the Replanting Subsidy Scheme.

A Plant Protection Scheme has also been started in which the extension service field staff are playing an important role. Sprayers and Dusters are stocked at the offices of the field staff in different centres and loaned to rubber growers free of rent. Demonstrations of spraying, dusting and the preparation of Bordeaux Mixture are held by them in their respective centres. At present there are 133 sprayers and 26 dusters in stock with them.

(3) **Distribution of high-yielding planting materials.**—A systematic programme of distribution of high-yielding planting materials was undertaken since 1950. The quantity of such materials distributed at concessional rates to rubber growers is given below :—

Year	Clonal Seeds	Clonal Seedlings and bud- grafts
1950	1,60,000	..
1951	5,50,000	..
1952	7,98,580	..
1953	6,10,800	1,19,790
1954	14,28,250	..
1955	32,43,250	44,475
1956	15,49,075	..
1957	24,71,400	14,207
1958	24,24,488	16,363
1959	33,41,866	40,558
TOTAL	165,77,709	2,35,393

In addition, a large quantity of budwood of high-yielding clones of rubber was distributed to small growers, from the nurseries established at the Experiment Station.

The Research staff are devoting a considerable part of their time for advisory work by correspondence and visits wherever necessary. This advisory work covers the whole field of rubber production—from selection of suitable land for rubber, preparation of land for planting, cultivation and maintenance, extraction of the crop and processing it in different forms in which the product is required by the consumers. Large estates usually seek advice by correspondence. In the case of small growers, personal contact is found to be more effective and the field staff of the extension service attend to them mostly by visits to their holdings.



APPENDIX XI

[Vide Paragraph 13.6.1]

Details of replanting scheme (revised) sponsored by the Rubber Board

I. The Replanting Scheme provides for the grant of subsidy for the replanting of rubber in 70,000 acres of land planted with low-yielding unselected seedlings plants in or prior to 1956 irrespective of the fact whether the trees or plants are yielding or not at the rate of 7,000 acres a year. This area of 7,000 acres may be increased by the Board for any year with the approval of the Central Government. The Scheme is under implementation from 1957. The subsidy will be granted on the following slab basis :—

	Rs. per acre
Small growers (those whose estates do not exceed 50 acres in area).	
(1) First 5 acres	400
(2) Over 5 acres and up to and including 10 acres	375
(3) Over 10 acres and up to and including 15 acres	350
(4) Over 15 acres	325
Large growers (those whose estates exceed 50 acres in area).	
(1) First 20 acres	300
(2) Over 20 acres and up to and including 50 acres	275
(3) Over 50 acres	250

NOTE.—The slab rates are to be applied not for the acreage replanted in any year, but for the whole acreage replanted under the scheme during the ten years from 1957. If, for example, a small grower has been given subsidy for 5 acres at the rate of Rs. 400 per acre for replanting in 1957 and if he applies for subsidy to replant another 5 acres in 1958, the rate of subsidy that will be given for this area is Rs. 375 per acre.

Apart from the subsidy additional financial assistance will be given to small growers whose estates are not more than 10 acres in extent as indicated below :

(a) Small growers who own less than five acres will be given additional assistance either in cash or in kind as detailed below, provided any work for which payment is made is done to the satisfaction of the Chairman.

1. If any sloping land is contour terraced or provided with 'Edakkayalas', subsidy at the rate of Re. 1 per chain length of such terraces or 'Edakkayalas' up to a maximum of Rs. 30 per acre will be paid.

2. If silt trenches or silt pits are dug in such sloping lands, subsidy at the rate of Re. 1 per 100 c. ft. up to a maximum of Rs. 20 per acre will be paid.

3. Fertiliser mixtures will be supplied at half the market rate during the years when no catch crop is cultivated, subject to the condition that they should be applied as directed by the Chairman. The quantity to be supplied to each applicant is entirely at the discretion of the Chairman.

(b) If an estate is not more than 10 acres in extent, supply of planting materials will be made at cost not exceeding (1) Rs. 20 per 1,000 seeds, (2) 15 nP. per clonal seedling stump, (3) 25 nP. per budded stump, and (4) Re. 1 per yard of budwood. In the case of seeds, they should be purchased on payment and the cost of the seeds calculated at the rate of 2 seeds per planting point will be reimbursed after actual planting is done to the satisfaction of the Chairman. The supply of any particular type of planting material will depend on its availability.

II. The minimum planted area that should be replanted in a year shall be either one acre, or part of an acre, if that part is the only area remaining to be replanted in the estate after replanting either under this scheme or otherwise. If the number of trees standing on any one acre of land in an estate is less than 30 that area of land is not eligible for subsidy.

III. Applications for grant of subsidy should be submitted in duplicate. Application forms can be had from the Secretary, Rubber Board, Kottayam, Kerala State, or any of the Junior Field Officers or Rubber Instructors of the Board.

IV. All applications that are *prima facie* acceptable may be accepted by the Chairman. The other applications will be placed before the Planting Committee of the Board for its consideration. It is left to the Planting Committee to accept or reject any application.

V. When an application is accepted a Replanting Subsidy permit in the form appended, which may be subject to modifications will be issued by the Chairman and a replanting licence will also be sent along with it to the applicant. The permit form contains instructions how the work of replanting should be done to make a permit holder eligible for the subsidy, and indicates the stages of work to be completed to get part and final payment of subsidy.

VI. The Junior Field Officers and Rubber Instructors of the Board will be making advisory visits to the estates of small growers for giving them suitable advice in all matters relating to replanting under the Scheme. Services in this regard can be freely requisitioned. The higher technical officers of the Board are also available for any technical advice which any permit holder may desire to have.

VII. As soon as one stage of the work is completed as indicated in the permit, the permit holder can apply for the payment of the prescribed part of the subsidy. Application for payment of subsidy due on account of work done in a year should be made so as to reach the Board not later than the 30th November of that year. The work done will be verified by the Board's inspecting staff, and, if the Chairman is satisfied with the work done, he will sanction payment of the prescribed part of the subsidy deducting the replanting licence fee. If he considers that the work is so unsatisfactory that it is not desirable to allow it to proceed in the interest of the plantation, he will specify the defects that should be rectified and call on the permit holder to rectify them. Payment will be sanctioned only if those defects are rectified within the time allowed. If the defects are not rectified to the satisfaction of the Chairman, he will cause the matter to be placed before the Planting Committee. The Committee is competent in such cases to cancel the replanting permit granted to the applicant and refuse any payment. If the Chairman considers that the defects are not so serious, and that it is enough if a reduction in subsidy is made he will deduct such amount as he considers reasonable and sanction the payment of the balance. The Committee will confirm or revise his orders. All decisions of the Committee are final. The Central Government have, however, got powers under rule 17 of the Rubber Rules, 1955, to review any such decision and pass such orders as they think fit.

VIII. The following amendments have been made in the rules in respect of replanting to be carried out in 1960:—

- (a) Subsidy is granted for replanting of low-yielding unselected rubber planted in or prior to 1956 irrespective of the fact whether the trees or plants are yielding or not. In the case of immature unselected plants the registration should have been made before April 1958. Subsidy is not given for budding immature unselected plants planted prior to 1957 but is given only for replanting afresh.

- (b) The minimum planted area that should be replanted in a year shall be either one acre contiguous plot or part of an acre, if that part is the only remaining to be replanted in the estate after replanting either under this Scheme or otherwise.
- (c) Where rubber trees are retained for tapping or where the prescribed minimum stand with the approved high yielding planting materials has not been established satisfactorily, payment of half of the 1st year's subsidy instalment will be withheld until the conditions are fulfilled.
- (d) The concessions now granted to estates below 5.00 acres in extent in respect of planting intercrops during the first three years will be extended to all estates.

