Indian Rubber Problems

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(In this article, the author discusses the problems with which the Rubber Industry is faced and urges the need for immediate attention being paid to them by the Indian Rubber Board-Ed.)

The outstanding features of the New Rubber Bill are threefold:

First, unlike the previous temporary rubber organisations constituted to carry out certain specified tasks, the new Board is a permanent institution and therefore is in an advantageous position to plan for long range development of rubber production and marketing.

Secondly, the controversial question of fixation of rubber prices has been taken off from its direct purview and assigned to a Price Advisory Committee to submit recommendation to the Central Government. This removes the impression prevalent that the Board is solely constituted to manipulate a high rubber price which may ultimately lead to bitter criticism and recrimination.

Thirdly, emphasis has been made that the fundamental objective of the Board is to effect scientific development of the industry.

What scientific and commercial improvement and how they are going to be effected are the main rubber problems now under discussion from various angles. In the following an attempt has been made to touch some aspects of the question from a practical sense point of view.

Improvement of Present Average Yield

Statistics of yield available are quoted below.

Year	Average Indian Yield per Acre per Annum	
	(a) Small holdings	(b) Estates
1944	265 lbs.	324 lbs.

Yield of Individual Estates

Year	Name of the estate	Yield per acre	Planting material used.
1945	New Ambady	782 lbs.	Clonal seeds
	Pasalı	880 lbs	Budding
	"C. V. Estate", Mundakayam 40 acre replanted block	1000 lbs.	Approx. Budding

The average Indian yield of about 300 lbs. per acre is inclusive of those areas where high yielding planting materials had originally been planted; if they are excluded this may still be reduced. It would also be noted that in two areas yielding for instance 265 & 880 lbs respectively, the percentage yield increase on the latter is about 232% over that of the former.

Lest this may be misconstrued, it may be added that yield is also influenced by manuring, general upkeep, climatic and soil condition etc., but no single factor has so much bearing for its enhancement as the type of planting material used in the original planting.

Importance of Increasing The Yield — Synthetic Rubber Competition

For lowering the cost of production and thereby increasing the profit and to compete with synthetic rubber, the influence of a higher yield need not be re-capitulated. Just as America and Europe were evolving synthetic rubber, scientists and practical planters in the Far East and Ceylon have also been improving the yield as much as 2000 lbs. per acre on commercial scale (e.g. Kuala Ketchil Estate, Kedha). This fact which unfortunately has not received as much publicity as it deserves is the reply to synthetic rubber and is the direct result of endeavour to save plantation rubber. Elsewhere, coal, oil, alcohol etc., materials that are abundantly available there are the starting point for the manufacture of synthetic rubber. Here, on the other hand, we have vast resources of labour, soil and climatic condition ideal for rubber cultivation and if we fail to use them to the best advantage in conjunction with the practical results of research so clearly demonstrated, we alone are to be blamed if synthetic eventually displaces natural rubber.

It is often remarked that as the future of rubber is uncertain, there is hardly anything to be done now. Such pessimism is not warranted by facts available; surely an estate producing 1000 lbs per acre will be the last to close down unlike other areas where an yield of 300 lbs can scarcely be obtained. More extension of acreage with ordinary planting materials will not increase the average yield, our endeavour should be directed to quadruple the existing average in all future plantings. In this connection, the plans that are made by the Ceylon Rubber Research Scheme may be quoted with advantage.

Ceylon's 10 Year-Plan

".....It can fairly safely be predicted that the postwar demand for plantation rubber, in competition with synthetic products will depend largely on price, and the principal requirement of the plantation industry in meeting increasing competition will be continual improvement in planting material. In the opinion of the Rubber Research Board, the role of the Research Scheme during the next 10 years should be to cater for this requirement by concentrating attention on the study of improved planting material from all angles". (Ceylon Rubber Research Circular for the development of Rubber Research Scheme from 1945 to 1954).

Types of Planting Materials Used in India

Out of about 130,000 acres of mature rubber, only on some 5700 acres or 4.4% of the area, improved planting materials had been used. As regards newplanting and replanting in the last decade the position may be summarised as follows:

Planting Materials Used 1935-1945	Newplanting % of the area	Replanting
(i) High Yielders		
Budding	22	74
Clonal seed	19	2
(ii) Ordinary rubber	59	24

Recasting the above figures on the basis of about 150,000 acres of both mature and immature rubber, the types of materials used are:

1. Ordinary seed 85.6% of the total area
2. Budding 11.3% ,,
3. Clonal seed 3.1% ,,

The significance of these statistics is:

a. In about 95.6% of the mature area, initial planting was carried out by ordinary planting materials and hence the present low average yield of about 300 lbs. or less per acre.

b. In the last decade, improved materials had been utilised more extensively on replanting than on newplanting although the major part of newplanting was still carried out with ordinary seed.

Possible explanations are:

1. The greater part of newplanting has been carried out by medium estates and small-holdings the owners of which failed to take advantage of better types of planting materials.

2. As replanting is carried out predominantly by Europeans and progressive Asiatic owners, the position is reversed.

If this understanding of the position is correct, it becomes essential to see that in future planting, use of high yielders should be assured and arrangements made to make available the necessary types at reasonable price on similar or analogous scheme now being worked out by the Indian Coconut Committee for enhancing the yield of coconut.

For coffee, paddy, cotton, sugar cane, jute, wheat, orange and practically for all important Indian crops schemes exist to popularise the use of better strains of planting materials. With the creation of a permanent rubber organisation, it is opportune to tackle this important problem although it is far from simple.

Newplanting & Replanting

That planting on virgin soil is preferable to replanting on old soil-broded area is admitted, but there are other aspects of the problem. With the lapse of the International Rubber Control newplanting is permitted, but if a new control is instituted-which is very likely-restriction on both newplanting and replanting may be imposed. Also, on the point of view of good soil husbandry, old and uneconomic areas cannot merely be abandoned and resort to newplanting elsewhere.

With the present knowledge and experience of soil conservation, even the worst area can be reconditioned by systematic and planned replanting. About 60% of the total rubber area in India were planted prior to 1925, 80% before 1930, or in other words about 90% of mature area now yielding an average about 300 lbs. per acre was planted earlier than

1930. When it is realised that the total replanting carried out up to the end of 1945 is only about 10,000 acres or 8% of the mature rubber area, the importance of this question becomes evident.

Previous Replanting Attempts (I)

In the past, on two occasions replanting was taken up. The first was during the war in connection with slaughter tapping and Capital Compensation Scheme and although it did not eventually materialise, for future guidence the three cardinal drawbacks inherent in the scheme should not be over looked.

1. After slaughter tapping and eradicating the trees, replanting with rubber was not insisted on, which meant, any other crop could be planted. Such latitude defeats the whole object of replanting and reconditioning the old areas with improved planting materials. Because tea is now considered to have a better future than rubber, if it is planted, the total area under rubber in India will dwindle and in an emergency national self-sufficiency will be greately impaired. It is not overlooked that the Ceylon Commission recently appointed to report on the future of rubber in that country in its iterim report has recommended to effect necessary legislation for planting tea on those rubber areas where this crop may suit better. But in India unlike in Ceylon as the present rubber production is barely sufficient to meet the domestic requirement, any curtailment of the existing rubber area jeopardises national interest. However, this raises some other vital points i.e. whether the rubber owners should sacrifice their ultimate profit for national interest, and if so, should not they deserve Government subsidy in some form or other as compensation? They point out that although over 40 lakhs of rupees were spent during the war to procure seed from a semi-cultivated rubber plant called C. grandiflora, only some 100 lbs were obtained, and claim that the Government instead of incurring such huge expenditure during a national emergency should help them with long term planning so that they could produce all the rubber that is required in India at a reasonable profit. But these are problems of policy which are beyond the scope of this review.

2. That the scheme comprised only areas yielding not less than 250 lbs. which was subsequently reduced to 200 lbs. per acre per annum. In any systematic replanting programme, it is the worst part that should be replanted first and fixing an arbitrary minimum yield has its own drawbacks.

3. The scheme was confined to areas not less than 25 acres and excluded small holdings where owing to intensive tapping resorted to during the last 12 years the problem of replanting is more acute than on larger areas and the observations made by the manager of the largest European rubber estate in India may be read with interest.

".....That trees averaging to produce 10 lbs. of dry rubber a year (about 120 trees per acre) can be raised by any of these methods (e.g. by budding or clonal seed) and under condition in Cochin it is probable that this rubber will be produced at a cost which will compete with any other country. I would add one word of advice to the small holder of rather inferior rubber trees and that this is to take advantage of present prices and replant. I am confident that under conditions that are coming the ordinary low yielding rubber will have very little value and the days of export quota values, greater than the value of the rubber, will never return". (H. J. Walmesly, Ex. manager, Mooply Estate in Cochin Information)

Previous Replanting Attempt (II)

In 1946 following the report of the Cost Accountant deputed by the Central Government, the price of rubber was increased by Rs. 10 for 100 lbs. so that the differential should be set apart mainly for replanting uneconomic areas. In the conference held in this connection at New Delhi, the Government representatives particularly emphasised the necessity of utilising the extra money for replanting programme and not for declaring additional dividends.

Since then, the rubber control lapsed and the price went down. Although, pending the formation of the Indian Rubber Board, an official price agreement has been arrived at, the uncertainty and confusion which prevailed during the last one year are not conducive for undertaking any replanting programme.

It may be as the future is uncertain the present time is most inopportune for any planning. This may or may not be right but the important point to be remembered is that in any future replanting scheme, the following should not be overlooked.

1. Proper machinery should be devised under the Indian Rubber Board to see that replanting is actually carried out.
2. The scheme should be comprehensive as to include both large and small areas irrespective of a minimum yield.
3. As far as possible, rubber area should not be allowed to be replanted by any other crop than rubber.
4. The price of [illegible] should be sufficiently attractive to give proper inducement for replanting unless a subsidy by other means is granted.
5. The use of high yielding planting materials no matter whether budding or clonal seeds should be insisted on.

The importance and difficulties of this question isrecognised, and whatever the lead the Indian Rubber Board may give is awaited with interest.

Rubber Latex Supply

The rapid development of Indian latex trade and the manufacture of rubber goods therefrom have not attracted adequate attention. The production of rubber goods by simple dipped process even on cottage scale without any appreciable capital or machinery has opened up a new era in rubber manufacture; an important industry has sprung up with great possibilities for future and hundred's of factories both big and small scattered all over India are consuming rubber latex in ever increasing quantities. However, this has also brought forth a number of new problems some of which are:

1. The present supply of preserved latex is less than the demand.
2. The quality of latex marketed has still to be improved.
3. Because the supply is short, owing to the market manipulation of traders, the price that the manufacturers have to pay is high, which means, the present position is not beneficial to both the producers and manufacturers.
4. By more efficient marketing, it may be possible to reduce the cost of preserved latex.
5. Owing to technical reasons, the question of latex supply should be viewed entirely different from marketing sheet and crepe rubber. It may be recalled that although free trade in rubber has been allowed in the U. K. control over latex supply is still maintained.

All these have been fully dealt with in a pamphlet under preparation. "The Marketing of Rubber Latex in India"; suffice to add here this is also one of the important problems requiring immediate attention of the Indian Rubber Board.

Grading

The approximate percentage of various grades of rubber sold and what they should be are given below.

Grade	As sold in 1945 %	What they should be %
Preserved rubber latex-35%, or 50% or 58-60% latex/ cream.	4	↑ 4 actual
Group 1—Superior & standard quality R. S. S	22	45
Group 2—Good & fair, average quality R. S. S. and cutting. No. 1	36	18
Group 3—Low & interior, fair average quality R. S. S. and cutting No. 2	10	9
Group 4—Pale or patish latex crepe	9	↑ 9 actual
Group 5—Estate & remilled brown crepe	2	4
Group 6— ,, ,, ,, lower quality	11	8
Group 7—Flat bark crepe	6	3

An analysis of these figures and a comparison with what they should be may give a clue in which direction improvement could be directed. However, this has its own limitation for the percentages of preserved latex and Gr. 4 rubber could not be arbitrarily fixed as an increase or decrease in demand and marketing of one of these particular varities may show corresponding difference mostly in Group 1 rubber. Nevertheless, they form a useful guide for comparison.

The most striking differences are:

1. In groups 1 & 2 more rubber should have been sold in the higher grade.
2. In the case brown and or remilled crepe, more rubber may be marketed at higher grade under this sub group.

It is not intended to deal with the causes for degrading and methods or improvement, but the real position should be appreciated. Perhaps, with the existing small difference in the price between Group 1 & 2 (only 6 annas for 100 lbs) it is hardly worthwhile to improve grading but in another respect this has repercussion elsewhere. Becuse only of this small difference, the manufacturers would prefer to purchase Group 1 rubber while for the same reason the producers tend to market Group 2, ultimately resulting in great variation of these groups marketed.

Ceylon Trade Commissioner's Propaganda

Meanwhile, the Ceylon Trade Commissioner is conducting propaganda that the Indian grading is poor while the Ceylon rubber is so uniformly graded that the Indian manufacturers clamour to buy imported rubber. Whatever might be the truth of his contention, it has not been contradicted by the Indian rubber producers and it was on the plea that Groups 1 & 4 are not available in this country according to demand and specification that they were imported recently. This import had its own adverse effect in the local market which indirectly shows the necessity of giving due importance to grading of Indian rubber. It may be added that a higher price differential if fixed between Groups 1 & 2 will not solve but only bring in new problems.

Marketing of Rubber

The total Indian production is about 16,000 tons per annum which is more or less 1% of the world's output. Of these some 12,800 tons are sheet, latex crepe and preserved latex and the remaining lower grades. The internal consumption of these two categories inclusive of that is used for export as manufactured rubber goods is about 13,500 and 2500 tons respectively. Here is the crux of the situation, i.e., (i) the production of higher grades is not sufficient to meet the present industrial requirement (ii) that of the lower groups is slightly in excess of the demand (iii) the producers agitate for a higher price (iv) while the manufacturers are reluctant to agree to a note which has no reasonable relation to the price of rubber in other parts of the world.

Under this circumstances, if the price control is lifted and foreign rubber is imported, the Indian market will collapse and the price will go down to that prevailing in abroad. It is the higher price maintained by price control and import restriction that is bringing prosperity to the producers who in normal time could not compete with Ceylon and Malayan rubber in the open market. Even if new rubber factories are opened in the South, the position is not likely to improve without some sort of All India Agreement, for the existing factories, in north India but for the import restriction could get cheaper raw rubber from abroad. Neither could South India consume all the rubber goods manufactured. Any import to rubber even in a limited quantity has its repercussion in the local market as now experienced. At present the producer is unable to dispose his rubber at the scheduled price. During the war, rubber could be sold to the Governmet Depot and no stock was accumulated.

In Ceylon, the Goverument have fixed a minimum price and have made arrangement to purchase rubber tendered at that rate. Here although a minimum price has been agreed to, no purchase or disposal arrangement exists and hence the present situation. Perhaps, the producers long term salvation lies in strengthening their new organisation the Indian Rubber Board. So that it can successfully tackle among others the following aspect of marketing problems.

(1) To see that no import of raw rubber is allowed unless the Indian producers are unable to supply the particular variety.

(2) To effect scientific improvement so that India can market rubber as cheap as elsewhere.

(3) To make necessary arrangements so that the producer can dispose all grades of raw rubber as soon as they are produced.

Regarding lower grades, as export of surplus production may only fetch a lower price than in India, a subsidy may be necessary. Would not a tariff duty on higher grades of rubber imported equivalent to the difference between the Indian and world price be levied and this used for subsiding the export of lower grades? Perhaps, this may give rise to other complicated questions. another more practical solution is to encourage the manufacture of articles that can be made out of this rubber for domestic market. When it is realised that India with a population of 400 millions hardly uses 16,000 tons of rubber while America with less than one third of our population consumes about a million tons of natural rubber apart from synthetic and reclaim varieties, the potential untapped market that exists in the greater India will be appreciated. Therefore, in cooperation with manufacturers the Indian Rubber Board should attempt to expand the domestic market for rubber goods.

Training Students in Improved Methods of Planting etc

With the passing over of large number of European managed estates to Indian hands, the necessity for adequately trained estate staff for executive work is being increasingly felt and a number of schemes has already been launched to impart the necessary training,although there are some practical difficulties which should not be overlooked. They are :

1. The most essential qualification for a successful planting career is individual's person ability and natural command over labour both of which are inherent characteristics and cannot be acquired by academic training.

2. The next is hardiness not mere physical strength but stamina that can stand against adverse conditions such as constant malaria attack and other discomforts associated with estate life, which is also mainly an inborn attribute.

3. The other qualifications such as technical knowledge, accounting, malaria control, experience in planting, cultivation etc. may be acquired at any training centre.

The existing, schemes presuppose that as far could be judged, the candidates have the first two attributes, and therein lies its strength and weakness. For in the affirmative the schemes will undoubtedly be very helpful to fulfil a long felt want. On the other hand, after the training if the students cannot control estate labour, or do not work on estates but prefer jobs in town, or should rubber plantations fail to give them sufficiently attractive terms, the schemes will not serve the purpose for which they are intended.

Training Estate Employes

In supplement to the above attempts, could not the present estate employees with vast practical experience be given an opportunity to be more proficient in their work? The Advantages are :

1. The mere fact that they have been successfully working on estates is a proof that they already possess the two essential qualifications enumerated.

2. As their valuable estate experience had given them proficiency on the practical aspect of plantation work, the training visualised augments their knowledge and give them up-to-date information.

3. The training is analogous to a refresher course lasting say for about a month with more or less a dozen employees at a time and with visits to selected estates.

4. The meeting of a number of employees from different rubber estates all over S. India under the suspicious of the Indian Rubber Board, exchanging views and experience is itelef a valuable opportunity for dissemination of very useful information and may be exploited to the utmost advantage.

5. Training candidates in academic institutions may take at least one or two years and another year may have to be spent on estate to get the practical experience. But if a start is made with those who now work on the estate, a saving of time and expenses may be effected and the problem of finding employment does not arise.

6. It offers a new vista of opportunity for improvement to all those who have already chosen an estate career and therefore may have the support of the existing staff.

7. If it is recognised that staff working on estates need training, it is equally obvious that owners of medium and small estates and interested small holders also need guidance and assistance which could be effectively rendered by means of the refresher course outlined.

As similar arrangement made in other rubber producing countries has been very successful, this may be worthy of attention of the new Indian Rubber Board.

Research

No subject has so much been misunderstood as research in connection with the Indian rubber problem. Rubber research is not a majican's wand to bring a new era of prosperity to the rubber growers and soonor this is realised the better for all concerned.

There are two aspects of rubber research, research on the production side which deals with botanical, chemical, pathological, economical questions and soil problems of rubber, upto marketing and technological research which deals with the manufacturing of rubber goods.

A producer's orgnisation is concerned only with the former and Rubber Research Institute of Malaya, A. V. R. O. S. of East Indies, and Rubber Research Scheme of Ceylon are instances of statutory institutions constituted elsewhere to deal with the rubber growers problems. But unlike these countries, as India is also a rubber manufacturing country the latter aspect is also important, although both are separate and any mixing of one with the other may not benefit either

interest. It does not, however, mean that both cannot be brought under a single organisation or that no co-ordination between the two is necessary. What is meant is that a producer's institution should not undertake technological research that will mainly benefit the manufacturers. Further it is beyond the purview of the new Rubber Act.

Research on Production

Unlike in Malaya, East Indies and Ceylon where the approximate rubber production is 550,000; 540,000; and 100,000 tons respectively, as the Indian output is only about 16,000 tons, the question arises whether it is worthwhile after all to start an elaborate producers' research organisation in view of the following consideration.

1. As rubber is a perennial tree, it may take years to get the results of research pertaining to yield etc. for practical application.

2. To constitute an independent research organisation, at least 4 laboratories to deal with the botanical, chemical, physiological and soil problems of rubber, an experimental estate and necessary staff such as a director botanist, chemist, pathologist, genticist, mycologist, entomologist, a host of laboratory assistants etc., will be necessary. This means considerable expenditure and years of preparation.

Some years ago, rubber research carried out at Mundakayam under the auspicious of the United Planters organisation was discontinued soon after the fall in the price of rubber. Two valuable lessons to be learnt in this connection are (i) only a permanent institution can tackle research with long range programme in view and (ii) the particular line of work done at Mundakayam mostly dealing with the number of latex vessels on rubber tree etc., did not benefit the practical rubber growers in the least. This is a warning to those who merely talk about research without understanding what it implies.

Technical Advisory Service in lieu of Research

The main object of research is to bring the results of scientific knowledge before the notice of the rubber producers and in view of the above points, could not the same results be accomplished cheaply and efficiently by other means?. For, we have the following to start with.

1. The practical results of research carried out in Malaya, and elsewhere during the last decades are known and can conveniently be collected and used for the improvement of the Indian rubber producers.

2. No doubt, climate and other environment may be different in India, but rubber problem essentially is the same whether here or elsewhere and necessary adjustments to suit local conditions or any particular problem that may arise may be easily worked out by the existing research organisations.

3. In existing rubber planters of this country, India, possesses an accumulated practical experience of two generations, which is now being wasted, but could be sorted out and made available to the planting public in the light of modern development elsewhere.

In short, the producers may be more benefitted by the establishment of a competent technical advisory section under the Indian Rubber Board for collection and dissimination of results of research and practical experience of the planters than constituting a pure costly research institute with doubtful immediate benefit.

No originality is claimed in this suggestion excepting to point out a line of activities hitherto being carried out unknown and unnoticed. During the last decade the Indian rubber Licensing Committee and subsequently the Indian Rubber Board have been rendering valuable assistance to all those who had cared to approach these organisations. This may advantageously be expanded and with due publicity more systematically organised to become one of the main activities of the new Rubber Board so that all the latest information regarding every aspect of the rubber problem may be brought to the producers direct.

How Pooling of Information May Benefit The Producers

Pooling planting experience and exchange of technical information by an independent central agency that has no axe to grind except to promote the prosperity of all the rubber growers are likely to be a very useful achievement. This could not be entrusted to other parties such as Chemical Companies, Fertilizer Firms and other interested agencies to deal with, for they are mainly concerned with the sale of their products and uninterested in the ultimate welfare of the producers.

It is possible that importance of such activities may not be appreciated on the doubtful plea that the Indian producers hardly require any assistance. Perhaps, there is no subject or technique that could not be further improved and the attention of those who think otherwise is invited to the Ceylon Rubber Commission's recent visit to Malaya in order to study why sole crepe and creamed latex are produced cheaper there than in Ceylon. The Ceylon planters and the Ceylon Rubber Research Scheme do not pretend that they have nothing to learn from elsewhere. It may be that Malaya can teach something to Ceylon, in some other matter it may be Ceylon that can help Malaya. So too India. Because India has been fortunate to possess a number of very outstanding planters, it must not be said that no room for further improvement exists.

Publication of Technical Information

Another way to arouse producers interest and impart useful information is through publication of subjects of current topical interest. Generally the producers and planters have hardly the time or patience to go through bulky rubber literature, but are very much interested to learn in non-technical language the practical results of research and other useful tips. It took about 15 years for the Rubber Research Institute of Malaya to find this out and re orientate its publication policy. As soon as contact was established with the producers by means of an Advisory Service, a series of new publication called Planters Bulletin dealing in about 10 pages the current rubber topic in plain language were issued with very encouraging success.

In India, there is plenty of scope for similar publications and may be taken up by the Rubber Board under its technical advisory section, if instituted.