

Tea Target in Third Five Year Plan

G S Raychaudhuri

V N Balasubramanyam

National Planning is a composite of different individual commodity and service programming. The extent to which macro-economic forces can be accommodated in fixing the individual commodity targets, poses itself as the major problem in such planning.

In the changing structure of a developing economy the importance or the weight of a commodity, is also a changing one. It is this understanding of the changing importance of a commodity in the growing structure of an economy that enables one to view growth in proper perspective.

In this paper we propose to study the production target set for tea in the Third Plan, as a case in the consistency of target fixing. The tea industry holds a place of importance in the country's economic structure, in view of the foreign exchange it earns, the tax revenue it contributes to the exchequer, and the employment it provides.

The authors wish to express their indebtedness to Dr B N Ganguli for his kind encouragement in writing this paper.)

THE Third Five Year Plan envisages a production target of 900 million lbs and an export target of 550 million lbs for tea to be attained by the end of 1965-66. Consequently, the balance of 850 million lbs and the opening stock of the year 1966 would constitute the total domestic retention. It is proposed to evaluate, on the basis of the prevailing market trends, the validity of the above targets, and derive policy conclusions therefrom.

The total supply of tea in any one year would be the production plus the opening stock of the year. On the other hand the components of total demand would be the exports of that year plus the consumption and the closing stocks at the end of the year. Considering the demand side of the picture the export target of 550 million lbs to be attained at the end of 1966 is questionable. In projecting the export possibilities of Indian tea in the year 1966 the following procedures have been considered by us: (a) calculating the average annual change in exports over the last 20 years or more and projecting the rate to 1966; or (b) calculating exports by assuming that India's average relative share of 45 per cent in world tea trade remains constant over the period.

Exports : Two Estimates

Taking India's export figure of 336 million lbs in 1938 as equivalent to 100, we arrive at an index 134 for the year 1961, for which year actual exports are 450 million

lbs. This would give an annual rate of increase of 1.5 per cent over the period 1938-61. Projecting the same rate of increase to the year 1966, the exports to be expected in that year would be higher by 7.5 per cent over the exports of 1961. The expected exports would thus be 401 million lbs by the end of 1966 (See Appendix I). We arrive at an export figure of 527 million lbs by the end of 1966 by adopting the second method of calculation mentioned above. (Based on the FAO estimate of 11.72 million 'lbs average world trade for the year 1964-66. *Tea Trends and Prospects*, FAO, 1960.) In view of India's dwindling competitive strength in the international tea market one can legitimately question whether she would be able to hold on to her present 45 per cent share of world trade in 1966. In a recent study it has been pointed out that during the years 1949-59 India's Competitive power has fallen from 1.01 to 0.86 in the U K market and from 91 to 71 in other markets.' In view of the increasing competition from other exporters like East Africa, Ceylon, China and Indonesia it would be immensely difficult for India to attain the export objective of 550 million lbs by the end of 1966. We estimate that at best India would be able to export only 500 million lbs of tea by 1966.

The prospect of internal demand is also none too encouraging. Paucity of reliable domestic-consumption data regarding exportable goods in India is a major difficulty

encountered in such commodity studies. In all such studies consumption data has to be estimated on the basis of production, export and import figures. Moreover, in the absence of reliable stock data the resultant domestic consumption figures are questionable. These estimated consumption figures are to be treated more as the domestically retained part of the supply of the commodity in question, rather than as the actual consumption. The shortcomings stated above are as much true with regard to tea as with any other exportable agricultural commodity.

Internal Consumption

We present three sets of figures relating to internal consumption of tea, estimated by the Tea Board, the International Tea committee, and the Ministry of Food and Agriculture of the Government of India². All three estimates suffer from a lack of consistency and are based on non-comparable sets of variables. As can be seen from Appendix 2 not much difference can be discerned between the three estimates. The Tea Board arrives at its consumption figures by taking the calendar year, production, plus opening stocks as on 1st April as the available supply and by deducting the financial year exports plus closing stocks at the end of financial year, from the supply figure. The procedure of arriving at the consumption figures by deducting the financial-year exports and stocks from the calendar year production is open to question. We present in the Table a set of

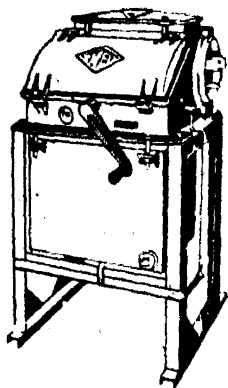
November 17, 1962

figures estimated on the basis of calendar year 'production, exports and stock figures. At least the consistency with regard to the period chosen for the three variables would render the estimates a little more reliable.

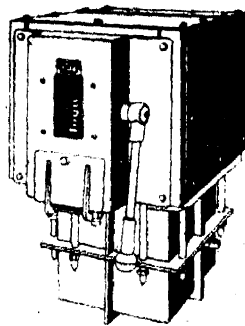
The stock data relates to the month of December in each year. The closing stock of the first year is taken to be the opening stock of the succeeding year. The two year moving average eliminates the large year-to-year fluctuations in consumption and

shows the trend. The year-to-year fluctuations in exports are to be accounted for by the vagaries of the International Markets, and thy competitive strength of Indian tea vis-a-vis other tea exporting countries, But the large fluctuations

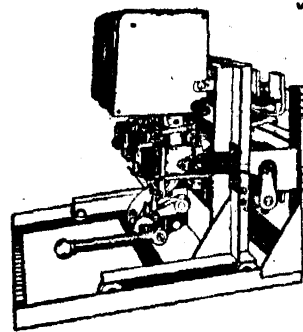
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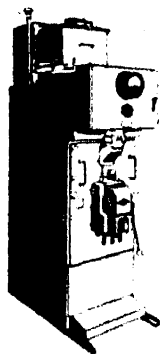
H.V. Metalclad Oil Switch/Fuse Unit 11kV. 250 MVA.



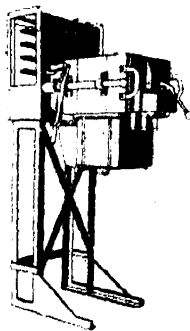
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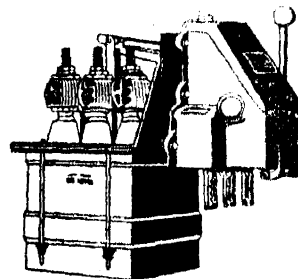
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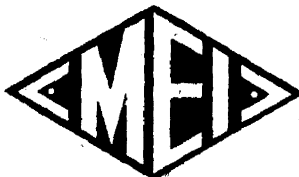
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from year to year in internal, consumption of a commodity like tea reputed to have a low income, and price elasticity of demand is to be investigated. It is also to be seen that there is a close inverse correlation-which has been estimated to be as high as, 0.7, between exports and internal consumption of tea. Export quantity should be regarded as an independent variable over which no significant degree of direct control can be exercised. The entire efforts of the government and the industry being directed at augmenting the exports, internal consumption should necessarily be regarded as dependent on exports/The degree of flexibility in the internal market which adjusts itself to changes in the export market, though welcome as a cushioning factor seems to be a little incongruous. It is therefore, to be deduced that the unreported tea is not to be classified as internally consumed *in tola*, but as partly domestically retained. The Tea Board must either correctly assess the internal consumption of tea in India, or at least account for the large year to year fluctuations in the consumption. How is the unexported and unconsumed part of tea to be accounted for? It could not be held as stocks in view of the fact that the trade cannot hold more than three months stocks on an average at a point of time.

Growth of Consumption

Any projections as to the domestic consumption of tea in India in the years, ahead, on the basis of such questionable data, would be questionable. However, in the absence of actual consumption figures, projection of future consumption has to be made on the available data. We estimate the possible consumption in the year 1966, the last year of the Third Plan, on the basis of three factors:

- 1) Increase in consumption due to increase in population;
- 2) Changes in consumption due to increase in income; and
- 3) Increase in consumption due to changes in habit.

As the price of tea is governed more by international market forces, no estimate is ventured here about the prices that may prevail in 1966. On the basis of 0.64 lbs⁵ per, capita consumption, prevailing in 1961, the additional consump-

turn of tea due to increase in population by 1906 would be around 35 million lbs. Assuming the income elasticity of demand for tea to be around 25 the increase in the consumption of tea on account of increase in disposable income by the end of 1966 would be around 20 million lbs⁶. Making an allowance of 5 million lbs of additional consumption as a result of the spread of tea drinking habit, the total increase in consumption by the end of 1966 would be around 60 million lbs. Adding this increase to the 1961 consumption-estimate of 282.4 million lbs, the estimated consumption figure for 1966 would be 342.4 million lbs.⁷ Even this figure of 342.4 million lbs may be a little high due to the absence of any estimate of the cross elasticities of demand. With increasing income and growing urbanisation a shift of consumption in favour of coffee may well be expected.

Production Target Too High

Having surveyed the absorption possibilities of tea by the end of 1966 we now turn to production. The production of tea in India shows an increasing trend, at an annual average rate of increase of 2 per cent over the last decade. The planning commission, however, envisages a 24 per cent increase by 1966 over 1961, i.e. at the annual average rate of 5 per cent approximately.⁸ Granting this possibility we would have a total production of 900 million lbs at the end of 1966. Adding to it an annual average opening stock of 100 million lbs¹¹ the total supply in 1966 would be of the order of 1,000 million lbs.

To match this total supply of 1,000 million lbs we have a total demand figure of 842 million lbs, comprising of 500 million lbs of export and 342 million lbs of in-

ternal consumption. This would leave a balance of 158 millions lbs as closing stock, which is normally sufficient for six months. The consequences of having such a huge stock are obvious. In case of tea the optimum level of stock should not be more than two months' consumption. Anything more than this with the dim prospect of exports, is bound to bring heavy pressure on prices. Further the strain on warehousing and credit facilities will also work to dampen the prices and profits. One may of course hazard the idea of instituting a buffer stock scheme, or more intensive propaganda by the tea board to raise the internal consumption, to save the situation. But this would only add to the existing high price of tea or involve giving a huge subsidy to this mature, industry.

In the absence of any conscious-drive at increased production, the industry in the normal course of events would produce around 800 million lbs of tea by the end of 1966,¹⁰ Adding an average annual stock of 100 million lbs over the Third Plan period the total supply would be around 900 million lbs. Deducting the consumption and exports of 842 million lbs, a total stock of 58 million lbs would be left at the end of 1966. This amount of stock the trade would bear without any strain. However, if a 158 million lbs stock is allowed, it would have a disastrous effect on the price and profit structure of the industry.

It is not our purpose here to present a wholly pessimistic picture for the industry as such. The situation could well be saved, by realising the futility of increasing the production of tea, without taking cognizance of the export and inter-

Table

Year	Production	Opening stock	Exports	Closing Stock	Internal Consumption	2 Yr moving average of 6
1	2	3	4	5	6	7
1949	584.6	35.3	488.5	43.0	88.4	
1950	613.4	43.0	403.1	64.1	189.2	138.8
1951	629.2	64.1	454.0	63.8	175.5	182.3
1952	614.4	63.8	414.7	69.8	193.7	184.6
1953	614.6	69.8	500.6	69.4	114.4	154.0
1954	651.5	69.4	443.8	68.6	198.5	156.4
1955	678.3	68.6	367.5	110.1	269.3	233.9
1956	680.6	110.1	527.9	82.0	180.8	225.0
1957	685.2	82.0	442.7	94.2	230.3	205.5
1958	717.0	94.2	506.0	93.7	24.5	220.9
1959	718.6	93.7	471.0	82.7	258.6	235.0
1960	706.4	82.7	425.7	65.7	297.7	278.1
1961	776.7	65.7	450.0	125.2	267.2	282.4

Source: I T C Bulletin, June 1961.

nal consumption possibilities. The government should, at best, allow the industry to develop at the normal rate at which it is progressing. Any efforts that might be made should be in the direction of augmenting our exports. The seriousness of the present situation itself calls for an all out drive at improving the quality of Indian tea. The Tea Board should direct itself to the task of replanting old bushes, encouraging finer plucking, and intensifying our tea propaganda abroad. The Indian tea industry can hope to stand on its own legs only by boosting exports in an increasingly competitive international market.

**Appendix 1
Export Projection, 1966**

Indies export in 1938 = 335.8 m lbs
 India's export in 1961 = 450.0 m lbs
 Assuming 1938 exports = 100
 We get 1961 exports = 134

This gives a 34 per cent increase in 23 years. Average annual rate of increase would thus be 1.5 per cent over the Five Year Period 1961-66, the additional increase would be 7.5 per cent of 1961 exports.

1966 exports - 450.0 m lbs \times 1.337 = 599.7 m lbs

Appendix 2

Internal Consumption estimates of Tea Board, International Tea Committee and Ministry of Food and Agriculture

(Million lbs)

Year	Tea Board Estimates	International Tea Committee	Ministry of F & A	Our Estimates
1949		152,000	141,000	88.4
1950		162,600	170,000	189.2
1951		180,600	201,000	175.5
1952		234,700	187,000	193.7
1953	182,253	183,240	182,000	114.4
1954	174,628	174,690	175,000	198.5
1955	220,953	221,690	221,000	269.3
1956	192,790	193,470	193,000	180.8
1957	247,958	248,790	258,000	230.3
1958	242,984	240,290		211.5
1959	253,484	254,700		258.6
1960		274,370		297.7
1961		305,000		282.4

Note : The I T C Estimates and Tea Board Estimates show a close correspondence. The source for I T C estimate might be the Tea Board.

Sources : "Tea Statistics", Tea Board, 1960, "Tea in India", Ministry of Food & Agriculture, 1957-58. "International Tea Committee Bulletin of Statistics", June, 1961.

**Appendix 3
internal Consumption Projection
1966**

(i) Increase in consumption due to increase in disposable income :
 $Y_2 = \frac{(X_2)E}{(X_1)}$
 National income in 1961 = 14500 Crores
 Savings at 0.5% = 1202.5 Crs Rs
 $X_1 = 13298$ Crs Rs
 National income 1966 = 19000 Crs Rs
 Savings at 11.5% = 2185 Crs Rs
 $X_2 = 16815$ Crs Rs
 $Y_2 = \frac{Y_1 (X_2)}{(X_1)}$
 $Y_2 = 282.4 \frac{(16815) \cdot 25}{(13200)}$
 $= 282.4 \frac{4}{1.3}$
 $Y_2 = 282.4 (1.07)$
 $Y_2 - Y_1 = 502.2 - 282.4$
 $= 19.8$ m lbs
 $Y_1 =$ Tea consumption in 1961
 $Y_2 =$ Tea consumption in 1966
 $X_1 =$ Disposable National Income in 1961
 $X_2 =$ Disposable National Income in 1966
 $E =$ Income Elasticity of Tea consumption = 0.25
 (ii) Increase in consumption due to increase in population
 Population in 1961 = 438 million
 Population in 1966 = 492 million
 Increase = 54 million
 Per capita consumption in 1961 = 0.64 lbs
 Additional consumption in 1966 due to population increase =
 $54 \times .64 = 34.6$ million lbs
 (iii) Additional allowance made for the growth in tea drinking habit = 5.0 million lbs

Appendix 4

Estimate of Production of Tea by 1966

Rate at which production has been increasing over the last decade = 2% per annum
 Additional production by the end of 1966 = 10% of 1961 production
 Third Plan estimated production for 1961 = 725 million lbs
 10% of 725 million lbs = 72.5 million lbs

Total production by 1966 = 797.5 million lbs, say, 800 million lbs
 Average annual stock = 100
 Total supply by 1966 = 900
 Less domestic consumption and exports = 842
 Opening stock by 1967 = 58 million lbs.

¹ K S Rao: "Operational dimensions of India's Agricultural Exports", *Agricultural Situation in India*

² All three estimates are arrived at by deducting Calendar Year production figures from financial year exports and stocks. Appendix 2.

³ According to "Economic Development and Exports" (Bhabatosh Datta & Others) Price Elasticity = 0.27
 Income Elasticity = 0.26

⁴ The N C A E R's projections ("Looking Ahead", NCAER, 1962, Pp 66) regarding Indian tea consumption is an example of such misguided projections. For the year 1961 the Council had estimated internal consumption demand at 541 million lbs, nearly 240 million lbs in excess of the estimates presented. In their Utopian world of 1980-81 the Council expects Indian people to drink 6270 million lbs of tea. If such astronomical calculations were to be realised it would solve all problems for the tea industry.

⁵ The figures are arrived at by taking a 2 year moving average of our consumption estimates.

⁶ On the basis of Datta's calculation in "Economic Development and Exports".

⁷ Thud Plan, Pp 77

⁸ See Appendix 3,

⁹ Annual average stock over 1961-66 or calculated on the basis of present stock trend.

¹⁰ This figure is arrived at by projecting an annual rate of increase of 2% over the estimated figure of 725 million lbs at the end of 1961 by the Planning Commission. Refer Appendix 4.

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