

# CHAPTER - XI

## SUMMARY AND CONCLUSIONS

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Tea is an immemorial crop , its exact antiquity as to where and from when the infusion of dried leaf is used as beverage is yet unknown. Having contemplated the genesis of the word ‘ tea ‘ *inter alia* its citation in Chinese ancient history , encyclopaedia , and literature it can reasonably be presumed that both tea cultivation and tea drinking was first introduced in China . The antiquity of tea in China is justified from its use for medicinal purposes as mentioned in Chinese dictionary as early as fourth century and from the illustration of tea preparation by the Chinese scholar , Lu Yu, in his writing in the eighth century . After China tea was introduced in Japan by Buddhist priests for medicinal purposes sometime between sixth and eighth century A.D. But the habit of tea drinking was firmly implanted in the Japanese social life at the beginning of the thirteenth century A.D. . Thereafter, tea-drinking did not spread over other countries till the middle of the seventeenth century. The habit of tea – drinking was spread from China to Persia seventeenth and to the Central Asia in the beginning of the eighteenth century . The opening up trade relation of the Portugese with various countries of Orient and Europe created a new vista to spread tea - drinking in European and East Asian countries. Having reconciled the differences of opinion it is regarded that tea drinking was introduced in England in late fifties of seventeenth century and there after in America . With the adoption and spread of tea -drinking in various countries cultivation of tea was subsequently expanded in different countries of the world depending upon the agro-climatic suitability of the countries in growing tea plants .

It is quite surprising that no mention of tea-drinking habit among Indians was found till 17th century despite the fact that India had a close tie with China and Far East from the very early date of Christian era . The East India Company attempted first in 1778 to diversify the production of commodities by introducing tea in the crop mix in order to make the company prosperous .But the attempt was in vain . In the event of uncertainty of trade relation between China and England and at the same time continuous growing of tea-drinking habit of the people the company accorded utmost importance to explore the possibility of growing tea in its own territory in 1828. With untiring efforts in colonial interest the indigenous wildy grown tea over the vast area extending from undivided upper Assam to Younen province of China having discovered, a new horizon was unfolded in mid -thirties of the 19th century in cultivation of tea in India . With the discovery of

indigenous tea plants area and thereafter establishment of new plantation the method of manufacturing was also improved following Chinese method . First commercial sample of Assam tea was sent in London in 1838. From this time on new areas of indigenous tea was discovered one after another in various parts of Assam , Terai and Dooars witnessed continuous progress. In South India the endeavour to explore the possibility of tea cultivation was almost simultaneously attempted with that of Northern counterpart. But tea plantation on commercial scale was successful first in Nilgiris in the early fifties of last century. Expansion of tea plantation in South India got momentum only after 1865. Both in the North as well as in the South tea plantation witnessed a continuous expansion till the end of the 19 th century .

With the uninterrupted enhancement of tea production and trade by various countries Indian tea had encountered difficulties to compete with other exporting countries in the question of increasing productivity with quality . To take care of necessary R & D requirement aiming at increasing productivity with quality the Tocklai Experimental Station ( TES ) was established at Jorhat of Assam in 1900 by Indian Tea Association ( ITA ) to deal with the problems of North Indian tea. With the same objective a similar research station was established by United Planters Association of South India ( UPASI) to address the problems of South Indian tea . Remarkable progress was made by the TES in the field of plant breeding to address the productivity constraints. During the period extending from late thirties to 1990 the TES was able to release 163 clonal cultivars of which 128 was released between 1980 and 1990 .

By continuous expansion of tea plantations and industries India has emerged as the largest producer as well as exporter of tea in the world . With growth of production the tea-drinking habit of Indians has also gone up continuously with accelerated pace. The degree of predominance of Indian tea in world trade has experienced decelerating from sixties while China , Indonesia and East African countries in the counterpart have been improving their position. Despite the volume growth of world trade by around two-folds over the three decades ending 1990 India's annual exports would have remained by and large invariant hovering around 200-210 thousand metric tons. during the same period. In terms of foreign earning too India's position has been dwindling over the period. A comparison of production growth of tea to a little over one and half folds with that of domestic consumption to more than three folds leaving production growth lagging behind the growth of consumption raises a few questions . What is the relative position of India vis-a-vis principal tea exporting countries in respect of growth of area and productivity of tea ? What are the

principal factors determining the productivity of Indian tea particularly that of the major exporting black tea ? What are the factors contributing to the loss of India's position in the world tea trade ? How Indian producers would have gained in diversifying tea trade between buoyant home and foreign markets ? These and a host of other related questions have been dealt with in this study .

Growth of production and its two constituent components area and yield of leading tea producing countries have been analysed considering the whole period 1961-90 and its three decadal sub-periods in order to understand where India stands to the production of tea in relation to that of other producing countries . Alongside , the stability of growth for the same period and sub-periods have also been worked out to arrive at sound premises based on growth performance . According to overall growth performance Turkey , Kenya , China , USSR and Indonesia are categorised as high growth and India, Japan and Sri Lanka as low growth countries in respect of tea production. By decomposing output growth into growth of area and yield it is observed that the principal source of output growth recorded both for high growth and low growth countries is being the area . Nevertheless , the growth of yield is noted exceedingly higher for most of the high growth countries . Thus , higher pace of growth of output is directly associated with the achievement of higher growth of yield . Notwithstanding inter sub-period variability in growth , both in magnitude and direction , the above revelation is founded . The position of India among the low growth countries is found better but that too is brought about by remarkably higher area growth . From stability view point of growth the high growth countries are shown to have declining instability while for low growth countries it is increasing over time . Therefore , it is the growth of yield to be taken into account as the prime mover to achieve higher growth of tea output with stability .

In export front the share of Indian tea over last four decades ending 1990 is hovering around 200-210 thousand metric tons while the volume of world export over the same period has increased by more than two and half folds. Given increasing volume of world tea export the proportional share of low growth countries is recorded continuously dwindling while those belonging to high growth countries namely , China , Indonesia and East African countries , with special reference to Kenya , were able to gain their proportional share of world export uninterruptedly particularly since 1971 . The East African countries in general and Kenya in particular have extraordinarily improved their relative position in the world tea export at the expense of drastic loss of relative position of India and Sri Lanka , the two leading tea producing

countries of the world . Factors underlying loss of Indian's position vis-a-vis gain of Kenya's position have been examined . Younger age composition of plantation , economies of labour use and more favourable climate for tea throughout the year have contributed to Kenya's supremacy over India in reducing cost of production and thereby enhancing competitive position of Kenya in the world tea trade . Imposition of export taxes and other duties on tea in India in contrary to that of Kenya added further strength to Kenya's supremacy over India in cost situation .

Confronting with the unfavourable cost situation and loss of foreign trade in traditional E.E.C. markets particularly that in U.K. , the important importer of E.E.C. group importing around 92 per cent of India's export, India had undertaken a strategy of trade diversification through bilateral agreement to combat the loss of traditional markets and at the same time to enhance the foreign earning with stability . By classifying the export markets of Indian tea into 8 groups and adopting the concept of 'entropy' it is revealed that India has persistently diversified her tea export from E.E.C. group of countries to East Europe , North Africa and West Asia over the period 1951 - 80 . Thereafter degree of diversification is noted to be diminishing because of emergence of East Europe especially USSR occupying disproportionate share of import by Indian tea. Trade diversification strategy in view of loss of traditional West European markets by entering into newer and newer markets to augment and stabilise foreign earning out of tea trade has been highlighted from the analysis of direction of Indian tea trade .

To explore the sources of productivity growth an attempt has been made to identify the factors contributing to the yield of tea . This has been done on the basis of analysis of relevant data collected through suitably framed schedule and questionnaire for the sample tea gardens selected from Dooars region of North India following appropriate sampling design the details of which along with resource position of individual sample gardens have been analysed in **Chapter V**. Under given production technology the factors like extent of coverage under irrigation , bush population density, age of plants and major plant nutrients have been worked out to be the important yield contributors at the individual garden level by using linear multiple discriminant function as analytical tool. For Dooars the factors like labour used per unit area , major plant nutrients , age of plants and rainfall have been identified as the major yield contributing factors by using same analytical tool . The above principal yield contributing factors based on physical input-output relation the areas of interventions aiming at augmenting yield have been elicited . Above physical input - output relation thus identified alongside factors contributing to favourable cost

situation of tea production in East African countries particularly Kenya taking into consideration one can plausibly conclude that India by adopting appropriate policy towards implementing adequate rate of replacement planting, rational utilisation of labour, bringing more area of tea plantation under irrigation and better nutrient management can aptly increase yield at higher pace with better cost situation to be caused by production function shifting effect, which has been enjoying by East Africa (Kenya in particular).

With monotonically expansion of tea-drinking habit at the global level the growth of domestic demand of tea in major tea producing countries is noted remarkable. Comparing growth of production with that of domestic consumption it is conspicuous that the principal high growth countries like China, Kenya and whole of East Africa have been able to generate increasing exportable surplus through achievement of higher growth of output and that too has emanated mainly from growth of yield. India with her exceedingly higher growth of domestic demand could not attempt at this end. With lower growth of productivity India can barely satisfy the growing domestic demand leaving minimum exportable surplus which may reasonably be declined in absolute terms in near future if the growth of productivity remains unchanged.

Given persistently growing of India's tea output, the economy of directing expanded volume of output to the buoyant internal markets has been examined with the help of cost-price analysis to explain the prevalent dovetailing of sale between home and abroad. In view of non-availability of relevant cost data of black tea, specially that of CTC type, at the national level from secondary sources, the primary data on cost of production collected from the sample tea estates of Dooars through suitably framed schedule and questionnaire following interview method have been utilised for this purpose. Cost-price analysis has been made at cross-section point of time based on primary data to examine the economics of production of black tea with special reference to CTC type with an objective of selling it in the home market. The concept of short run prime cost by reckoning all recurring items has been adopted in cost analysis both in the farm and manufacturing sector to examine the cost situation in a cross-section point of time keeping in view the long term setting of leaf production and tea manufacturing. By comparing auction level prices of made tea of the sample gardens at the same point of time with that of cost the economy of tea production has been attempted to assess.

In leaf production sector human labour , manure and fertilisers, and plant protection chemicals are noted to be major cost components of which human labour singularly accounts for 76 per cent of total cost, the respective share of manure and fertilisers, and plant protection chemicals being 11 and 12 per cent. Given inter-garden variability in both cost and yield of green leaf per unit area these two are found to be directly associated to a significant extent. Higher degree of association between material cost per unit area ( comprising of manure and fertilisers, and plant protection chemicals ) and yield than that between labour cost and yield and taking with this the observed inter-garden invariance in material input prices and wage rate into account one can lead to the conclusion that material inputs has largely contributed to yield variability than the labour itself . With an effort of augmenting yield either by increasing intensity of material inputs or labour the cost per unit of output is found to be reducing for the former while it is increasing for the later . Combining material inputs and labour together with due consideration of observed inverse relation between cost per unit of output and yield it is concluded that an attempt of enhancing yield of green leaf by increasing intensity of materials inputs will lead to better cost situation . In view of remarkably higher proportion of labour cost to the cost structure and at the same time smaller degree of association between wage cost and yield the more adverse effect on cost situation would be with an increase in wage rate and thereby the importance of labour economy in green leaf production has been highlighted . Comparing the cost situation by size and ownership it is found that larger sized gardens exceeding 400 ha and the gardens under Agency House are more efficient than others . Similar revelation is established in manufacturing sector also .Favourable cost situation noted for larger sized gardens and for the gardens owned by Agency House ( which are also of bigger sized ) is principally caused by using relatively improved type of tea manufacturing machinery and appliances. And for leaf production sector it has been due to economies of scale enjoyed by the bigger ones.

To find out surplus over the cost of production ex-garden price per unit of output has been calculated by deducting marketing cost involved in marketing the produces from the average annual auction price received at the comparable point of time. Average ex-garden price thus obtained is found Rs. 35.50 per kg as against average prime cost (i.e. recurring cost ) Rs. 17.99 per kg creating a surplus as high as Rs. 17.51 which accounts for around 98 per cent over cost. Extent of surplus over cost is recorded higher ( varying 110-129 per cent ) for the gardens controlled by Agency House followed by those under Govt. Undertaking . Price-cost difference for the larger sized gardens is also noted higher than that of their smaller counterparts. In calculating surplus

only the recurring items of cost have been reckoned into . Nevertheless , with such remarkably higher surplus one can safely conclude at least in short run perspective that the tea industries with particular reference to Dooars have been able to earn good profit by taking advantage of buoyant internal market and the gardens belonging to larger size groups are stood in better position in this respect .

To examine the above finding in the long term perspective temporal price behaviour of made tea in the domestic market has been analysed . Annual trend growth of price of Indian tea during 1962-90 in the international market is worked out to be 4 per cent as against 7 per cent in the home market . Considering the period of stable exchange rate of Indian currency higher trend growth of price of Indian tea in home market is also visualised . To understand inter-year fluctuation of growth of Indian tea prices instability coefficients have been calculated by alternative methods and it is found that the degree of instability in whole sale prices of Indian tea as worked out by alternative methods is low or at least moderate ( i.e tolerable ) . With the above finding of trend growth and inter-year fluctuation of Indian tea prices in the home market *inter alia* assuming proportional cost variability over years one can affirm the above contention of profitable proposition of tea economy founded in short term situation is true for the long term perspective as well . Based on foregoing analysis of price-cost relation both in the short and long term situations one can also substantiate the proposition that the domestic market is acting as a cushion to protect Indian tea producers from adverse impact of keen competition faced by Indian tea in foreign markets.

From the analyses of various facets underlying supply of and demand for Indian tea both in the home and foreign markets the inadequacy of output growth to meet growing demand has been elicited as the focal area of concern . In view of limited scope of bringing more and more area under tea plantation the desired growth of out put needs to be achieved by augmenting yield with higher pace. Yield enhancement by disproportionate increasing input intensities may or may not be cost effective . Increase in unit cost, if arising therein, can be successfully transferred to the domestic consumption by taking advantage of bouyant internal market free from threat of foreign competitors . Tea industry aiming at producing for the home market is able to generate comfortable surplus as revealed from cost- price relation . But with an objective to improve the relative position of Indian tea in the foreign markets generation of surplus production through productivity growth needs to be cost effective in relation to that of the principal competing countries like

China and East Africa specially Kenya . Given the natural advantage of tea production in favour of East African Countries India is able to combat the present adverse foreign trade situation at least to some extent by reducing unit cost if the policies towards adopting adequate rate of replacement planting , rational utilisation of labour , extension of irrigation facility and better nutrient management are implemented. To achieve all these increasing investment on R & D also appears to be important.

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