

CHAPTER-XIII

SUMMARY AND CONCLUSION

India ranks third next to China and U.S.A. in respect of tobacco production and eighth in regard to tobacco export in the world. Among the tobacco growing states Andhra Pradesh and Gujarat combinedly accounts for three-fourth of tobacco production in India. West Bengal contributing about 3 per cent to national tobacco production occupies the fifth position. Two types of tobacco namely *N. rustica* (Matihari) and *N. tabacum* (Jati) grown in West Bengal are used mainly for the purpose of chewing and Hookah while that in Andhra Pradesh and Gujarat are meant for cigarette and bidi. Notwithstanding the variation in relative importance over the tobacco growing states in respect of production and types of tobacco grown an inter-year fluctuation in its area and production is noted in most the states including West Bengal. Tobacco is found to be an important age-old cash crop next to jute in two districts namely, Coochbehar and Jalpaiguri of West Bengal. The economic melody of the farm people in this region, therefore, largely hinges upon the prospect of this crop. The present study is aimed at this end. Keeping this broad objective in view, the relevant aspects like cost and profitability of tobacco in relation to its competing crops, cost-price relationship of tobacco, factors contributing inter - farm cost and yield variability, and inter-year area variability of the crop, tobacco market structure and its performance and, the existing pattern of consumption of leaf tobacco and its products need careful examination in order to arrive at some valid conclusion to the prospect of and constraints to tobacco production in West Bengal. The findings already emanated on the above aspects and conclusions emerged therefrom are summarised in this chapter.

Both time-series and cross-section data have been used in the present study. The time-series data from different official sources and cross-section data through sample survey following three stage PPS sampling have been collected. Farm level data on physical and monetary costs and returns, and mode of disposal of output have been

collected from the selected farmers in two points of time i.e., in 1983-84 and 1990-91. The opinions of the selected farmers on various questions relating to constraints to and prospect of the crop are also polled. Information on market structure and conduct have also been collected from the market functionaries of 4 selected assembly and wholesale markets. To examine the pattern of consumption demand for leaf tobacco and its products data from the households of 3 selected villages and two municipalities area on different items of tobacco consumption have been collected. The concept of prime cost defined as Cost A_1 exclusive of land revenue and cesses plus imputed value of family labour has been adopted in examining cost and profitability and cost-price relationship of tobacco.

Distributions of holdings selected for the study under different size categories according to tenurial status, irrigation facility, cropping intensity, cropping pattern, and resource structure of the selected farms are summarised in Chapter-IV in order to form an useful background for the present study. Of the 240 selected sample farms 41 per cent are belonging to the size group less than 1 ha, 36 per cent to the 1-2 ha, and 23 per cent to the above 2 ha size group. Most of the selected farmers are found to be owner cultivators (84 per cent). About 15 per cent of total farms belong to the owner-cum-tenanted category of tenurial status. In terms of area owned land accounts for 93 per cent of area and remaining 7 per cent is attributed to share rented land. The proportion of area having irrigation facility is found to be only 29 per cent. Of the irrigated area 87 per cent is irrigated through seasonal sources of water. Average cropping intensity is noted 149 per cent. The cropping pattern of selected farms shows a dominance of paddy and jute in pre-kharif, paddy in kharif and tobacco in rabi season. Tobacco, wheat, mustard, potato and vegetables are observed as important Rabi crops together with accounting for 98 per cent of area devoted to Rabi cultivation. In regard to resource structure of the selected farms it is visualized that draught and other domestic animals constituting most important class of farm assets which accounts for nearly 80 per cent of total value. The share of farm implements and machinery to total value structure of farm assets is recorded to be only 16 per cent.

Cost of cultivation and relative profitability of tobacco with reference to two time periods have been analysed in Chapter-V. Money cost per hectare of tabacum tobacco (Jati) is noted to be considerably higher than that of rustica type (Matihari). Cost of cultivation per unit area of rustica tobacco is also recorded higher for Jalpaiguri as compared to that for Coochbehar district. Inter-village variability in money cost per unit area is found higher in Coochbehar district. Between the types, a higher inter-village cost variability is noted for tabacum type. Human labour, bullock labour, and manures & fertilizers are observed as the major cost constituents accounting for 94-96 per cent of prime cost (Cost D). A glaring variation in relative weight of the major cost components to cost structure is noticed over the selected districts and villages highlighting differential impact to be exerted upon the farmers of different district and villages in consequential to change in prices of the above major items. The farmers of a district or village having relatively large share of a particular item will be affected more adversely than their counterparts having smaller cost share of that item with an increase in its price. At the district level money cost incurred for the aforesaid major individual items does not truly reflect the level of utilization of respective input because of observed inter-district difference in their prices. Comparing input intensities with yield one may safely conclude that the district Coochbehar has edge over Jalpaiguri district in the production of tobacco. Similar conclusion is also emerged while comparing unit cost with the price of tobacco. At the village level, however, no glaring variation in input prices is noted. As a result, relatively a less degree of inconformity between money costs and physical level of use of the said major inputs is discernable. A comparison of physical levels of use of major inputs with yield across the villages establishes the contention that some of the villages have natural advantages over the others in the production of tobacco. Between the two reference period cost escalation per unit area is noted to be about 46 per cent,. Magnitude of cost escalation of bullock labour is found to be as high as 112 per cent while that of hired human labour, family labour, and manures and fertilizers are being 32.7, 21.5 and 38 per cent respec-

vely at the highest aggregate level. Despite increase in money cost on major items intensity of human labour bullock labour and (N+P+K) have reduced significantly at this level. But yield has enhanced to the tune of 9 per cent. It indicates an improvement in tobacco production technology that might have been occurred in between two points of time. But higher percentage increase in cost per unit of produce as compared to that of price implying a deterioration in terms of trade of tobacco growers at the district level. The extent of variation of prime cost between the villages varies from 12 to 61 per cent in Coochbehar and from 50 to 63 per cent in Jalpaiguri district. In spite of increase of money cost on major items their use intensities in most of the villages show a notable contraction. In a few villages a sufficient increase in money cost on major inputs has led to marginal increase in their level of utilization. Nevertheless, yield per unit area in most of the villages exhibits a sizeable augmentation. Comparing the change of unit cost with that of price it is revealed that cost escalation per unit of produce is relatively less than that of price in two-third villages of Coochbehar district. The contrary picture is, however, noted in the villages of Jalpaiguri district. The above findings lead to the contention that a technological innovation aiming at yield augmentation with input rationalization has been brought about inbetween two points of time in most of the selected villages. But the revelation of deterioration in terms of trade as observed at the district level is unfounded in two-third villages of Coochbehar district.

Net return over Cost D is recorded highest for tobacco in Coochbehar. Net return of vegetables and potato have enhanced in the second period for Coochbehar district. In Jalpaiguri district vegetable is recorded to have highest net return. Tobacco ranks second in the first and third in the second reference period. In both the districts wheat is found to have lowest net return per unit area. The direct correspondence between relative profitability and relative area allocation of the crops is visualized if one reckons into relative instability factors associated with the accrual return, cash constraints of the farmers, and the family consumption requirement.

Calculation of average cost and comparing it with the average price received by the farmers in answering the question as to whether most of the farmers are getting remunerative price is meaningful only when the farmers operate under more or less similar cost condition (keeping aside the inter-farm price variability). In view of observed inter-farm cost variability the bulk-line cost defined to cover 85 per cent of production has been used in order to examine cost-price relationship. It is revealed in both the districts and for both the types that more than 90 per cent of output is being produced by about 90 per cent of farmers covering about 90 per cent of area under tobacco at a cost conforming with the average price realised by the farmers. Thus, on the basis of average price it may be concluded that the cost-price relation is favourable to most of the tobacco growers and the question of Government intervention in pricing leaf tobacco is unfounded. Price-cost ratio obtained over years based on data available from C.T.R.I., Dinahata also reveals favourable terms of trade over time. Inter-year fluctuation in terms of trade is, however, observed due to inter-year fluctuation in prices of the produce.

Inter-farm variability in price realisation has been examined by market structure-conduct approach with a view to identifying factors contributing inter-farm price variability. The producer-sellers, 'forias', forias-cum-commission agents, travelling traders, money lender-cum-traders, and wholesalers are found to act as important market functionaries in tobacco-marketing system of the area under study. In terms of number as well as the volume of transaction made in the assembly markets 'farias' is observed to be the most important category of middlemen. Sources of market imperfection and thereby inter-farm price discrimination is explained mainly by three counts. Firstly, the smaller size groups of producers are forced to sell their produces at need quite earlier depriving them to get more remunerative prices by deferment of sale. This type of sale preventing the concerned producer-sellers to get free entry for sale in any market season also threatens the condition of free entry. Secondly, the sell-compulsion to the money lender is noted to have been another source of price discrimination. Imperfect knowledge of the farmers about grading the

produce and the sale with lumpy small lots by tiny producers is also visualized as another count of inter-farm price variation.

Factors contributing inter-farm yield variation have been identified in Chapter-VII by using multiple discriminant function as analytical tool. Application of N, labour for topping and desuckering, and irrigation input in the first period and the six factors namely, use of N, P, K, labour for weeding and gap filling, bullock labour, and plant protection chemicals in the second period are observed to explain 95 per cent of inter-farm yield variability. Among the yield discriminating factors contribution of N is worked out to be as high as 55 per cent in the first and 53 per cent in the second period. Analysis based on same set of farms in both the periods and technological improvement made in tobacco cultivation inbetween two periods keeping in view one may lead to the contention that the factors like N, P, plant protection chemicals and labour use for weeding and gap filling should be considered as the key factors influencing yield under present set of production technology. Economic decision in regard to their level of use, however, depends upon the response functions, prices of these inputs, and the expected price of the produce.

Temporal variability of area under tobacco in the selected districts has been examined in Chapter-IX with a view to identifying the factors responsible for the observed area movement of the crop. The result of correlation between area under tobacco and each of its competing crops rules out the possibility of area transfer between tobacco and its competing crops. A long linear acreage response function of Nerlovian lag adjustment type has been used in identifying the factors that have been responsible for inter year variability in area under tobacco. Out of 11 variables incorporated in the model on a priori basis two variables namely, time trend, and lagged area for Coochbehar and only time trend for Jalpaiguri district are noted statistically significant. Neither relative prices nor relative profitabilities have shown any bearing upon inter year area variation. Yield risk, price risk, and sowing time rainfall also do not show any impact on area movement. Significant impact of time trend variable on area movement does not, however, indicate the farmer's so-called traditiona-

lity rather it implies traditional rationality in acreage allocation in view of favourable terms of trade to tobacco growers over years. Significant negative value of lagged area in top most tobacco growing district Coochbehar highlights a sort of acreage control adopted by the farmers under price instability and limited demand for leaf tobacco.

Pattern of consumption demand for leaf tobacco and its products is analysed in Chapter-X by using data collected from 60 rural and 40 urban households. Average consumption frequency (per day) is noticed to be increasing for 'chewing', decreasing for 'Jarda' and static for 'Dokta'. In case of minor other tobacco products like 'Guraku', 'Bonket', 'Hookah', and 'Snuff' the average consumption frequency is worked out to be decreasing irrespective of economic class and area. Secular trend of population growth-taking into account the demand for tobacco appears to be, by and large, invariant if the existing use pattern is maintained. The possibility of future expansion of demand for tobacco is embodied with the possibility of emerging new uses of it has been elicited from this analysis.

The prospect of tobacco cultivation in selected districts of West Bengal is examined in Chapter-XII by using Linear Programming model. Maximum possible area that can be devoted to tobacco cultivation by the sample farmers is worked out by summing over up and medium land under the disposal of individual sample farmers. After deducting there from the area allocated to wheat meant for self consumption the maximum possible area available for tobacco cultivation to the sample farmers has been calculated. Area under tobacco can be little more than doubled if total available area is brought under tobacco cultivation. Considering relative profitability of tobacco and its competing crops and the reported constraints like cash and land availability of the farmers a linear programming model has been formulated in order to find out the extent of further expansion of area under tobacco by optimal reallocation of existing resources within the limit of present price structure and production technology. A careful examination of area reallocation by optimum crop plan one can hardly find any possibility of tobacco area expansion to a considerable extent. This contention has also been supported by the results of opinion survey as discussed in Chapter-VIII.