

SOCIO-ECONOMIC IMPACT ASSESSMENT OF *MOTIHARI* TOBACCO IN WEST BENGAL

A. SRINIVAS, D. DAMODAR REDDY, K. VISHWANATH REDDY, B. HEMA AND S. KASTURI KRISHNA

ICAR-Central Tobacco Research Institute, Rajahmundry, 533 105

(Received on 4th August, 2020 and accepted on 21st December, 2020)

Tobacco is a highly remunerative crop fetching huge benefits to farmers in the tobacco growing regions of West Bengal. The present study is an attempt to assess the impact of tobacco crop on socio-economic transformation of tobacco farmers in West Bengal. A total of 80 respondents were selected for the study comprising 40 tobacco farmers and 40 non tobacco farmers representing tobacco growing villages and non-tobacco growing villages. The average net returns from tobacco grown is Rs 55000/acre in West Bengal region compared to other crops like potato (Rs 10,700/acre), wheat and jowar (Rs 6000/acre). High level of socio-economic status is observed for tobacco growers in terms of land size, annual income and expenditure pattern, possession of assets, habitat security, educational security and social empowerment than non-tobacco farmers. The major constraints identified from tobacco farmers are price fluctuation, availability of labour, suckers' problem and storage facilities. In case of non-tobacco farmers, price fluctuations non-availability of sufficient credit, high labour cost, climate change are the major constraints.

INTRODUCTION

Tobacco is a highly remunerative crop in India providing enormous socio-economic benefits to the farmers and other stakeholders in terms of employment generation (both in on-farm and off-farm situations) farm incomes, revenue generation and foreign exchange earnings. Tobacco is majorly cultivated mainly in northern district of Cooch Bihar, Jalpaiguri, Malda and Murshidabad. It is also grown in the southern districts of Midnapore, Singh Bhumi and Nadiad to a lesser extent. *Motihari* tobacco (*Nicotiana rustica*) occupied about 10,000 ha area followed by Jati tobacco (*A/. tabacum*) covering an area of around 2,000 ha (DoA, GoWB). Nearly 7.2 million people are engaged in the wholesale/retail sale

of tobacco (TII, 2019). The main beneficiaries are small and marginal farmers, rural women and tribal youth. According to FAOSTAT (2019) reports, India ranks third (750 M kg) in global tobacco production after China and Brazil. At present scenario of tobacco control measures, tobacco cultivation is questionable. In this situation, keeping in view of its benefits to the farming community particularly in terms of employment and livelihood of millions dependent on tobacco, there is a need to make mutual concessions between anti-tobacco policies and socio-economic imperatives of tobacco in India. Hence, analyzing the socio-economic impact of tobacco with other crops is important in the present anti-tobacco situation. Keeping in view of the above facts, the present research study was undertaken to assess "Socio-economic impact of *motihari* tobacco in terms of social and economic aspects vis-a-vis other major crops cultivated in the tobacco growing regions.

METHODOLOGY

The study was conducted in *motihari* tobacco growing areas of West Bengal state. From West Bengal Cooch Behar District was selected for the study since the production of tobacco is largely concentrated in this districts. Considering the time and resources, selected two talukas from the selected district on purposive sampling basis of which one is tobacco growing and the other is non tobacco growing taluka. From each sampled taluka four villages were selected randomly for the study. Thus making a total of eight (8) villages for the study. From each village ten respondents were selected randomly for the study. Thus a total of 80 respondents were selected randomly for the study among which 40 tobacco farmers and 40 non tobacco farmers. Ex-post facto research design was

Key words: Impact, *Motihari Tobacco*

adopted for the study, since the variables chosen for the study have already been occurred. Data was collected by personnel interview method through semi structured interview schedule designed for the study. The economic variables selected for the study were viz., land size, source of credit, annual income, expenditure pattern, assets owned, net returns and social impact variables viz., social security and empowerment. The appropriate statistical tools viz., independent samples 't' test, Non-parametric tests like 'Wilcoxon Mann Whitney' test and 'Friedman' test were used in the data analysis.

RESULTS AND DISCUSSION

1. Economic Impact

Land size

Independent samples 't' test was carried out to compare the land size between tobacco and non-tobacco growers. (Table 1)

Table 1: Land size comparison using independent samples 't' test

Particulars		West Bengal (N=80)	
Category	Farmers	Mean (ha.)	t-test for Equality of Means (Eq. Variances) t, DF (Prob. t)
Land size	Tobacco	2.03	1.514* 78 (0.00)
	Non-tobacco	1.26	

* $p < 0.05$, t = value of the t statistic, df = degrees of freedom

It can be observed from table 3.1 that there is significant difference in the extent of average land size between tobacco and non-tobacco growers ($t = 1.51$, $p < 0.05$).

Source of credit

The source of credit for farming is analyzed between the tobacco and non-tobacco growers by independent samples 't' test. The results are presented below. (table 2).

Table 2: Comparison of source of credit using independent samples 't' test

Particulars		West Bengal (N=80)	
Source	Category	Mean (Rs/Ha)	t-test for Equality of Means (Eq. Variances) t, DF(Prob. t)
Traders	Tobacco	38000	5.74*78 (0.001)
	Non-tobacco	8000	
Money lenders	Tobacco	20000	12.87*78 (0.00)
	Non-tobacco	16500	
Bank	Tobacco	14500	2.56*78 (0.40)
	Non-tobacco	15000	

* $p < 0.05$, t = value of the t statistic, df = degrees of freedom

The data from table 3.2 revealed that, tobacco is a crop financed adequately by the traders to an average extent of up to Rs 40000/ha, where as for other selected crops, the scale of finance is restricted to average maximum limit of 20000/ha. It was found from the study that traders are major sources of credit in case of tobacco as it is a highly remunerative crop while majority of non-tobacco growers preferred credit from informal sources like money lenders. The 't' test statistic results also showed that there is significant difference in source of credit between the two groups with respect to traders and money lenders.

Annual Income

Annual income is an important indicator to measure the standard of living of an individual. The different sources of income between tobacco and non-tobacco growers are identified. For analyzing the significant difference between these two groups, independent samples 't' test was carried out and the results are presented (table 3).

Table 3 : Comparison of annual income using independent samples 't' test

Particulars		West Bengal (N=80)	
Source	Category	Mean (Rs/Ha)	t-test for Equality of Means (Eq. Variances) t, DF(Prob. t)
Farming (per ha.)	Tobacco	167000	32.3*78 (0.000)
	Non-tobacco	138000	

Livestock	Tobacco	5238	8.52ns78 (0.062)
	Non-tobacco	4863	
Non-farm sources	Tobacco	20000	15.1 ns78 (0.23)
	Non-tobacco	19000	
Total income	Tobacco	182000	25.45*78 (0.000)
	Non-tobacco	141000	

* $p < 0.05$, $t =$ value of the t statistic, $df =$ degrees of freedom

The results indicated that, in the domain area, annual income of *motihari* tobacco farmers and non-tobacco farmers was Rs. 1.8 lakhs and 1.41 lakhs respectively. It is also found that there is no significant difference in the income from livestock and non-farm for tobacco farmers and non-tobacco farmers.

From the above result, it can be concluded that the higher income generating capacity of the tobacco farmers is due to high economic benefit from tobacco crop. The different sources of income to the tobacco farmers made them to attain relatively more financial independent and led to their better living standards.

Expenditure pattern

The monthly expenditure pattern between tobacco and non-tobacco growers was analysed using independent samples 't' test and depicted in table 4

Table 4: Comparison of expenditure pattern using independent samples 't' test

Particulars		West Bengal (N=80)	
Source	Category	Mean (Rs/Ha)	t-test for Equality of Means (Eq. Variances) t, DF(Prob. t)
Food	Tobacco	5135	11.5*78 (0.000)
	Non-tobacco	4251	
Clothing	Tobacco	3221	18.5*78 (0.000)
	Non-tobacco	1733	
Children education	Tobacco	4125	10.54*78 (0.000)
	Non-tobacco	3247	
Health	Tobacco	1293	5.2878 (1.00)
	Non-tobacco	1231	
Recreation	Tobacco	3578	35.8*78 (0.000)
	Non-tobacco	1897	

It is well apparent from table 3.4 that the monthly average expenditure of tobacco growers towards food, clothing, children education and recreation is comparatively higher than other selected crops. From these results, it can be interpreted that the expenditure towards food, clothing, children education and recreation is higher for tobacco farmers. It is observed that the average expenses towards health are almost same by the respondents.

Assets owned

The different categories of assets owned by the respondents was analysed by using independent samples 't' test and the results presented. Data from table 5 reveals that there is significant difference in assets owned by the *motihari* tobacco growers in respect to value of household, farm assets and vehicle possession. As majority of the *motihari* tobacco growers and non-tobacco growers are having livestock, there is no significant difference in livestock possession between the two groups.

Table 5: Comparison of assets owned using independent samples 't' test

Particulars		West Bengal (N=80)	
Source	Category	Mean (Rs/Ha)	t-test for Equality of Means (Eq. Variances) t, DF(Prob. t)
Household assets	Tobacco	72564	16.8*78 (0.00)
	Non-tobacco	56251	
Farm assets	Tobacco	47253	5.6*78 (0.00)
	Non-tobacco	29353	
Livestock possession	Tobacco	26621	2.478 (0.261)
	Non-tobacco	24587	
Vehicles possession	Tobacco	35265	9.2*78 (0.00)
	Non-tobacco	22804	

* $p < 0.05$, $t =$ value of the t statistic

Net returns

The net return and benefit cost ratio of tobacco with other selected major crops is analyzed and given in table 6.

Table 6: Net Returns and B: C ratio

Crop	Tobacco	Wheat	Paddy	Potato
Net Returns (Rs.)	55000	25000	16000	26000
B:C ratio	1.6:1	1.43:1	1.36:1	1.41:1

It is perceived from the table 6 that the average net returns/acre for is comparatively high for tobacco than wheat, paddy and potato. This is because the average price per quintal is more for tobacco as it is being highly remunerative commercial crop. Therefore the farmers in the study area give more importance to cultivate tobacco than other food crops. Due to the fact that tobacco is highly facilitative crop in terms of timely finance from money lenders and traders easy marketing, inputs.

2. Social Impact

Social impact was compared between tobacco and non-tobacco growers in the study area by using Wilcoxon Mann-Whitney test and the results are presented.

Data from table reveals that tobacco farmers are having high values as compared to non-tobacco growers. This clearly shows that tobacco farmers are comparatively well empowered in social status than others which is due to high profit received from tobacco.

There is significant difference with high mean rank for tobacco and non-tobacco growers with regard to habitat security, educational security and social empowerment. Health security is almost same for tobacco and non-tobacco farmers. This clearly shows that tobacco farmers are comparatively well empowered in social status than others which is due to high economic gain from tobacco.

3. Constraints of tobacco and non-tobacco growers

An effort has been made to identify the major constraints of tobacco and non-tobacco farmers and the responses were recorded on a five point continuum starting from 1= to a very low extent to 5= to a very high extent on different components. These constraints were compared using Friedman's two-way ANOVA.

Table 8. Mean ranks comparison of constraints by tobacco farmers

SN	Problem	Mean Rank	Std. Deviation
1	Price fluctuation	8.8	1.15
2	Availability of labour	7.6	1.23
3	Suckers problem	5.4	1.14
4	Storage facilities	3.9	0.56
5	Damping off disease	3.5	0.96
6	Lack of organized market	2.2	1.58

Table 7. Social impact by using Wilcoxon Mann-Whitney test.

Category	West Bengal (N=80)				
	Mean rank		Mann -Whitney U value	Z value	Asymp. Sig. (2-tailed)
	Tobacco (n =80) 1	Non-tobacco (n =80) 2			
Food security	160	70	3.52	-14.5	.000*
Habitat security	115	85	4.21	-4.4	.000*
Educational security	126	110	5.66	-2.6	.0001*
Health security	118	120	5.50	.000	0.800
Social empowerment	155	70	112.0	-13.2	.000*

It is evident from the results (table 8) that among the constraints, price fluctuations (mean rank 8.8), availability of labour (mean rank 7.6), suckers problem (mean rank 5.4), and storage facilities (mean rank 3.9) are the severe constraints for tobacco growers.

Table 9. Mean ranks comparison of constraints by non-tobacco farmers.

SN	Problem	Mean Rank	Std. Deviation
1	Price fluctuation	8.5	0.95
2	Non-Availability of sufficient credit	8.2	0.85
3	High labour cost	7.4	1.12
4	Climate change	5.2	1.29
5	Pest and disease problems	3.2	0.54
6	High cost of inputs	2.5	1.54

It is evident from the results (table 3.11) that in case of non-tobacco crops like paddy, wheat bajra, potato and maize, price fluctuation (mean rank 8.5), Non-availability of sufficient credit (mean rank 8.2), high labour cost (mean rank 7.4), climate change (mean rank 5.2) are the major constraints.

The high net returns from the cultivation of *motihari* tobacco crop facilitated the farmers for creation of wealth and enhanced care education. *Motihari* tobacco has brought transformational changes in over all empowerment of farmers in terms of income, employment generation, standard of living, social status and assets creation. The socio-economic status is high for farmers who predominantly grow *motihari* tobacco compared to cultivation of other crops. This is manifested by well furnished houses, annual income, social empowerment etc. The other manifestation of prosperity comes in the form of ownership of assets like land, annual income, expenditure pattern, possession of assets, habitat security, educational security, social empowerment which are indicators of economic well-being. The study concluded that tobacco showed major impact on socio-economic well-being and provides livelihood security to tobacco farmers in West Bengal state.

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