

SMALLHOLDER FAMILY FARMING OF FCV TOBACCO IN KARNATAKA – A SOCIO-ECONOMIC EVALUATION

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Livelihood security for the smallholders practicing family farming continues to be a cause of concern in India. Small and marginal farmers (with farm size < 2 ha) account for more than 80% of total farms in India and grow crops in complex and risk prone situations. The Flue-cured Virginia (FCV) tobacco, grown predominantly as a rainfed crop, has been the main source of livelihood for umpteen smallholders in the state of Karnataka. Mysore district of the state, accounting for 84% of FCV tobacco area with an average holding size of 0.7 ha, against the state's average holding size of 0.81 ha, leads in socio-economic development indicators compared to neighbouring non-tobacco districts. Against this backdrop, socio-economic contribution of smallholder family farming of FCV tobacco was critically analyzed. The relevant data were collected through secondary sources and analyzed. Comparative economic evaluation revealed that no crop/cropping system is as remunerative as FCV tobacco crop under rainfed farming situations of Karnataka Light Soils (KLS). Further, FCV tobacco generated remarkably greater number of mandays of employment due to which family labour assumes importance. The cultivation of FCV tobacco has led to an improvement in wealth of Mysore district and depicted significant increase by 3% in 3-5 room houses, 23% in standard bathrooms, 12% in standard kitchens, 8% in television sets and 5% in two wheelers compared to that of non-tobacco district, Chamarajnagar. Literacy rate and social indicators viz., water and sanitation were high in FCV tobacco growing district. This study illustrates that FCV tobacco, a non-food cash crop, can have a huge transformational impact on livelihood security and socio-economic well-being of small holder family farmers in Karnataka.

Key words: FCV tobacco, Karnataka, Socio-economic evaluation

INTRODUCTION

In India, about 65% of the population is living in rural areas and over 85% of them are dependent on agriculture and allied activities for their livelihood. Out of the total 129.22 million landholders in the country, small and marginal farmers (with farm size <2 ha) account for 83.3%. Smallholder farmers are generally those who practice farming using family labour and for whom the farm provides the principal source of income (Ellis, 1988). Small holders in India have been growing crops in situations where the rain fall is scanty and erratic and their holdings constitute 84.97% of the total holdings covering 44% of the total operational area.

Tobacco is one of the important commercial crops grown on 0.46 million ha in the country and is valued more for its potential to generate farm income, employment and revenue. Tobacco crop is grown predominantly by smallholders for reasons ranging from economic, social and strategic. Tobacco crop directly or indirectly supports 38 million people (ASSOCHAM- India, 2014) which includes 6 million farmers and 20 million farm labour, and contributes over Rs. 25000 crores to the national exchequer through foreign exchange earnings and internal excise taxes. FCV tobacco crop is grown on soil of poor fertility, drought prone areas mostly as a rainfed crop and can withstand variations in weather conditions better than other crops especially in the states of Andhra Pradesh and Karnataka. Further, FCV tobacco farmers are getting timely advice from stake-holders on meteorological, marketing & management information and about investments to improve resource use efficiency.

FCV tobacco crop is predominantly grown on light textured soils under rainfed conditions in Mysore and Hassan districts of Karnataka. The FCV tobacco grown in Karnataka Light Soils (KLS)

represents superior quality with high export potential and is regarded as quality filler in global market. The Federation of Karnataka FCV Tobacco Growers Association claimed that the tobacco crop was the main source of livelihood in Mysore district and the crop contributes significantly to rural households' income both as profits and as wages and transformed the lives of farmers in this district.

Against this backdrop, socio-economic contribution of smallholder family farming of FCV tobacco in the state of Karnataka was critically analyzed with the objectives: 1. To analyse the economic contribution of FCV tobacco vis-à-vis other crops. 2. To study the impact of FCV tobacco farming on livelihood security and the overall development of the farmers.

MATERIALS AND METHODS

The study was conducted using the experimental design with control and can be illustrated as: Effect of FCV tobacco crop (X) = Indicators of FCV tobacco growing district (Y) – Indicators of non-tobacco district (Y₁). Selected one predominantly FCV tobacco growing district, one comparable adjacent non-tobacco growing district and one district growing different crops with assured irrigation facility in the state of Karnataka. Districts were selected based on compatibility criteria *i.e.* area under FCV tobacco and other comparative crops, dependency on monsoon, irrigation potential, soil condition and returns generated. Respondents were selected from different stake-holders for interaction and elicitation of opinion and to explore the situation of economic, social and development indicators among the selected districts. Data pertaining to returns for FCV tobacco and selected crops were collected from published sources. Quantitative data used for the study were collected from the reports of Directorate of Economics and Statistics. Qualitative data were collected from 100 farmer respondents through in depth interviews and

focussed group discussions. Wealth indicators were measured considering inclusive wealth index. The relevant data were analyzed using appropriate statistical methods.

RESULTS AND DISCUSSION

FCV tobacco - A Small holder family farming

Source: Agricultural Census of Karnataka, 2011 Average holding size in Mysore (0.70 ha) and Hassan (0.74 ha) districts was lower than that of Karnataka State (0.81 ha) by 13.58 and 8.64% respectively. Data showed that the size of land holdings in FCV tobacco growing districts is perceptibly lower than that of non-tobacco districts which clearly indicated that the FCV tobacco is a smallholder family farming.

Comparative economic analysis of FCV tobacco and other major crops

Though, there is a call for substitution of FCV tobacco with other crops, economic feasibility of comparative crops is the key to induce tobacco farmers to shift from tobacco cultivation. If alternative crops to FCV tobacco are to be considered, there is a need to look at wider livelihood perspective that includes not only the income provision from a crop but also the institutional support *i.e.* market, extension and credit support. In this backdrop, analysed the published data on comparative economics of FCV tobacco vis-à-vis other crops in KLS.

The data presented in Table 2 revealed that the net returns accrued from FCV tobacco (Rs.36,759/ha) was higher than that of other crops /cropping systems including chillies (Rs.19,415/ha), cotton (Rs. 16, 413/ha), cotton + soybean (Rs. 20,527/ha) and maize + red gram (Rs.14,299/ha) (Mahadevaswamy *et al.*, 2006). The net returns accrued from various sole crops, maize (Rs.7430/ha), chillies (Rs. 15,080/ha), groundnut (Rs.8530/ha), redgram (Rs.4730/ha), cotton (Rs. 9040/ ha) and french bean (Rs.13,410/ha) were not

Table 1: Average holding size in FCV tobacco growing districts vis-à-vis Karnataka

Place	Small holder farms	Area	Av. holding size
Hassan Dist.	387820	286924	0.74
Mysore Dist.	346555	243377	0.70
Karnataka State.	5987042	4870947	0.81

comparable to sole crop of FCV tobacco (Rs.19,720/ha). (Dineshkumar *et al.*, 2010). A study conducted in Mysore district of Karnataka which accounts for 84% of FCV tobacco in the state revealed that the net returns obtained from FCV tobacco was Rs.62,000–90,000/ha and greater than that of other substitute crops *viz.*, cotton (Rs.30,000–35,000/ha), chillies (Rs. 28,000 - 38,000/ha), maize (Rs. 25,000 - 35,000/ha) and finger millet (Rs.8,000 - 10,000/ha) (Ranganadhan, 2014). Comparative analysis of FCV tobacco district and non-tobacco district revealed that the value of money generated from ha of FCV tobacco (Rs. 82,081/ha) outscored that of groundnut (Rs.21,416/ha) and finger millet (Rs. 14,355/ha) by 382 and 572%, respectively. The net returns

per unit of land are much higher in FCV tobacco (DES, 2011). Under rainfed conditions, the net returns obtained are Rs.14,522/ha (chickpea), Rs.5,967/ha (rice), Rs.13,845/ha (soybean), Rs.17,099/ha (maize), Rs. 31,885/ha (chillies) and Rs. 35,165/ha (cotton). While, in irrigated situation, the net returns are Rs. 25,062/ha (maize), Rs.52,888/ha (chillies) and Rs.50,713/ha (cotton). Further, man days of employment generated per hectare are, cotton (112), chillies (101), maize (70) and soybean (59) under rain fed situation (Lakshmi and Mundinamani, 2014).

From the above data, it was concluded that no crop/cropping system was as remunerative as FCV tobacco crop under rainfed farming situations

Table 2: Comparative economics of various crops in KLS tobacco growing region

Crops	Gross returns (Rs/ha)	Cost of cultivation (Rs/ha)	Net returns (Rs/ha)	Reference	
Maize-Red gram	35,347	21,048	14,299	Mahadevaswamy <i>et al.</i> , 2006	
Ground nut+ Red gram-Fallow	27,960	15,166	12,794		
Ragi-Red gram	32,310	19,511	12,799		
Cotton-Fallow	34,333	17,920	16,413		
Cotton+ Soybean-Fallow	41,140	20,613	20,527		
Green chillies-Fallow	43,315	23,900	19,415		
Bajra+ Red gram- fallow	24,560	9924	14636		
FCV tobacco- Fallow	79373	42614	36759		
Tobacco	43650	23930	19720		Dinesh Kumar <i>et al.</i> , 2010
Chillies	28930	13850	15080		
Groundnut	25180	16650	8530		
French bean	29650	16240	13410		
Maize	19460	12030	7430		
Red gram	17430	12700	4730		
Cotton	25530	16490	9040		
Maize	40,000-50,000	15,000	25-35,000	Ranganadhan, 2014	
Ragi	18,000-20,000	10,000	8-10,000		
Field bean	25,000-30,000	8,000	17-25,000		
Chillies	50,000-60,000	22,000	28-38,000		
Cotton	45,000-50,000	15,000	30-35,000		
Paddy	30,000-35,000	12,000	18-23,000		
Tobacco	1,37,500-1,65,000	75,000	62-90,000		
Chickpea	39733	25181	14552		Lakshmi and Mundinamani, 2014
Rice	28596	22630	596725		
Soybean	33170	19325	13845		
Maize	38609	21509	17100		
Chillies	61715	29830	31885		
Cotton	63344	28178	35165		

of KLS. Further to state, currently no economically viable alternative crop is available which can be grown under similar climatic conditions and which provides similar socio-economic return as FCV tobacco for farmer. FCV tobacco gives higher returns to the farmers and thus, ensuring a better standard of living. In view of the requirement of more mandays of work in FCV tobacco cultivation, family labour assumes importance in FCV tobacco growing areas. FCV tobacco with well organised marketing system raised farmers' income, improved their economic situations and ultimately helped the farmers to increase house hold food security.

Impact of FCV tobacco on livelihood security of farmers

In the background of available information discussed above, a modest attempt has been made in this study to examine the relative socio-economic development situation in tobacco and non-tobacco growing districts. The basic civil facilities are determining factors for development of a district. For this study, one predominantly FCV tobacco growing district (Mysore), one comparable adjacent non-tobacco growing district (Chamrajnagar) and a district with assured irrigation facility (Mandya) were selected.

All the wealth indicators (Table 3) are significantly conducive in the study domain *i.e.* tobacco growing Mysore district. The wealth indicators *viz.*, owned houses, houses with 3-5 rooms, houses with electricity/standard

bathrooms/standard kitchen/television/two wheeler/ four wheeler/ personal computer and availing of banking service in rainfed tobacco growing district (Mysore) are comparable to that of neighbouring irrigated non-tobacco district, Mandya. However, wealth indicators possession in Mysore district is perceptibly superior over rainfed non-tobacco growing district (Chamarajnagar). In general, remunerative and higher net returns from cultivation of crops could motivate farmers towards creation of facilities. Higher per cent of wealth indicators in the FCV tobacco growing district compared to non-tobacco district clearly revealed the prosperity and economic well -being of FCV tobacco farmers.

Education indicator such as literacy is an important component of human resource and a key to over all human development. The higher scale of literacy in FCV tobacco growing district has clearly indicated the remunerative nature of FCV tobacco production.

Farmers' opinion

Eighty seven per cent of the farmers opined that high returns, non-availability of alternatives and availability of credit were the three reasons for their continued tobacco cultivation. Seventy eight percent of the farmers felt that there cannot be any suitable alternative livelihood activity that can supplement agricultural income from alternative crops to the extent of the earnings from tobacco. Forty six per cent of the farmers suggested that the provision of irrigation may

Table 3: Wealth indicators (%) in tobacco and non-tobacco districts

Indicator	Districts		
	Tobacco Mysore	Non-tobacco Mandya	Chamrajnagar
Owned houses	93.98	93.26	94.26
Houses with 3-5 rooms	10.78	11.56	8.29
Houses with electricity	89.75	90.81	85.64
Standard bathrooms	74.41	84.62	50.81
Standard kitchen	89.14	92.25	77.54
Availing banking service	41.27	54.93	34.14
Television sets	49.83	50.93	41.79
Two wheelers	17.89	19.99	12.70
Car/jeep/van	1.41	1.31	0.85
Household computer	4.09	3.30	3.75

Source: Census of India, 2011

Table 4: Education indicator in tobacco and non-tobacco districts

District	Literacy (%)	
	Male	Female
Chamarajnagar (Non-tobacco)	67.93	54.92
Mandya (Non-tobacco)	78.27	62.54
Mysore (Tobacco)	78.46	67.06

Source: Statistical Abstracts of Karnataka State, 2013-14

motivate the farmers toward cultivation of crops like paddy, mulberry, sugarcane, vegetables and ginger. Sixty seven per cent of non-tobacco farmers opined that they are not happy with the different crops being cultivated by them.

All the farmers felt that FCV tobacco is endowed with organised market, credit and institutional support. It is difficult to replace FCV tobacco as a crop unless such facilities are extended to other crops

FCV tobacco growing district, Mysore has depicted better socio-economic development indicators than that of rainfed non-tobacco growing district (Chamarajnagar). Further, socio-economic development of rainfed Mysore district is similar to that of irrigated Mandya district growing other crops. FCV tobacco cultivation is critical for the rural economy in tobacco growing districts and is one of the reasons for continued FCV tobacco cultivation. Further, FCV tobacco enjoys the advantage of institutional and market support that is put in place over the years. It has brought dramatic changes in overall farming, employment, income and socioeconomic balance of the district. Intensive research work has been carried out to identify the remunerative alternative crops to tobacco. None of the alternative crops tested under mono cropping system are as remunerative as tobacco in KLS region. FCV tobacco farmers opined that remunerative nature of FCV tobacco backed by the institutional support encourages them for continuing tobacco cultivation.

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