



Costs and Net Returns of Tobacco Production in Prakasam District of Andhra Pradesh

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ABSTRACT

This study was conducted to estimate cost and net revenue from tobacco in Prakasam District during 2003-04. The study was conducted in two mandals and six villages were purposively selected from Prakasam district of Andhra Pradesh. A total of 42 respondents were randomly selected from the six villages. We were interviewed through a well-designed questionnaire. The objectives of the study were to estimate the cost and net returns of production of tobacco crop. The net return from tobacco crop was Rs. 39111.29. Besides tobacco leaf, by-product of tobacco production was also a major contributor to the net return from tobacco crop. The revenue function revealed that price of the produce significantly contributes towards higher revenue for the farmers.

Key words : Costs, Net returns, Tobacco production.

In India amongst all food and non food crops the tobacco crop possesses peculiarities of its own nature. Tobacco is basically one of the important cash crops not only of this country but throughout the world and considerable importance of tobacco as a cash crop can be gauged from the fact that about 30% of the federal Govt. revenue receipts from the CED (Custom and Excise Duties) and taxes are derived from this source.

Another notable feature is that per hectare gross valued out-turn of tobacco crop is on higher side compared to other crops (including cash crops) in the country. Thus on the small acreage, it gives more return per acre as compared to other crops. Being a highly labor oriented crop, it provides employment opportunities at the time of production, curing and in the tobacco factories where it is processed for cigarette manufacturing.

Presently tobacco is produced all over the world but the principal tobacco growing countries are China, India, Brazil, USA, Turkey, Indonesia, Zimbabwe, and Pakistan. China is the largest tobacco producing country in the World. India is the second largest producer of tobacco in the world, though, India share in the world's area under tobacco crop has risen from 9% to 11% in the last 3 decades; its share in production has inched up from 8% to 9% in tobacco industry. Problems in the manufacturing and export of tobacco are well known. The peculiar feature of tobacco trade is

that USA, being an important exporter of manufactured tobacco, is the leading importer of tobacco needed for blending purposes. Other countries are Argentina, Egypt, France, Germany and UK. The quality of tobacco and price are the principal determining factors in its trade at the international level. The production and manufacturing of tobacco is highly fascinating by any yardstick. Not only it involves a scientific treatment, but it requires special attention by the producers during the production, curing and marketing stages. India is the eighth largest exporter of Tobacco and its products in the world. Andhra Pradesh, Gujarat and Karnataka are the major producing states in the country. Tobacco is an important cash crop in prakasam district and provides employment and income generation to human beings. The study mainly emphasizes the costs and net returns of tobacco production in Prakasam district of Andhra Pradesh.

MATERIAL AND METHODS

The study has been based on primary data collection from tobacco growers, during the agricultural year 2003-04 in Prakasam district of Andhra Pradesh. Two mandals and six villages were purposively selected from Prakasam district of Andhra Pradesh. A total of 42 respondents were randomly selected from the above six villages. The collected data was transferred to tally sheets and

then punched into computer. Costs and returns of tobacco production were estimated by using Simple Budgeting Technique. It was used for estimation of net return and profit through profit function analysis.

Tobacco Profit Function

Theoretical Modeling of Tobacco Profit Function
Farmer’s profit (net revenue) is equal to total revenue (TR) minus total cost (TC) (Debertin, 1986).

Hence

$$\Pi = TR - TC$$

Where

$$TR = P * Q$$

$$TC = \sum Vi * Xi$$

Therefore putting the values of TR and TC in equation, we get

$$\Pi = PQ - CQ$$

$$\Pi = f (P, C, Q)$$

Empirical Modeling of Tobacco Profit Function

The empirical model of tobacco profit function is given below:

$$\Pi = \beta_0 + \beta_1 P + \beta_2 C + \beta_3 Q \dots \dots \dots (1)$$

Where

Π = Profit (Net return)

P = Output price at wholesale level (Rs/Kg)

C = Cost per unit produced (Rs/kg)

Q = Output of tobacco

Equation depicts that profit (Π) depends on price of output (P), cost per unit produced (C) and total output (Q). Thus, equation (1) was used to estimate profit (Π) of tobacco.

RESULTS AND DISCUSSION

Total Cost of Tobacco Production Per hectare.

Total cost of tobacco production includes per hectare production cost and marketing cost. The cost of tobacco production in the study area is Rs. 18468.22 per hectare while marketing cost is Rs. 25711.05. Therefore, the total cost of tobacco production is Rs. 44179.27 per hectare in the Study area.

Return Per hectare from Tobacco Crop

The return from tobacco depends on farmer’s interest in the activities relating to farming and also investment in inputs, level of tobacco yield and farmers management practices. The return also depends on prices of tobacco output received by tobacco farmers.

Tobacco Leaf Yield

Higher leaf yield depends on various factors i.e. availability of improved seed, adequate irrigation water, fertilizer, use of pesticides and plantation on time etc. Tobacco yield of 2544 kg was obtained per hectare in the study area.

Costs and Returns from Tobacco Production

Table III shows the details of the total cost, total and net revenue of tobacco per hectare.

Table III: Total cost, Revenue and return

Yield/hectare(Kg)	2544.00
Rate/Kg	32.74
Total Revenue(Rs)	83290.56
Total Costs(Rs)	44179.27
Net Returns(Rs)	39111.29

An average output of 2544 kgs of tobacco per hectare yields total revenues of Rs. 83290.56 and net revenues of Rs. 39111.29.

Net Return of Tobacco Crop

Net return is obtained when we subtract total per hectare cost from total per hectare gross revenue of tobacco crop. Therefore the net income was Rs 39111.29 in the area as calculated as follow
Net income = Total income – Total cost
Net income = 83290.56 – 44179.27 Rs = 39111.29

Estimation of Profit (Net Revenue):

The net revenue (income) of the farmers is the difference between total income and cost of tobacco. It means that price of tobacco, quantity of tobacco and costs play an important role in determination of net revenue. We postulate the following net revenues function to examine which of the aforementioned determinants significantly affect the net revenue.

$$\Pi = f (P, Q, C)$$

Where Π is profit (Net revenue), P is output price at whole sale level (Rs/Kg), Q is output of tobacco (Kg) and C is Cost per unit produced (Rs/Kg).

The estimated function is as follows .

$$\Pi = -5180.6 + 2.2491P + 3.43Q - 0.2389C$$

t-Ratio = [-.958] [8.18] [11.33] [-2.24]

Table 1. Per hectare cost of tobacco production.

ITEM	Rs./Ha
A. Variable Cost	
I. Human labour	6189.52 (33.52)
a. Family labour	496.71 (2.60)
b. Hired labour	5659.18 (30.64)
II. Cattle labour	936.06 (5.12)
a. owned	445.57 (2.44)
b. hired	490.49 (2.68)
III. Machine labour	220.00 (1.20)
a. owned	96.33 (0.52)
b. hired	123.67 (0.67)
IV. seedlings	2352.01 (12.88)
V. Manures and Fertilizers	3353.53 (18.38)
VI. Pesticides	1215.72 (6.66)
VII. Miscellaneous	95.58 (2.74)
VII. . Interest on working capital	996.98 (5.46)
Sub- Total	15423.05 (84.52)
B. Fixed costs	
I Land Revenue	200.00 (1.09)
II. Rental value of owned land	2349.50 (12.87)
III. Tobacco Board License fee	133.09 (0.73)
IV. Depreciation	162.34 (0.88)
Sub- Total	2825.18 (15.67)
Total cost of cultivation(A + B)	18468.22 (100.00)

$R^2 = 0.88$, adjusted $R^2 = 0.87$, $F = 185.78$

F-test determines the overall goodness of fit/significance of the model. In this case as $F_{\text{calculated}} > F_{\text{tabulated}} = 2.76$, therefore, the model is overall significant. The coefficient of determination, R^2 (0.88), indicates that 88 percent variation in the dependent variable has been explained by the independent variables. The sign of the explanatory variables are in line with the economic theory. As $t_{\text{calculated}} > t_{\text{tabulated}} = 1.67$, therefore, the t-ratios of the model confirm that, profit (Π) is significantly determined by the price (P) total production (Q) and the per unit cost (C), keeping all the other inputs constant, a one rupee increase in per Kg price (P) of tobacco will increase the profit by Rs. 2.2491, producing another Kg of Q will increase net revenue by Rs. 3.43 while each additional unit of per Kg cost (C), will decrease net revenue by Rs. 0.2389. The estimation of the revenue function revealed that revenue is significantly affected by respective prices, total quantity produced and per unit cost of tobacco. However, increase in price significantly contributes towards higher revenues for the farmers.

Conclusions and Recommendations:

In the estimation of cost and net returns of tobacco production, land rent, fertilizer cost and cultural practices were the main cost contributing factors in tobacco production. The net return from tobacco crop was Rs. 39111.29. Besides tobacco leaf, by-product of tobacco production was also a major contributor to the net return from tobacco crop. The revenue function revealed that price of the produce significantly contributes towards higher revenue for the farmers. Lack of awareness to the respondents about the optimum use of seed rate, certified tobacco varieties and recommended doses of chemical fertilizer were the main constraints in the way of higher tobacco productivity. It is suggested that the farmers should be trained by the extension personnel towards the use of optimum seed rate and certified seed to increase tobacco productivity. Policy should be devised for stable input and output prices that is necessary for sustaining higher tobacco productivity.

Table 2. Marketing cost of tobacco per hectare.

Items	Unit	Quantity	Rate/Unit	Cost
Leaves Picking	M.Days	45.0	80	3600.00
Transport to Furnace	Rs	3.0	220	660.00
Stringing	Rs	5.9	80	475.00
Loading	Rs	5.0	75	380.00
Furnace Depreciation Cost	Rs			1430.00
Labour	M.Days	2.0	90	180.00
Fuel Cost	Kg	1643.5	4	6574.00
Fireman & Curer Cost	Rs	84.2	75	6317.00
Grading Charges	Rs	26.0	90	2346.30
Trying Cost	Rs	24.8	50	1240.00
Application Cost	Rs	28.6	50	1430.00
Transportation	Rs	2.0	250	515.00
Unloading	Rs	2.0	15	30.00
Marketing Cost	Rs	7.0	60	420.00
Rent of hired place	Rs	1.0	60	60.00
Opportunity rent of own land				50.00
Commission Rs				3.75
Marketing cost				25711.05

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