Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

E-ISSN: 2278-4136
P-ISSN: 2349-8234
JPP 2018; 7(3): 2596-2599
Received: 05-03-2018
Accepted: 10-04-2018

Paladugu Praveen Kumar
Student M.S.c, Agricultural Economics, Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad, Uttar Pradesh, India

Dr. Nahar Singh
Professor and Head, Department of Agricultural Economics, Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad, Uttar Pradesh, India

Jayant Zechariah
Assistant Professor (Department of Agricultural Economics), Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad, Uttar Pradesh, India

Deepthi Patluri
Student M.S.c (Agricultural Economics), Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad, Uttar Pradesh, India

Vidya Sagar M
Student M.S.c (Ag. Gpb), Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad, Uttar Pradesh, India

Correspondence
Paladugu Praveen Kumar
Student M.S.c (Agricultural Economics), Department of Agricultural Economics Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad, Uttar Pradesh, India

An economic analysis of production and marketing of turmeric in Guntur district of Andhra Pradesh

Paladugu Praveen Kumar, Dr. Nahar Singh, Jayant Zechariah, Deepthi Patluri and Vidya Sagar M

Abstract
The present study entitled 'An Economic Analysis of Production processing and marketing of Turmeric in Guntur District of Andhra Pradesh, was conducted in year 2017 - 2018 with a sample of 120 respondents. The results indicated that the number of respondents who had large and middle school education were more in large farms followed by small and medium. And it was also observed that the number of illiterates were more in small size farms followed by medium and large size of farms. The average area per hectare holdings in small, medium and large of farms 5.18/ha, 6.52/ha and 7.14/ha. The cost incurred by small, medium and large size farms (Rs. 144525.20/ha), (Rs. 139161.80/ha) and (Rs. 126011.60/ha) respectively. The gross Returns obtained per hectare by small, medium and large was (Rs. 361400/ha and Rs. 344500/ha and Rs. 307450/ha) respectively. And net returns per hectare small, medium and large farms (Rs. 216874.80/ha and Rs. 205338.20/ha and Rs. 181438.40/ha) respectively. Input- output ratio per hectare was small (1:1.50), medium (1:1.47) and large (1:1.43) respectively.

Keywords: cost and returns, farm profitability, production and marketing

Introduction
India is popularly known as the "Spice Bowl of the World" as a wide variety of spices with premium quality are grown in the country since ancient times. In Vedas, as early as 6000 BC, scruples evidences are available regarding various spices, their properties and utility. Among the commodities that were traded during that period, spices occupied a major portion due to their superior quality and diversity which attracted foreigners to India. India has been well known for the trade since the period of exploration of sea routes, because of its various spices and superior quality. This was the key reason because of which India has invaded by the European countries and was imperialized.
According to the International Organization for Standardization (ISO), 65 spices are grown in India. The spices are grown throughout the country from tropical to temperate climate. India has the highest number of spice varieties in the world. As per the definition of International Spice Group "Spices are any of the flavoured or aromatic substances of vegetable origin obtained from the tropical or other plants, commonly used as condiments or employed for the other purposes on account of their fragrance preservation or medicinal qualities" (Angels, 2001).
India is the largest producer, consumer and exporter of turmeric in the world. Indian turmeric is considered to be the best in the world market because of its high curcumin content. India accounts for about 80 per cent of world turmeric production and 60 per cent of world exports. Other major producers are Pakistan, China, Haiti, Jamaica, Peru, Taiwan and Thailand. Asian countries consume much of their turmeric production.

Andhra Pradesh scenario of turmeric production
In India, the important states which grow turmeric are Andhra Pradesh (56,822 hectares), followed by Orissa (23,640 hectares), Tamil Nadu (17,280 hectares) and Assam (12,066 hectares). In India more or less 20 states cultivate turmeric. Out of them, Andhra Pradesh ranks first in area (58,478 ha), production (260,000 tonnes) and productivity (4,389 kg ha-1) (2015-16). In Andhra Pradesh out of the 23 districts, turmeric crop was recorded in 20 districts.
Among the turmeric growing districts of Andhra Pradesh, Telangana state Karimnagar (14,422 ha) stood first in area followed by Nizamabad (9,568 ha), Warangal (9,399 ha), Adilabad (6,394 ha), Ranga Reddy (5,221 ha), Guntur (4,289 ha), Kadapa (2,476 ha) and Visakhapatnam (2,073 ha). Thus in Andhra Pradesh, Kadapa ranks seventh in area

(2,476 ha) and production (17,221 tonnes) and fourth in productivity (6,955 kg/ ha) of turmeric.

Objective

To find out the measure of cost returns and farm profitability per hectare in different size and farm house hold.

Research methodology

Guntur district is the major Turmeric growing district in Andhra Pradesh, Guntur district alone contributes an area of 5211hectares of turmeric with production of 34286 million tonnes (2016-2017). District is specialized in the cultivation of turmeric on commercial scale and it is a major Turmeric growing district. Thus, Guntur district were selected purposively for the study. A list of turmeric growers and villages in Guntur district was obtained from joint director's office of agricultural and district statistical office Guntur. A cluster of 14 villages were selected in major of turmeric growers from Duggirala block selected delibrately, because more number of villages represent higher area under turmeric production, among them the 6 villages were selected randomly. The data related to prices and arrivals of turmeric was collected from Agricultural Produce Market Committee (APMC) Duggirala market yard, AMC Emani, were selected purposively for present study. A sample of 10 per cent of all the market functionaries involved in the marketing process was randomly selected for the present study. All the marketing channels, which are prevalent for the selected crop, will be followed to evaluate the price spread and producer's share in consumer's rupee in different marketing channels.

Results and Discussion

Table 4.1: Resource use and Cost of Cultivation of Turmeric crop per hectare in different Size of Farms Group Number of Respondents = 120 S M L= 50+49+ 21 =120 (Value in Rupees)

Sl. No	Particulars of Farm Operations	Size of Farms Groups			Sample Average
		Small	Medium	Large	
1	Hired Human Labour Charges	6250(4.32)	12500(8.98)	9000(7.14)	9283.33(6.67)
2	Bullock Labour Charges	6900(4.77)	4800(3.44)	3000(2.38)	5360(3.85)
3	Machinery Labour Charges	3000(2.07)	4000(2.87)	7000(5.55)	4108.33(2.95)
4	Cost of Rhizome	47500(32.86)	44140(31.71)	40000(31.74)	44815.5(32.21)
5	Cost of Farm yard manure	6800(4.70)	5300(3.80)	4500(3.57)	5671.66(4.07)
6	Cost of Fertilizers	9060(6.26)	7100(5.10)	6655(5.28)	7838.79(5.63)
7	Cost of Irrigation charges	3100(2.14)	2600(1.86)	2400(1.90)	2773.33(1.99)
8	Cost of Plant Protection charges	8000(5.53)	6725(4.83)	5000(3.96)	6954.37(4.99)
9	Miscellaneous charges	1200(0.83)	1100(0.79)	1000(0.79)	1124.16(0.80)
10	Interest on Working Capital @ 12%	11017.2(7.62)	10591.8(7.61)	9426.6(7.48)	10565.14(7.59)
11	Deprecation on Fixed Resources	2580(1.78)	2450(1.76)	2200(1.74)	2460.41(1.76)
12	Land Revenue Paid to Government	100(0.06)	100(0.07)	100(0.07)	100(0.07)
13	Rent Paid for Leased in Land	10000(6.91)	10000(7.18)	10000(7.93)	10000(7.18)
14	Interest on Fixed Capital @ 10%	1268(0.87)	1255(0.90)	1230(0.97)	1256.04(0.90)
15	Rental Value of Own Land	10000(6.91)	10000(7.18)	10000(7.93)	10000(7.26)
16	Family Labour Charges	17750(12.28)	16500(11.85)	14500(11.50)	16670.83(11.98)
17	Total Cost of Cultivation	144525.2(100.00)	139161.8(100.00)	126011.6(100.00)	139095.26(100.00)

Note: Figure in parenthesis indicate per cent to the total.

The Table 4.1 revealed that among different size of farms, total cost incurred by the small farms were high (Rs. 1,44,525.20/ha) as compared to medium and small size farms (Rs.1,39,161.80/ha and Rs.1,26,011.60/ha). Sample average for total cost was Rs.1,39,095.26/ha in different size of farms group.

The cost of human labour, fertilizers, seeds and bullock labour were the items of cost with major share in the variable costs, because most of the operations like harvesting, and weeding were human labour intensive operations and the other operations like land preparation and interculture were bullock labour intensive. The distribution of pattern of operational cost under various inputs revealed that cost of human labour was the highest in the medium size farms (Rs.12, 500/ha), compared to large size farms (Rs9,000./ha) and lowest on small size farms(Rs.6,250/ha). Whereas, bullock labour cost was the highest in case of small size farms (Rs. 6, 900/ha) as compared to medium (Rs. 4,800/ha) and large farms (Rs. 3,000/ha).

Machinery labour cost was Rs. 3,000/ha in small size farms and for medium size farms was (Rs. 4,000/ha) and (Rs. 7,000/ha) in large size of farms group. The cost of rhizome was the highest on small size farms (Rs. 47,500/ha) and lowest in large size farms (Rs.40,000/ha) respectively. As Turmeric would respond well with chemical fertilizer so the costx of farm yard manure used was ranged from Rs. 6,800 (small size farms) to 4,500 (large size farms).Whereas, the expenditure on fertilizers was the highest (Rs. 9,060/ha) for small size farms as compared to medium size farms (Rs. 7,100/ha) and large size farms (Rs. 6,655/ha) respectively. It was also noticed that the highest expenditure on pesticide was seen on small size farms (Rs. 8000/ha) as compared to medium and large size farms respectively. Sample average for depreciation on fixed resources was Rs. 2,460.41, interest on working capital Rs. 10,565.14 interest on fixed capital was Rs. 1,256.04, Land revenue paid to government was Rs. 100 in different size of farms group.

The cost of rental value of own land was Rs. 10,000/ha in small, medium and large size of farms group. Rent paid for leased in land was Rs. 10,000/ha in small, medium and large size of farms group respectively. Sample average for rental value of own land was Rs 10,000/ha and sample average for rent paid for leased in land was Rs. 10,000/ha in different size of farms groups.

Table 4.2: Cost and Returns in Turmeric crop per hectare in different Size of Farms Group Number of Respondents = 120 S M L= 50+49+ 21 =120 (Value in Rupees)

S. No	Particulars	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Total Cost of cultivation	144525.20	139161.80	126011.60	139095.26
2	Yield in quintals per hectare	55.60	53.00	47.30	53.08
3	Gross Returns per hectare	361400	344500	307450	345057.91
4	Net Returns per hectare	216874.80	205338.20	181438.40	205962.65
5	Cost of Production per Quintal	2599.37	2625.69	2664.09	2621.44
6	Input – Output Ratio	1 : 1.50	1 : 1.47	1 : 1.43	1 :1.47
7	Price Per Quintal	6500	6500	6500	6500

Table 4.2 Reveals that cost and returns in Turmeric cultivation in different size of farms group. Among different size of farms groups, the total cost of cultivation incurred by the small farms were high (Rs. 1,44,525.20/ha) as compared to medium (Rs. 1,39,161.80/ha) and large farms (Rs.1,26,011.60/ha). Sample average for total cost of cultivation was Rs 139095.26/ha in different size of farms group. The gross returns obtained per hectare by small size farms were high (Rs. 3,61,400/ha) as compare to medium and large size farms (Rs. 3,44,500/ha and Rs.3,07,450/ha) respectively. The net returns per hectare obtained by small size farms were high (Rs. 2,16,874.80/ha) as compared to medium and large size farms (Rs. 2,05,338.20/ha and Rs. 1,81,438.40/ha) respectively.

The average yield of Turmeric in different size of farms group was Rs. 53.08qtl /ha. The yield was highest in case of small size farms (55.60qtl/ha) as compared to medium (53qtl/ha) and large size farms (47.30qtl/ha) respectively. Average cost of production per quintal was Rs. 2,621.44/qtl. Gross Price per quintal was Rs. 345057.91. Input – output ratio was highest in small size farms (1: 1.50) followed by medium size farms (1: 1.47) and lowest in large size farms group (1: 1.43). This makes the sample average for input-output ratio was (1: 1.47) in different size of farms.

Table 4.3: Cost Concepts in Turmeric crop per hectare in different Size of Farms Group Number of Respondents = 120 S M L= 50+49+ 21 =120 (Value in Rupees)

Sl. No	Cost Concepts	Size of Farms Group			Sample Average
		Small	Medium	Large	
1	Cost A_1	106775.20	102661.8	91511.60	102424.43
2	Cost A_2	116775.20	112661.8	101511.60	112424.43
3	Cost B	126775.20	122661.8	111511.60	122424.43
4	Cost C	144525.20	139161.8	126011.60	139095.26

Table 4.3 reveals that cost concepts on different size of farms group per hectare. Cost A_1 was highest in small size farms (Rs. 1,06,775.20/ha) followed by medium size farms (Rs.1,02,661.80/ha) and lowest in large size farms (Rs. 91,511.60/ha) respectively. Cost A_2 in small, medium and large size of farms groups was Rs.1,16,775.60/ha, Rs.1,12,661.80/ha and Rs.1,01,511.60/ha respectively. Cost B was highest in small size farms (Rs.1,26,775.20/ha) as compared to medium size farms (Rs.1,22,661.80/ha) and lowest in large size of farms (Rs.1,11,511.60/ha) respectively. Cost C was highest in small size farms (Rs.1,44,525.20/ha) and lowest in large size farms (Rs.1,26,011.60/ha). Sample average for Cost A_2, Cost B and Cost C was Rs.1,12,424.43/ha, Rs.1,22,424.43/ha and Rs.1,39,095.26/ha in different size of farms group.

Table 4.4: Measures of Farm profitability in Turmeric crop per hectare in different Size of Farms Group Number of Respondents = 120 S M L= 50+49+ 21 =120 (Value in Rupees)

Sl. No	Particulars	Size of Farms group			Sample Average
		Small	Medium	Large	
1	Gross Returns	361400	344500	307450	345057.91
2	Farm Business Income	244624.80	231838.20	205939.00	232633.59
3	Farm Investment Income	228142.80	216593.20	192668.40	217218.69
4	Net Returns	216874.80	205338.20	181438.40	205962.65
5	Family labour income	234624.80	221838.20	195938.40	222633.48
6	Input – Output Ratio	1 : 1.50	1 : 1.47	1 : 1.43	1 : 1.47

Table 4.4 reveals that the gross returns obtained per hectare by small size farms were high (Rs.3,61,400/ha) as compare to medium size farms (Rs.3,44,500/ha) and large size farms (Rs.3,07,450/ha) respectively. This makes the sample average for gross returns was 3,45,057.91/ha in different size of farms group. Farm business income in small, medium and large size of farms group was Rs. 2,44,624.80/ha, Rs. 2,31,838.20/ha and Rs. 2,05,939.00/ha respectively. Sample average for farm business income was 2,32,633.59/ha in different size of farms group. Farm investment income was highest in small size farms (Rs. 2,28,142.80/ha) as compared to medium size farms (Rs. 2,16,593.20/ha) and lowest in large size farms (Rs. 1,92,668.40/ha) respectively. This makes the sample average for Farm investment income was Rs. 2,17,218.69/ha in different size of farms group. The net returns per hectare obtained by small size farms were high (Rs. 2,16,874.80/ha) as compared to medium and large size farms (Rs. 2,05,338.20/ha and Rs. 1,81,438.40/ha respectively). Sample average of net returns was 2,05,962.65/ha in different size of farms group. Sample average of Family labour income was Rs. 2,22,633.48/ha in different size of farms group. Input – output ratio was highest in small size farms (1: 1.50) as compared to medium size farms (1: 1.47) and lowest in large

size farms group (1: 1.43). This makes the sample average for input-output ratio was (1: 1.47) in different size of farms.

Conclusion

The study pertains to the production of Turmeric in Guntur district. The main objective is to study the Cost and Returns. The result revealing that the socio economic characteristic of sample respondents, economics of Turmeric production. The results revealing that the socio economic status of the respondents found to be moderate with primary education, well economic back ground and greater access to all the assets. Economics of Turmeric production is more profitable in small farms as compared to medium size farms and large size farms.

References

1. Janailin S Papang, Tripathi AK.Costs and Returns Structure of Turmeric (*Curcuma longa* Linn.) and Constraints Faced by Producers in Jaintia Hills District of Meghalaya, India, Indian J Agric. Res. 2013; 48(3):192-198.
2. Karthik V, Amarnath JS. An Economic analysis of Turmeric Production in Tamil Nadu, India, Direct Research Journal of Agriculture and Food Science. 2014; 2(6):66-76.
3. Kiruthika N. The economics of production of turmeric in India: A case study of Erode district of Tamilnadu, Journal of Innovative Research and Solutions (JIRAS). 2013; 1(1):23-30.
4. Sangliene DC, Chamuah HK. Problems and Prospects of Spices Production for Export in Meghalaya with Special Reference to Turmeric (Lankadong) and Ginger (Nadia), Indian Spices. 1997, 51-53.
5. Senthil Kumar C, Dr. Manivannan L. An Analysis on Production and Marketing of Turmeric and Chilli in Erode District, International Journal of Research in Computer Application & Management, 2011; 1(5):88-90.
6. Senthilkumar C. A Study On Spices Production And Marketing In Erode District, Namex International Journal of Management Research. 2011; 1(1):11-17.