

An Economic Analysis of Production of Onion (*Allium Cepa*) in Mahabubnagar District of Telangana

Munasu vikas 1*, Dr. Ramchandra2
Department of Agriculture Economics,
Sam Higginbottom University of Agriculture Technology and sciences
Prayagraj-211007, Uttar Pradesh, India

Abstract:- The present study entitled “An Economic Analysis of Production of onion in Mahabubnagar district of Telangana” was conducted in year 2019-2020. The study made use of a multi stage sampling and random sampling technique to select 90 farmers among the selected villages. Data for the selected study were collected with the aid of well-structured questionnaires . Data collected were analyzed using tabulation method along with required statistical tool. The Production of onion has increased in the area largely due to productivity increase and increase in the area under crop. Resource use structure in onion was found to be varied among the size groups. The per cost of cultivation was varied among the size groups of onion was highest on small size(Rs.63718.2/hac) and lowest on large size(Rs.61250.0/hac) and medium (Rs.62842.0/hac). The input output ratio is highest on large size farms and lowest on small size farms

Keywords:- Onion, Cost and return, input output ratio.

I. INTRODUCTION

Onion belongs to the family Alliaceae ,origin asia. It is one of the most important commercial vegetable crop grown by large, small, and medium farmers in different parts of the country, Onion is the important vegetable crop

widely used in all households all the year round. Onions are good source of dietary fiber, folic acid and contain calcium, iron , high protein quality and medicinal values. India is the second largest producer of onion in the world. Indian onions are famous for their pungency. Onion is mostly consumed vegetable crop in india. Maharashtra alone produces 70 percent of onions in the country.

II. RESEARCH METHODOLOGY

The study was conducted in Mahabubnagar district of Telangana which is one of the 31 districts of Telangana. Mahabubnagar district comprises of 64 blocks among 2 blocks were selected i.e Gadwal and waddepalle blocks were selected for the study. A list of 6 villages were selected randomly out of them. A list of all Onion farmers/ respondents is prepared with the help of head of the villages pradhan or head of the each selected villages in both block, there after farmers/respondents is categorized in 3 size groups on the basis of their land holding and then from each village 10% farmers were selected randomly from all the different size of farm groups. Data for the study was collected from all 90 farmers randomly i.e 43 small farmers, 29 medium farmers and 18 large farmers. Tabulation method is used for analysis of data along with required statistical tools for the interpretation of the results for the objectives.

S.NO	Particulars	Small	Medium	large	Sample average
1	Hired Human Labour	6750 (10.60)	7000 (11.13)	7250 (11.83)	7000 (11.18)
2	Machinery charges	3750 (5.88)	3900 (6.60)	3300 (5.38)	3650 (5.83)
3	Cost of seed	4700 (7.37)	4400 (7.00)	4200 (6.85)	4433.3 (7.08)
4	Cost of FYM	5500 (8.63)	5350 (8.51)	5200 (8.48)	5350 (8.54)
5	Cost of Fertilizers	8000 (12.55)	7850 (12.49)	7700 (12.57)	7850 (12.53)
6	Cost of irrigation	9000 (14.12)	9050 (14.40)	9150 (14.93)	9066.6 (14.48)
7	Cost of Plant chemicals	3800 (5.96)	3550 (5.64)	3150 (5.14)	3500 (5.59)
8	Interest on working capital@8%	3320 (5.21)	3288 (5.23)	3196 (5.21)	3268 (5.22)
9	Depreciation on fixed capital	1620 (2.54)	1490 (2.37)	1400 (2.28)	1503.2 (2.04)

10	Land Revenue Paid to Govt	0	0	0	0
11	Rental Value of own land	10000 (15.69)	10000 (15.91)	10000 (16.32)	10000 (15.97)
12	Interest on Fixed Capital @ 11%	1278.2 (2.00)	1263.9 (2.01)	1254 (2.04)	1265.3 (2.02)
13	Family Labour charges	6000 (9.41)	5700 (9.07)	5450 (8.89)	5716.6 (9.13)
14	Total cost of cultivation	63,718.2 (100)	62842 (100)	61250 (100)	62603.3 (100)

Table 1:- Resource use and Cost and Cultivation of Onion crop per hectare in different Size of Farms Group

The table 1 reveals that among different size of farms , total cost incurred by the small farms were high (Rs.63,718.2/ha) as compared to medium and large size farms (Rs.62842/ha and Rs.61250/ha). Sample average for total cost was Rs.62603.3/ha in different size of farms group. The cost of human labour, fertilizers, seeds were the items for the 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 inter culture were bullock labour cost of human labour intensive. The distribution of pattern of operational cost under various inputs revealed that cost of human labour was highest in small size farms (Rs.6750 /ha), as compared to medium size farms (Rs.7000/ha) and lowest in large size farms (Rs.7250/ha). Machinery cost was Rs.3750/ha in small size farms and for medium size farms was (Rs.3900/ha) and large size farms (Rs.3300/ha). The cost of seeds was

highest in small size farms (Rs.4700/ha), as compared to medium size farms (Rs.4400/ha) and lowest in large size farms (Rs.4200/ha). As Onion would respond well with chemical fertilizer so the cost of farm yard manure used was ranged from Rs.5500/ha in large size farms, Rs.5350/ha in medium size farms and 5200 in small size farms. Whereas, the expenditure on fertilizers was highest in small size farms (Rs.8000/ha), as compared to medium size farm (Rs.7850/ha) and lowest in large size farms (7700/ha) respectively. Sample average for depreciation on fixed resources was Rs.1503.3. Interest on working capital Rs.3268, interest on fixed capital was Rs.1265.3, labour charges for different size of farms group is Rs.5716.6. The cost rental value of own land was Rs.10000/ha in large, medium and large size of farms group respectively. Sample average for rental value of own land was Rs.10000/ha for different size of farm groups.

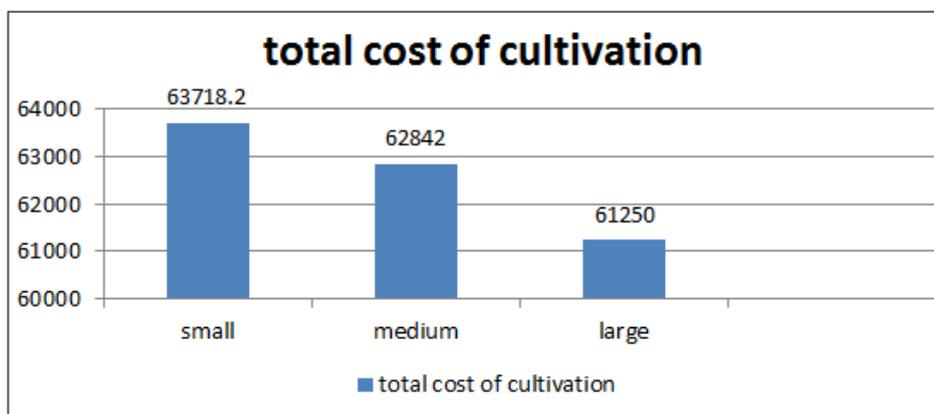


Fig 1

Source	Df	SS	MSS	F Cal	F Tab 5%	Result	S .Ed	C.D at 5%
Channel	2	240873.3	120436.6	4.08	3.40	S	140.15	288.70
Particular	12	337266459.5	28105538.29	953.83	2.18	S	67.32	186.47
Error	24	707177.4	29465.73					
Total	38							

Table 2

In the above ANOVA table, in due to size group degrees of freedom is 2, sum of squares is 240873.3, mean sum of squares is 120436.6, F. Calculated value is 4.087347, F. tabulated value @ 5% is 3.40, result is significant, standard deviation is 140.15 and critical difference @ 5% is 288.709. In due to particulars degrees of freedom is 12, sum of squares is 337266459.5, mean sum of squares is 28105538.29, F. Calculated value is 953.8383, F. tabulated value is 2.18, result is significant, standard deviation is 67.32 and critical difference @ 5% is 186.4764 In error degrees of freedom is 24, sum of squares is 707177.4 and mean sum of squares is 29465.73.74.

S. No	Cost concepts	small	Medium	Large	Sample average
1	Cost A ₁	46440	45878	44546	45621.3
2	Cost A ₂	56440	55878	54546	55621.3
3	Cost B	57718.2	57141.9	55800	56886.7
4	Cost C	63718.2	62842	61250	62603.3

Table 3:- cost concepts of onion per hectare in different size farm groups

Table 3 reveals that cost concepts on different size of farms group per hectare. Cost A₁ was highest in small size farms (Rs.46440/ha) followed by medium size farms (Rs.45878/ha) and large size farms (Rs.44546/ha) respectively. Cost A₂ in small, medium and large size of farms group was Rs.56440/ha, Rs.55878/ha and Rs.54546/ha respectively. Cost B was highest in small size farms (Rs.57718.2/ha) and lowest in large size farms (Rs.55800/ha) as compared to medium size farms (Rs.57141.9/ha) respectively. Cost C was highest in small size farms (Rs.63718.2/ha) and lowest in large size farms (Rs.61250/ha) as compared to medium size farms (Rs.62842/ha) respectively. Sample average for Cost A₂, Cost B and Cost C was Rs.55621.3/ha, Rs.56886.7/ha and Rs.62603.3/ha in different size of farms group.

S.No	Particulars	Small	Medium	Large	Sample average
1	Total cost of cultivation	63718.2	62842	61250	62603.4
2	Yield in quintals per hectare	125	126.3	127	126.1
3	Cost of production (Rs/qtls)	509.74	497.54	482.28	496.52
4	Returns(Rs/hac)	900	900	900	900
5	Gross return per hectare	112500	113700	114300	113500
6	Net returns per hectare	48781.8	50858	53050	50896.6
7	Family labour income	6000	5700	5450	5716.6
8	Family business income	56060	57822	59754	57887.6
9	Input output ratio	1:1.76	1:1.80	1:1.86	1:1.80

Table 4:- Cost and returns in Onion Per hectare in different size of farms.

Table 4 Reveals that cost and returns in Onion 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.63718.2/ha) as compared to medium (Rs.62842/ha) and large farms (Rs.61250/ha). Sample average for total cost of cultivation was Rs.62603.4/ha in different size of farms group. Yield is less in small size farms is 125qtls/ha, as compared to medium 126.3qtls/ha and large size farms group is 127qtls/ha. Sample average for Yield is 126.1qtls/ha. The gross returns obtained per hectare by large size farms were high (Rs.114300/ha) compared to medium and small size farms (Rs.113700/ha and Rs.112500/ha) respectively. The

net returns per hectare obtained by large size farms were (Rs.53050/ha) as compared to medium and small size farms (Rs.50858/ha and Rs.48781.8/ha) respectively. The average yield of Onion in different size of farms group was 126.1qtls/ha. The yield was highest in case of large size farms (127qtls/ha) as compared to medium (126.3qtls/ha) and small size farms (125qtls/has) respectively. Average cost of production per quintal was Rs.496.52qtl/ha. Gross returns per hectare was Rs.113500. Input output Ratio was highest in large size farms (1:1.86) followed by medium size farms (1:1.80) and lowest in small size farms group (1:1.76).

Source	d f	S.S	M.S.S	F. Cal	F. Tab 5%	Result	S .Ed	C.D at 5%
Size group	2	108.779	54.38973	0.800241	6.9427	NS	6.73	18.6421
Particular	2	898928.3	449464.1	6613.002	6.9427	S	6.73	18.6421
Error	4	271.8669	67.96673					
Total	8							

Table 5

In the above Anova table, in due to size group degrees of freedom is 2, sum of squares is 108.77, mean sum of squares is 54.38973, F. Calculated value is 0.800241, F. tabulated value @ 5% is 6.94, result is not significant, standard deviation is 6.73 and critical difference is @ 5% is 18.6421. In due to particulars, degrees of freedom is 2, sum of squares is 898928.3, mean sum of squares is 449464.1, F. Calculated value is 6613.002, F. tabulated value @ 5% is 6.94, result is significant, standard deviation is 6.73 and critical difference is 18.6421. In error, degree of freedom is 4, sum of squares is 271.8669.30 and mean sum of squares is 67.96673.

III. CONCLUSION

The production of onion has increased largely due to productivity increase and increase in the area under the crop. The acreages under onion not influenced by improvement in the productivity but it largely depended on the other factors like rain fall and price of this crop .The cropping pattern was dominated by onion crop followed by groundnut, sugarcane and paddy. Resource use structure in onion was found to be varied among the size groups of holdings. Production cost of onion was varied according to size group of holdings. The per hectare cost of cultivation

of onion was the highest on the small size farms and lowest on large size farms. Among the rental value of land, hired labour, fertilizers, manures, seeds were the major items of cost. The cost of cultivation varied among the size groups of onion growers.

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