RESEARCH ARTICLE Bhartiya Krishi Anusandhan Patrika, Volume 40 Issue 1: 93-98 (March 2025)

An Empirical Study of Economics on Cultivation of Groundnut in Kadapa District Andhra Pradesh

Gali Krishna Chaithanya[1], Sanjoy Das[1], G.V. Rohith[1]

10.18805/BKAP814

ABSTRACT

Background: The present study was conducted on costs and returns involved in cultivation of groundnut in Kadapa district of Andhra Pradesh pertaining to 2020-21.

Methods: The data were elicited from 104 groundnut farmers from 8 villages and 4 mandals of Kadapa district, by using cost concept and returns results were drawn.

Result: The study revealed that total cost of cultivation per hectare incurred by large farmers recorded the lowest of Rs. 61570.97 and it was increased by increase in size of the farms. Similarly, the gross farm income/net income recorded highest among the large farm size farmers and it was declined with the decline of farm size. B-C ratio also recorded highest (1.51) among the large farm size farmers.

Key words: Cost, Groundnut, Net income, Returns, Variable cost.

INTRODUCTION

India is the second-largest groundnut producer in the world. India produces 84 lakh tonnes of it annually on an area of about 85 lakh hectares. In the fiscal year 2021, India was expected to produce 10.25 million metric tonnes of groundnuts (statista.com). Almost thirty three percent of India's groundnut production mainly comes from the Gujarat, followed by Telangana (5%), Rajasthan (21%), Tamil Nadu (14%) and Andhra Pradesh (7%). The State of Gujarat produces around 1190 kg/ha of groundnut, while Tamil Nadu produces a maximum of 1604 kg/ha (Anonymous, 2021-ANGRAU). Karnataka led the states with 1.28 lakh hectares covered, followed by Telangana (0.73 lakh ha), Tamil Nadu (0.48 lakh ha), Odisha (0.44 lakh ha) and Andhra Pradesh (0.35 lakh ha) (Anonymous, 2021-PJTSAU). The leading state in India for groundnut production is Andhra Pradesh. It accounts for 7% of India's total groundnut production. The highest groundnut productivity (3.44 lakh tonnes) and area (4.09 lakh acres) in the state of Andhra Pradesh are found in the Ananthapur district, followed by Kurnool and Chittor districts. Groundnut productivity is highest in the Nellore area, with 4072 kg/ha (Anonymous, 2021-ANGRAU).

Kadapa is one of the most productive districts in the state of Andhra Pradesh for groundnut production. Furthermore, with a productivity of 1754 kg/ha, the Kadapa district produced 0.73 lakh tonnes of groundnuts in 2021. With a 19.1% area share, groundnut production makes up 21.3% of all oilseeds produced in India. The 2020 saw the production of 30.2% of the total and 2021 saw the production of 37.1% (Anonymous, 2021-ANGRAU). Ground-nut cultivation in Kadapa district of Andhra Pradesh is taken up by more farmers and Kadapa is the fourth leading producer of groundnut in the Andhra Pradesh.

[1]Department of Agricultural Economics, School of Agricultural Sciences, Nagaland University, Medziphema-797 106, Nagaland, India.

Corresponding Author: Gali Krishna Chaithanya, Department of Agricultural Economics, School of Agricultural Sciences, Nagaland University, Medziphema-797 106, Nagaland, India.
Email: krishnachaithanya7680@gmail.com

How to cite this article: Chaithanya, G.K., Sanjoy, D. and Rohith, G.V. (2025). An Empirical Study of Economics on Cultivation of Groundnut in Kadapa District Andhra Pradesh. Bhartiya Krishi Anusandhan Patrika. 40(1): 93-98. doi: 10.18805/BKAP814.

Submitted: 01-11-2024 **Accepted:** 17-12-2024 **Online:** 23-01-2025

Therefore, the present investigation was taken up to analyze the costs and returns structure in cultivation of groundnut in Kadapa district of Andhra Pradesh.

METERIALS AND METHODS

The research was conducted in Kadapa district of Andhra Pradesh during 2020-21. Kadapa district was selected purposively for the study as it is one the leading producer of groundnut in Andhra Pradesh with 41882 ha and production of 73461.4 MT in 2020-21. There are 51 mandals in Kadapa district. Out of 51 mandals, 4 mandals were selected purposively namely Duvvuru, Vempalli, Pendlimarri and Pulivendula because of the soil type in this mandals were suitable for the cultivation of groundnut and the area, production and productivity in these mandals are higher when compared to other mandals of Kadapa district. The selection of villages was done purposively based on the availability of groundnut growers. (kadapa.ap.gov.in). From each mandal 2 villages were selected. From Duvvuru-mandal, Duvvuru and Chintakunta villages were selected.

From Vempalle mandal, Vempalle and Alavalapadu villages were selected. From Pendlimarri mandal, Pendlimarri and Vellatur villages were selected. From Pulivendula mandal, Pulivendula and Erraballe villages were selected. A total of 8 villages were selected purposively. From each village, the list of farmers who were growing groundnut for more than 3 years were obtained, from which 13 farmers were randomly selected. A total of 26 respondents from each mandal were selected. Thus, altogether 104 respondents from four mandals were selected. The selected respondents were then categorized into 5 groups namely marginal, small, semi medium, medium and large based on their area of groundnut and it is a standard classification of farmers (kadapa.ap.gov.in).

Cost and return analysis of groundnut

Cost concept

Cost concept used for cost evaluation and to estimate profitability in groundnut production. The following costs were calculated:

Cost A_1 = Value of hired human labor, owned labor, seed, fertilizers, land revenue, depreciation of implements and farm buildings, irrigation charges, interest on working capital, miscellaneous expenses.

Cost A_2 = Cost A_1 + Rental value of leased in land.

Cost B_1 = Cost A_2 + interest on value of owned capital assets (excluding land).

Cost B_2 = Cost B_1 + rental value of owned land.

Cost C_1 = Cost B_1 + imputed value of family labor.

Cost C_2 = Cost B_2 + imputed value of family labor.

Cost C_3 = Cost C_2 + 10 per cent of Cost C_2.

For estimating the returns, the following formulae were used:

Gross income =

Value of farm output (main product and by product)

Farm labor income = Gross Income - Cost B_2

Farm business income =

Gross income - Cost A^1 or Cost A^2 in case of land, leased in farm

Net income = Gross income - Cost C_1 or Cost C_2 or Cost C_3

Intensive income =

Net income + Rental value of owned land + interest on fixed capital.

Benefit cost ratio (B:C ratio) was calculated by dividing the gross farm income by total cost.

RESULTS AND DISCUSSION

Cost and returns structure in cultivation of groundnut

Cost and return analysis evaluate and compares all of costs and returns of the environmental, social and economic positive and negative impacts of the adaptation approaches which are expressed in monetary term based on its general information. A systematic study on the cost incurred on particular farm activity acts as a guide in the short run as well as long run. In the short run, it directs the reallocation of resources, in the long run it acts as guide for the farmers in reformulating the production plans.

Cost of groundnut production

The results laid out in Table 1 shows the cost of groundnut production for different categories of sampled respondents. In marginal farm size category, the total cost for groundnut production was accounted as Rs.70286.07 per ha, out of which total variable cost was Rs.52023.41 and total fixed cost was Rs.18262.66. The highest cost was incurred on rental value of owned land (20.07 per cent). The second highest cost was incurred on cost of seeds (17.43 per cent), followed by hired human labor (12.15 percent), cost of fertilizers (12.13 per cent), cost of manures (6.99 per cent), cost of plant protection (6.59 per cent), owned human labor (6.00 per cent), irrigation charges (5.05 per cent), interest on working capital (4.19 per cent), depreciation (3.50 percent), machinery (3.49 per cent) and lastly interest on fixed capital assets excluding land (2.41 per cent).

In small farm size category, the total cost for groundnut production was accounted as Rs. 67611.34 per ha, out of which total variable cost was Rs.49076.41 and total fixed cost was Rs.18534.93. The highest cost was incurred on rental value of owned land (21.39 per cent), followed by cost of seeds (16.91 per cent), hired human labor (12.18 percent), cost of fertilizers (11.76 per cent), cost of manures (6.89 per cent), cost of plant protection (6.64 per cent), owned human labor (5.83 per cent), irrigation charges (4.92 per cent), interest on working capital (4.11 per cent), depreciation (3.46 per cent), machinery (3.33 per cent) and interest on fixed capital assets excluding land (2.57 per cent).

In semi medium farm size category, the total cost for groundnut production was accounted as Rs.65385.42 per ha, out of which total variable cost was Rs.46583.75 and total fixed cost was Rs.18801.67. The highest cost was incurred on rental value of owned land (22.72 per cent), followed by cost of seeds (16.46 per cent), hired human labor (12.19 per cent), cost of fertilizers (11.56 per cent), cost of manures (6.85 per cent), cost of plant protection (6.51 percent), owned human labor (5.58 per cent), irrigation charges (4.81 per cent), interest on working capital (4.03 per cent), depreciation (3.30 per cent), machinery (3.24 per cent) and interest on fixed capital assets excluding land (2.73 per cent).

In medium farm size category, the total cost for groundnut production was accounted as Rs.62899.4 per ha, out of which total variable cost was Rs.43946.4 and total fixed cost was Rs.18953. The highest cost was incurred on rental value of owned land (24.10 per cent), followed by cost of seeds (16.08 per cent), hired human labor (12.23 percent), cost of fertilizers (11.52 per cent), cost of manures (6.61 per cent), cost of plant protection (6.33 per cent), owned human labor (5.36 per cent), irrigation charges (4.69 per cent), interest on working capital (3.96 per cent),

depreciation (3.15 per cent), machinery (3.09 per cent) and interest on fixed capital assets excluding land (2.89 per cent).

In large farm size category, the total cost for groundnut production was accounted as Rs. 6157.097 per ha, out of which total variable cost was Rs. 42357.57 and total fixed cost was Rs. 19213.6. The highest cost was incurred on rental value of owned land (25.12 per cent), followed by cost of seeds (16.05 per cent), hired human labor (11.94 per cent), cost of fertilizers (11.34 per cent), cost of manures (6.33 per cent), cost of plant protection (6.31 per cent), owned human labor (5.06 per cent), irrigation charges (4.67 per cent), interest on working capital(3.89 per cent), depreciation (3.07 per cent), machinery (3.05 per cent) and inter-est on fixed capital assets excluding land (3.01 per cent).

The overall cost of production for marginal sized farms was Rs. 70286.07 per ha out of which the total variable was accounted for Rs. 52023.41 and total fixed cost was accounted for Rs. 18262.66. Similarly, the overall cost of production for small sized farms was Rs. 67611.34 per ha out of which the total variable cost was accounted for Rs. 49076.41 per ha and total fixed cost was accounted for Rs. 18534.93 per ha. In semi medium size of farm, the overall cost of production was Rs. 65385.42 per ha out of which the total variable cost was Rs. 46583.75 per ha and the total fixed cost was Rs. 18801.67 per ha. In medium size of farm, the overall cost of production was Rs. 62899.4 per ha out of which the total variable cost was Rs. 43946.4 per ha and the total fixed cost was Rs. 18953 per ha. In large size of farm, the overall cost of production was Rs. 61570.97 per ha out of which the total variable cost was Rs. 42357.37 per ha and the total fixed cost was Rs. 19213.6 per ha. The overall cost of groundnut production per ha was

Table 1: Cost of groundnut production for different categories of farm size (Rs/ha).

Particulars	Marginal	Small	Semi-medium	Medium	Large	Overall
A. Variable cost						
i) Labor expenses						
a) Owned	4218.97	3948.38	3651.52	3372.19	3112.45	3660.7
	(6.01)	(5.83)	(5.58)	(5.36)	(5.06)	(5.59)
b) Hired	8540.64	8235.46	7968.12	7694.56	7351.26	7955.84
	(12.15)	(12.18)	(12.19)	(12.23)	(11.94)	(12.49)
ii) Machinery	2450.26	2250.54	2120.76	1946.62	1878.68	2129.37
	(3.49)	(3.33)	(3.24)	(3.09)	(3.05)	(3.25)
iii) Cost of seeds	12248.13	11436.27	10764.49	10112.72	9952.83	10902.89
	(17.45)	(16.91)	(16.46)	(16.08)	(16.05)	(16.64)
iv) Cost of plant protection	4628.61	4492.43	4256.1	3978.39	3895.07	4250.12
	(6.59)	(6.64)	(6.51)	(6.33)	(6.31)	(6.49)
v) Cost of fertilizers	8529.82	7950.28	7560.75	7245.13	6990.91	7657.54
	(12.13)	(11.76)	(11.56)	(11.52)	(11.34)	(11.69)
vi) Cost of manures	4916.26	4656.69	4478.81	4158.72	3898.26	4421.75
	(6.99)	(6.89)	(6.85)	(6.61)	(6.33)	(6.75)
vii) Irrigation charges	3546	3328.45	3146.38	2950.54	2880.32	3170.34
	(5.05)	(4.92)	(4.81)	(4.69)	(4.67)	(4.84)
viii) Interest on working capital	2944.72	2777.91	2636.82	2487.53	2397.59	2647.71
	(4.19)	(4.11)	(4.03)	(3.96)	(3.89)	(4.04)
Total variable cost	52023.41	49076.41	46583.75	43946.4	42357.37	6776.27
	(74.02)	(72.59)	(71.24)	(69.87)	(68.79)	4 (71.38)
B. Fixed cost						
i) Depreciation	2460.98	2340.04	2160.25	1980.16	1890.34	2166.35
	(3.50)	(3.46)	(3.30)	(3.15)	(3.07)	(3.31)
ii) Land revenue	0	0	0	0	0	0
iii) Rental value of owned land	14108.65	14459.72	14858.41	15154.32	15467.2	14809.66
	(20.07)	(21.39)	(22.72)	(24.10)	(25.12)	(22.60)
iv) Interest on fixed capital assets excluding land	1693.03	1735.17	1783.01	1818.52	1856.06	1777.16
	(2.41)	(2.57)	(2.73)	(2.89)	(3.01)	(2.71)
Total fixed cost	18262.66	18534.93	18801.67	18953	19213.6	18753.18
	(25.98)	(27.41)	(28.76)	(30.13)	(31.21)	(28.62)
Total cost	70286.07	67611.34	65385.42	62899.4	61570.97	65529.45

(Fig in parentheses indicate percent to total).

Rs. 65529.45 per ha out of which the total variable cost was Rs. 46776.27 per ha and the total fixed cost was accounted for Rs. 18573.18 per ha.

Similar findings were obtained by Choudhary *et al.* (2017) in a study on production and marketing of groundnut in Porbandar district of Gujarat and revealed that total cost incurred on rental value of land for small farm was 20.36 per cent, for medium farm 19.15 per cent and for large farms 20.81 per cent. Naidu *et al.* (2019) also reported that for small, medium and large farms the rental value of land was high *i.e.*, Rs. 10000 for all three categories in Andhra Pradesh. Similar outcomes also reported by Perumal (2000) and Rajput *et al.* (2000).

Cost of groundnut production by different categories of cost (Rs)

Farm management cost was worked out for different categories of sampled farms which is shown in Table 2 Cost A_1, Cost A_2, Cost B_1, Cost B_2, Cost C_1, Cost C_2 and Cost C_3 were worked out.

Cost A_1

All the actual expenses incurred by the farmer comprise Cost A_1. In marginal farm size category, the Cost A_1 was Rs. 54484.39. In small farm size category, Cost A_1 was Rs. 51416.45. In semi medium farm size category, the Cost A_1 was Rs. 48744. In medium farm size category, the Cost A_1 was Rs. 45926.56. In large farm size category, the Cost A_1 was Rs. 44247.71 and an overall farm was estimated as Rs. 48942.62.

Cost A_2

Cost A_2 was calculated by summing Cost A_1 and the rent paid for leased in land. It was estimated to be same as Cost A_1 because all the respondents' practice farming in their own land and hence cost incurred for leased in land was zero.

Cost B_1

Cost B_1 was calculated by Cost A_1 and the interest on value of capital assets (excluding land). In the marginal farm size category Cost B_1 was Rs. 56177.42. In small farm size category was Cost B_1 was Rs. 53151.62. In semi medium category Cost B_1 was Rs. 50527.01. In medium farm size category Cost B_1 was Rs. 47745.08. In large size farm category Cost B_1 was Rs 46103.77 and overall farms was estimated as Rs. 50227.58.

Cost B_2

Cost B_2 was calculated by Cost B_1 and the rental value of owned land. In the marginal farm size category Cost B_2 was Rs. 70286.07 In small farm size category Cost B_2 was Rs. 67611.34. In semi medium category Cost B_2 was Rs. 65385.42. In medium farm size category Cost B_2 was Rs. 62899.4. In large size farm category Cost B_2 was Rs. 61570.97 and overall farms was estimated as Rs. 65037.24.

Cost C_1

Cost C_1 was calculated by Cost B_1 and the addition of imputed value of family labor. In the marginal farm size category Cost C_1 was Rs. 60396.39. In small farm size category Cost C_1 was Rs. 57100. In semi medium farm size category Cost C_1 was Rs. 54178.53. In medium size farm category Cost C_1 was Rs. 51117.27. In large farm size category Cost C_1 was Rs. 49216.19 and overall farms was estimated as Rs. 5388.29.

Cost C_2

Cost C_2 was calculated by Cost B_2 and the addition of imputed value of family labor. In the marginal farm size category Cost C_2 was Rs. 74505.04. In small farm size category Cost C_2 was Rs. 71559.72. In semi medium farm size category Cost C_2 was Rs. 69036.94. In medium size farm category Cost C2 was Rs. 66271.59. In large farm size category Cost C_2 was Rs. 64683.42 and overall farms was estimated as Rs. 68697.95.

Cost C_3

Cost C_3 was calculated by Cost C_2 and the addition of 10% of Cost C_2. In the marginal farm size category Cost C_3 was Rs. 81955.54. In small farm size category Cost C_3 was Rs. 78715.63. In semi medium farm size category Cost C_3 was Rs. 75940.63. In medium size farm category Cost C_3 was Rs. 72898.75. In large farm size category Cost C_3 was R.s 71151.76 and overall farms was estimated as Rs. 75567.73.

Similar findings were obtained by Naidu *et al.* (2019) in Ananthapur district of Andhra Pradesh and revealed that small farm size group spent more on all times, showing decreased use of all components with increase in farm size. Similar results reported by Sawant *et al.* (2020).

Farm efficiency measures

Farm efficiency measures help in identifying the farm enterprises performing against farm expectations and thus

Table 2: Cost of groundnut production by different categories of cost (Rs/ha).

Cost	Marginal	Small	Semi-medium	Medium	Large	Overall
Cost A_1	54484	51416	48744	45926	44247	48942
Cost A_2	54484	51416	48744	45926	44247	48942
Cost B_1	56177	53151	50527	47745	46103	50227
Cost B_2	70286	67611	65385	62899	61570	65037
Cost C_1	60396	57100	54178	51117	49216	53888
Cost C_2	74505	71559	69036	66271	64683	68697
Cost C_3	81955	78715	75940	72898	71151	75567

Table 3: Returns from groundnut production for different categories of farms (Rs/ha).

Particulars	Marginal	Small	Semi-medium	Medium	Large	Overall
Gross income	84651	86758	89150	90925	92803	88857
Farm labor income	14365	19146	23765	28026	31232	23820
Net income	10146	15198	20113	24654	28119	20160
Intensive income	25948	31393	36754	41627	45443	36746
Farm business income	30167	35341	40406	44999	48555	39915
Benefit-cost ratio	1.20	1.28	1.36	1.45	1.51	1.36

helps in taking positive measures to overcome and strengthen the profitability of enterprise.

To know the efficiency of groundnut production average gross income, farm labor income, farm business income, net income, intensive income was calculated for the five categories of the respondents. Accordingly, benefit cost ratios were also obtained. Table 3 shows the results obtained from return analysis of groundnut for different categories.

For marginal farm category, the gross income was estimated as Rs. 84651.9. The farm labor income was estimated as Rs. 14365.83 and the farm business income was estimated as Rs 30167.51. The net income was estimated as Rs. 10146.86 and intensive income was estimated as Rs. 25948.54. The benefit-cost ratio was estimated as 1.20.

For small farm category, the gross income was estimated as Rs. 86758.3. The farm labor income was estimated as Rs. 19146.96 and the farm business income was estimated as Rs. 35341.85. The net income was esti-mated as Rs. 15158.58 and intensive income was estimated as Rs. 31393.47. The benefit-cost ratio was estimated as 1.28.

For semi medium farm category, the gross income was estimated as Rs. 89150.43. The farm labor income was estimated as Rs. 23765.01 and the farm business income was estimated as Rs. 40406.43. The net income was estimated as Rs. 20113.49 and intensive income was estimated as Rs. 36754.91. The benefit-cost ratio was estimated as 1.36.

For medium farm category, the gross income was estimated as Rs. 90925.9. The farm labor income was estimated as Rs. 28026.5 and the farm business income was estimated as Rs. 44999.34. The net income was estimated as Rs. 24654.31 and intensive income was estimated as Rs. 41627.15. The benefit-cost ratio was estimated at 1.45.

For large farm category, the gross income was estimated as Rs. 92803.21. The farm labor income was estimated as Rs. 31232.24 and the farm business income was estimated as Rs. 48555.5. The net income was estimated as Rs. 28119.79 and intensive income was estimated as Rs. 45443.05. The benefit-cost ratio was estimated as 1.51.

On an average basis, gross income was estimated as Rs. 88857.95. The overall farm labor income was estimated as Rs. 23820.7 and the farm business income was estimated as Rs. 39915.33. The overall net income was estimated as Rs. 20160 and intensive income was estimated to be Rs. 36746.82. The overall benefit cost ratio was estimated as 1.36.

The benefit cost ratio for marginal and small farms were comparatively lesser *i.e*. 1.20 and 1.28 when compared to semi medium, medium and large farms. The benefit cost ratio for semi medium farm was 1.36. The benefit cost ratio for medium farm size was 1.45 and for the large farm size it was 1.51. Since the benefit cost ratio of all the five categories shows more than 1, therefore, it can be said that the respondents are benefitted from groundnut production.

Similar finding was obtained by Naidu *et al.* (2019) for groundnut cultivators in Andhra Pradesh where benefit cost ratio for small farm was 1.31 which was lesser than medium and large farms *i.e.* 1.40 and 1.51.

CONCLUSION

The total cost of groundnut production was Rs. 65529.45 per ha, out of which the total variable cost was accounted for Rs. 46776.27 per ha and total fixed cost was accounted for Rs. 18573.18 per ha. The overall gross income was Rs. 88857.95, farm labor income was Rs. 23280.7, net income was Rs. 20160, intensive income was Rs. 36746.82, farm business income was Rs. 39915.33 and the overall benefit cost ratio was 1.36. More farmers should be encouraged for groundnut cultivation and existing farmers to increase the cultivable area by providing necessary knowledge about groundnut cultivation as the study area is most suitable for groundnut cultivation. The funding agencies should promote the farmers by providing all the necessary inputs to increase their groundnut production and ensuring the farmers in better returns by promoting the product. Aware-ness should be conducted on the availability of subsidies by the state government for groundnut cultivators in the State.

ACKNOWLEDGEMENT

The present study was supported by School of Agricultural Sciences, Nagaland University, Medziphema Campus, Medziphema, Nagaland The authors acknowledge the groundnut farmers of Kadapa district-Andhra Pradesh, for their support throughout the survey.

Disclaimers

The views and conclusions expressed in this article are solely those of the authors and do not necessarily represent the views of their affiliated institutions. The authors are

responsible for the accuracy and completeness of the information provided, but do not accept any liability for any direct or indirect losses resulting from the use of this content.

Conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this article. No funding or sponsorship influenced the design of the study, data collection, analysis, decision to publish, or preparation of the manuscript.

REFERENCES

Anonymous. (2021). ANGRAU Groundnut Outlook Report, January-May 2021.

Anonymous. (2021). PJTSAU Groundnut Outlook Report, January 2021.

Choudary, R., Rathore, D.S. and Sharma, A. (2017). An Economic analysis of Production and Marketing of Groundnut in Porbandar District of Gujarat, Economic affairs. 62(3): 547-553.

Naidu, C.B., Kumar, S., Rao, A.K. (2019). An Economic analysis of Production of Groundnut in Ananthapur district of Andhra Pradesh, International Journal of Innovative Science and Research Technology. 4(5): 2456-2165.

Perumal, M. (2000). Production and marketing of groundnut in Trichirapalli district (Tamil Nadu). Journal Agricultural Marketing. 43(3): 9-11.

Rajput, A.M. and Varma, A.R (2000). Economic analysis of production of groundnut in Khargone district of Madhya Pradesh. Indian Journal of Agricultural Marketing. 14(1): 65-72.

Sawant, S.L., Shelke, R.D. and Jadhav, S. L. (2020). Cost, Returns and Profitability of *Kharif* Groundnut in Solapur district of Maharashtra, India. International Journal of Current Microbiology and Applied Sciences. 9(11): 2481-2486.