

Economics of Groundnut Crop in Raigarh District of Chhattisgarh State

Devendra Kumar Kurrey^{1*} and Bhag Chandra Jain²

M.Sc. Ag. Student¹ and Professor²

Department of Agriculture Economics,

Indira Gandhi Agriculture University, Collage of Agriculture, Raipur - 492012, Chhattisgarh

*Corresponding Author E-mail: devendrakurrey95@gmail.com

Received: 13.03.2018 | Revised: 19.04.2018 | Accepted: 24.04.2018

ABSTRACT

Groundnut is grown on 26.4 million hectare worldwide, with a total production of 37.1 million metric tons and an average productivity of 1.4 metric tons /ha. Developing countries constitute 97% of the global area and 94% of the global production of this crop. Chhattisgarh state consist 27 districts. Out of which Raigarh district contributes 24.33 percent in area and 23.30 percent production of groundnut crop which is highest in state. The average cost of cultivation on groundnut production is about Rs. 18276.43. The cost of purchase of seed is about 1877.45 for a hectare which is about 10.27 percentage of total cost of cultivation. Manure and fertilizer application are also costly operation in the groundnut production. The expenditure incurred on this operation is about Rs.2620.43 per hectare (14.33). The expenditure incurred on field preparation is estimated as about Rs. 1676.99 (9.17 per cent) for groundnut crop. that the average cost of cultivation is worked out as Rs.18276.43 per hectare which ranges from about Rs.15216.19 per hectare at marginal farms to Rs.19400.32 per hectare at large farms. The average yield of groundnut is observed as 11.43 quintals in the study area while the price of main product is Rs.3633.30 per quintal. Per hectare net return depends on the per hectare yield of this crop as the price realized by farmers is not much varying across different categories. The net returns varied from Rs.16321.06 per hectare at marginal farms, Rs.22968.53 per hectare at small farms, Rs. 26259.58 per hectare at medium farms to Rs.27667.8 per hectare at large farms along with an average of Rs.23252.26 per hectare. The input-output ratio is observed as 1:2.07 at marginal farms to 1:2.42 at large farms.

Key words: Groundnut, Hectare, Estimate, Cost, Price, Farms, Oilseeds, Expenditure.

INTRODUCTION

Groundnut (*Arachis hypogaea* L.) is the 6th most important oil seed crop in the world. It contains 48-50% oil, 26-28% protein and 11-27 % carbohydrate, minerals and vitamin¹. Groundnut an important oil seed crop provides significant sources of cash through the sales of

seed, cakes, oil and haulms. Groundnut plays an important role in the diets of rural populations.

Groundnut pod yields from farmer's field are low, averaging about 800 kg per ha, less than one-third the potential yield of 3000 kg per ha².

Cite this article: Kurrey, D.K. and Jain, B.C., Economics of Groundnut Crop in Raigarh District of Chhattisgarh State., *Int. J. Pure App. Biosci.* 6(2): 1170-1174 (2018). doi: <http://dx.doi.org/10.18782/2320-7051.6476>

Groundnut is grown on 26.4 million hectare worldwide, with a total production of 37.1 million metric tons and an average productivity of 1.4 metric tons /ha. Developing countries constitute 97% of the global area and 94% of the global production of this crop (FAO, 2011). Groundnut has contributed immensely to the development of the Nigerian economy. From 1956 to 1967, groundnut products including cake and oil accounted for about 70% of total Nigeria export earnings, making it the country's most valuable single export crop ahead of other cash crops like cotton, oil palm, cocoa and rubber³. Presently, it provides significant sources of cash through the sales of seeds, cakes, oil and haulms⁴. The production of groundnut is concentrated in Asia and Africa, where the crop is grown mostly by smallholder farmers under rain-fed conditions with limited inputs). There has been a drastic change in the oilseeds scenario of the country during the last 25 years. India changed from net importer status in the 1980s to a net exporter status during 1989–90, which was

again reversed later during 1997–98 when the country had to spend huge foreign exchange to meet the domestic needs of vegetable oils.

Gap between export earnings and import costs started narrowing down during the last 10 years, and during 2007–08, the oilseeds sector became a net earner of foreign exchange, which however, could not be sustained for long. During 2010–11, the country imported about 9.2 Mt of vegetable oils costing around Rs 38,000 crores, whereas export earnings were a little less than just Rs 21,000 crores. The country recorded the highest ever production of 32.479 million tonnes oilseeds during 2010-11 with record productivity level of 1193 kg/ha due to favorable weather conditions and support given by the Govt. of India to the Oilseeds production/developmental programmes and policies. Despite impressive progress of vegetable oil sector in the last two decades, the import during the last 7-8 years has been continuously rising.

SOURCES OF VEGETABLE OILS

Primary sources (9 cultivated seasonal Oilseed crops)

Edible group	Groundnut, rapeseed and mustard (toria, mustard, sarson), soybean, sunflower, sesame, safflower and niger.
Non-edible group	Castor and linseed.

Secondary sources:

Edible group	Seasonal crops :Cottonseed, ricebran, maize germ, watermelon Plantation crops : Coconut, red oil palm * Tree borne oilseeds : Sal seed, mahua, mango-kernel, cheura/phulwara, kokum, dhupa, Simarouba*
Non-edible group	Seasonal crops : Mesta seed, tobacco seed Plantation crops : Rubber – seed Other tree borne oilseeds : Neem, karanj, pilu or khakan, palash, nahor, undi, pisa, wild-apricot, rattan-jyot, maroti, jojoba*, etc.

* Exotics introduced in India.

Table 1: The Plan wise Area, Production and Productivity of Oilseed crops are given as under

Plan	Year	Area (lakh ha)	Production (lakh tonnes)	Yield (kg/ha)	% Production change compared to previous plan
First Plan	1951-56	67.65	19.18	284	-
Second Plan	1956-61	69.53	19.84	285	(+) 3.44
Third Plan	1961-66	81.53	22.80	280	(+) 14.92
Annual Plan	1966-69	87.15	24.37	280	(+) 6.89
Fourth Plan	1969-74	136.06	63.95	470	(+) 162.41
Fifth Plan	1974-79	171.15	95.90	560	(+) 49.97
Annual Plan	1979-80	170.42	87.39	513	(-) 8.87
Sixth Plan	1980-85	183.76	114.17	621	(+) 30.64
Seventh Plan	1985-90	204.95	139.39	680	(+) 22.09
Annual Plan	1990-91	250.17	186.05	744	(+) 33.47
Eighth Plan	1992-97	259.47	218.86	843	(+) 17.63
Ninth Plan	1997-2002	244.09	211.79	868	(-) 3.23
Tenth Plan	2002-2007	254.10	233.29	918	(+) 10.15
Eleventh Plan*	2007-12	267.75	289.69	1082	(+) 24.18

* The figures for 2011-12 are as per fourth advance estimates by Dept. of Economics and Statistics, GOI, New Delhi.

MATERIAL AND METHODS

Sampling procedures: Chhattisgarh state consist 27 districts. Out of which Raigarh district contributes 24.33 percent in area and 23.30 percent production of groundnut crop which is highest in state. Therefore Raigarh district is selected purposively. The district has 9 block Out of these three block had selected purposively as these has highest area and production according to crop namely Baramkela (1608 ha), lailunga (1333 ha) and pusaur (1130 ha). out of which the groundnut crop being grown in about 100 villages in each block. Out of these 100 villages form each block a sample of two percent villages is considered purposively for the study purpose. Therefore, six villages are selected randomly for this study purpose. In these six villages total population is about 2845 and in total population about 746 (26.23 per cent) population being grown groundnut crop. Out of which 90 farmers were selected by size to proportionate method.

Selection of data: The primary data is collected from the oilseed producers through personal interview method with the help of well prepare scheduled and questionnaire for the production and marketing year 2012-13. The primary data included information regarding the general information, land utilization pattern, source of irrigation, cropping pattern, production, productivity and cost of cultivation. Cost of cultivation included variable and fixed cost. The variable cost consists field preparation, sowing, fertilizer and manure, inter-culture, plant protection, irrigation, harvesting and threshing while the land revenue and interest on working capital are considered as fixed cost.

Cost of production: To estimate the cost of production groundnut crop whole cost is divided into two heads i.e. variable cost and

fixed cost. The various cost components like human labour, bullock and machine power, manure and fertilizer, seed, irrigation, plant protection material and chemicals are taken into consideration in order to work out the per hectare variable cost of cultivation.

The interest on working capital involved in the production is also computed at the prevailing rate of interest. The land revenue paid by farmers is taken as fixed cost for this purpose. The cost of production is estimated by using simple mathematical calculation.

RESULTS AND DISCUSSIONS

Cost of cultivation of groundnut crop:

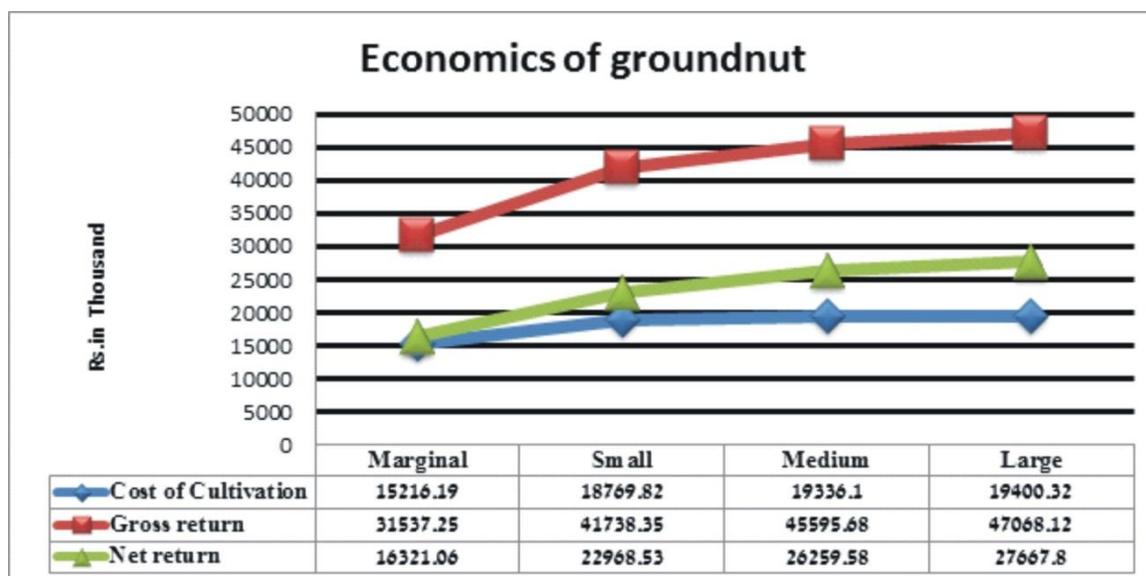
The cost of cultivation of groundnut production is presented in Table.2 Though, all the operations are necessary in the groundnut production, the cost incurred on these operations is relatively less as compared to paddy production. It is clear from the figures that manure and fertilizer, sowing, intercultural operation, harvesting, threshing and winnowing are some labour intensive operations. The average cost of cultivation in groundnut production is about Rs. 18276.43. the cost of purchase of seed is about 1877.45 for a hectare which is about 10.27 percentage of total cost of cultivation. Manure and fertilizer application are also costly operation in the groundnut production. The expenditure incurred on this operation is about Rs.2620.43 per hectare (14.33). The expenditure incurred on field preparation is estimated as about Rs. 1676.99 (9.17 per cent) for groundnut crop. The expenditure on groundnut cultivation is about Rs.15216.19 incurred by marginal farms. Similarly Rs. 18769.82 cost incurred in small farms. In the medium farms and large farms the cost of cultivations incurred about Rs.19336.10 and 19400.32 respectively.

Costs and returns of groundnut crop:**Table 2: Costs and returns of groundnut cultivation at different farm level**

S.No.	Particulars	Marginal	Small	Medium	Large	Average
1.	Cost of cultivation (Rs./ha)	15216.19	18769.82	19336.1	19400.32	18276.43
2.	Production (Qtl/ha)					
	a. Main-product	10.78	10.83	11.84	12.27	11.43
	b. By-product	15.35	15.75	16.58	17.3	16.24
3.	Cost of production (Rs./qtl)					
	a. Main-product	1411.52	1733.13	1633.11	1581.11	1598.98
4.	Price (Rs./qtl)					
	a. Main-product	2925.53	3853.95	3850.98	3836.03	3633.30
	b. By-product	35.00	35.00	35.00	35.00	35.00
5.	Return (Rs./ha)					
	a. Main-product	31000	41187.1	45015.38	46638.67	40960.29
	b. By-product	537.25	551.25	580.3	429.45	568.4
6.	Gross return (Rs./ha)	31537.25	41738.35	45595.68	47068.12	41528.69
7.	Net return (Rs./ha)	16321.06	22968.53	26259.58	27667.8	23252.26
8.	Net return (Rs./qtl)	1514.031	2120.825	2217.87	2254.914	2034.318
9.	Input-output Ratio	1:2.07	1:2.22	1:2.35	1:2.42	1:2.27

The economics of groundnut production is presented in Table 2 and Fig.1. It is clear from the figures that the average cost of cultivation is worked out as Rs.18276.43 per hectare which ranges from about Rs.15216.19 per hectare at marginal farms to Rs.19400.32 per hectare at large farms. The per quintal cost of production varied from Rs.1581.11 at large farms, Rs.1633.11 at medium farms, Rs.1733.13 at small farms to Rs.1411.52 at marginal farms. It is interesting to note here that where as the cost of cultivation is increasing as the size of holding increased, the per quintal cost of production showing just reverse trend mainly due to relatively less

yield at smaller farms. The average yield of groundnut is observed as 11.43 quintals in the study area while the price of main product is Rs.3633.30 per quintal. Per hectare net return depends on the per hectare yield of this crop as the price realized by farmers is not much varying across different categories. The net returns varied from Rs.16321.06 per hectare at marginal farms, Rs.22968.53 per hectare at small farms, Rs. 26259.58 per hectare at medium farms to Rs.27667.8 per hectare at large farms along with an average of Rs.23252.26 per hectare. The input-output ratio is observed as 1:2.07 at marginal farms to 1:2.42 at large farms.

**Fig. 1: Economics of groundnut crop cultivation**

REFERENCES

1. Mukhtar, A.A., Performance of three groundnut (*Arachis hypogaea* L.) varieties as affected by basin size and plant population at Kadawa. Ph.D. Dissertation Submitted to post graduate school, Ahmadu Bello University, Zaria pp 173 (2009).
2. Ibrahim Usman, Socio-Economic Factors Affecting Groundnut Production In Sabongari Local Government of Kaduna State, Nigeria, *International Journal of Food and Agricultural Economics*, **1(1)**: 41-48 (2011).
3. Harkness, C. K., Kolawale, B. and Yayock, J.Y. Groundnut Research in Nigeria Samaru conference paper 7-19 pp (1976).
4. Olorunju, P.E., Alabi, O. & Tanimu, B., Priorities and strategies for groundnut research in Nigeria. Paper presented at the national workshop on groundnut rehabilitation in Nigeria, Kano 11-12 May, 1999 15pp (1999).