



Research Article

## Economics of production and marketing of groundnut in block Behandar in district Hardoi (U.P.)

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**SUMMARY :** The study was conducted by survey method. The primary data from the respondents were collected by direct personal interview on well prepared schedules. The farmers were grouped into three size groups of 0-1, 1-2 and 2 hectares and above size groups. Then 50 farmers were selected randomly. The average investment of input cost in the production of groundnut was worked out at Rs.35359 per hectare. It varied from Rs.30651 on marginal farms of below one-hectare size group to Rs.36424 on 1-2 hectare size group. The human labour accounted for the higher share being 35.21 per cent followed by seed 19.24 per cent manure and fertilizer 6.21 per cent and irrigation 6.17 per cent. The average yield of ground nut on the sample farms was 17.17 quintals per hectare varying from 14.5 quintals below 1 hectare size group to 22 quintal per hectare on 2 hectare and above size group. It gave an average gross income of Rs.51510 per hectare, which varied from Rs.43500 to Rs.66000 on the respective size groups. The cost and return analysis resulted in an average net income of Rs.16151 per hectare. It varied from Rs.12849 per hectare on marginal farm of below 1 hectare size group to Rs.16076 on 1-2 hectare size and Rs.22637 per hectare on 2 hectares and above size group. The input-output ratio in groundnut cultivation came to 1:1.41 to 1:1.52 on different size group of farms. The total market surplus, about 28.22 per cent was sold through channel I, while remaining 71.77 per cent throughout channel II. The producers share in consumer price came a little higher being 87.10 per cent in channel I (regulated market) in comparison to channel II where it was 85.31 per cent total marketing cost being Rs.151 per quintal in channel I as compared to Rs.87 in channel II.

**KEY WORDS :**

Cost and returns,  
Marketing of  
groundnut, Economics  
of production

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### BACKGROUND AND OBJECTIVES

India occupies a prominent position both in regard to acreage and production of oil seeds, next to U.S.A, China and Brazil. India is the largest producer of groundnut, sesamum and niger, the second largest producer of castor and sunflower and third largest of rapeseed and mustered. Besides these, soybean and sunflower are also gradually gaining importance. Groundnut is one of the most important *Kharif* oilseed crops and occupies a significant position in the country's agricultural economy. As regard its production in the world map, India ranks second in both area and production of groundnut but average yield is poor. Groundnut is the premier oilseed crop of the country and forms a major source of edible oil and the principal raw material of vanaspati industry.

According to an estimate, about 80 per cent of the country's production goes to oil industry, about 10-12 per cent in seed and 6-8 per cent used as roasted nuts. It contains about 45-50 per cent edible oil.

In U.P. groundnut cultivation occupies the most important place on account of its cultivation over most neglected area of light soils. At present it has established itself as the most important dry land crop in U.P. This is the most remunerative cash crop of *Kharif* season particularly in the areas of poor sandy soils, where the crop can be grown more profitably. In U.P. district of Hardoi the groundnut is sown on a large scale. Groundnut being the most important crop of the state both in production and area, has its important place in marketing process. The study of marketing of

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groundnut has its own importance, both to growers and consumers. To the producers, it provides knowledge of the various processes and channels through which the produce reaches ultimately to the consumers. The study of groundnut marketing is essential to know the cost incurred in different processes of its marketing (Perumal, 2000). The objectives of the study were as follows:

- To work out the economics of production of groundnut on the sample farms of different sizes.
- To examine the marketing of groundnut in respect of marketing channel, marketing cost, producer's share in consumer's price in this study area.
- To find out the constraint in the production and marketing of groundnut and suggest suitable measures.

## RESOURCES AND METHODS

### Sampling technique :

A two stage stratified random sampling technique was used to select the block, villages and respondents (groundnut growers) from district Hardoi. One block Behendar was selected purposively because of having the highest area under groundnut cultivation. The list of all the villages of Behander block, Hardoi was prepared out of this list, five villages were randomly selected (Table A). A list of all the groundnut growers for each of the selected villages was prepared along with the cultivated area. Then a random sample of 50 farmers was drawn from the universe of the five villages under 3 size groups of below 0-1, 1-2 and 2 and above hectares.

### Selection of market:

Generally marketing of groundnut was limited up to markets due to small production. However, some of the big of the farmers were also found to sale their produce in near by regular markets. So, only those markets where the producers of the selected villages used to sale their produce were considered for the present inquiry. For the purpose, one local and one regulated mandi where the selected farmers used to sale their produce of groundnut, were selected.

### Selection of the producers:

For working out the producer's share, price's, marketing

cost and marketing margins in the two selected markets, 6 producers who brought their produce in the market were selected irrespective of their size group of this, total 3 were from regulated and 3 from unregulated local market.

### Selection of market functionaries:

All the important marketing function of two selected markets were interviewed in respect to the marketing of crop. The marketing functionaries, which interviewed, are being given as below:

- Commission agents
- Brokers (Dalal)
- Weighing men (Taula)
- Palledars

### Collection of data and method of enquiry:

The data on production and marketing aspects were collected on well prepared schedules and questionnaires prepared in advance by survey method by personal interview with the requirements for the present study. Several visits were made to collect the information. The help of village leaders, Block staff and marketing staff was taken. The secondary information were compiled from the published block and marketing office head quarters. The study was undertaken for the Agriculture year 2011-2012.

### Analytical tools :

Simple tabular analysis was adopted to interfere the finding of the present enquiry. Besides, appropriate analytical tools were used as discussed below:

*Average:*

The average given in the present study related to the weight:

$$\text{Weighted average} = \frac{W_1X_1 + W_2X_2 + W_3X_3 + \dots + W_nX_n}{W_1 + W_2 + W_3 + \dots + W_n}$$

$$\frac{\sum_i^n W_i X_i}{\sum_i^n W_i}$$

where,

X = Value of item

Villages	Size group (in hectare)			Total
	Marginal	Small	Large	
	0-1	1-2	2 and above	
Hasnapur	4	3	2	9
Subhankhera	4	4	3	11
Sendhwal	3	2	2	7
Ashahi	4	4	3	11
Behasar	5	4	3	12
Total	20	17	13	50

W = Weight of X

*Producer's share in consumer's price:*

The producer's share in consumer's price has been calculated by formula:

$$P = \frac{(C-M)}{C} \times 100$$

where,

P = Producer's share in the consumer's price.

C = Consumer's price.

M = Marketing costs.

## OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation have been discussed in the following sub heads:

### Total cost and its item-wise break-up :

Table 1 reveals that the average cost of cultivation of groundnut came to Rs. 35359 per hectare. It was the highest being Rs. 43343 per hectare on big farms of 2 hectares and above and the lower being Rs. 30651 per hectare on the marginal farms of below 1 hectare size group. The highest cost of cultivation on big farms was due to more use of manure and fertilizers, human labour and improved seeds as compared to marginal farms. The breakup of cost on different items showed

that human labour accounted for the highest cost being 35.21 per cent followed by seed 19.24 percent, and 6.21 per cent on manure and fertilizers to total cost of cultivation.

As regard cost on input items, on different size group of farms, an increasing trend in use of human labour, irrigation was observed manure and fertilizers and plant protection with the increase in farm size. The higher use of these inputs on big farms was due to their better economic conditions in cultivation of groundnut crop.

### Yield and cost of production:

Table 2 portrays that groundnut gave an average yield (main product) 17.17 quintals per hectare. The yield came higher on large farms because of more use of input and better management as compared to marginal and small farms. The average value of output came to Rs. 51510 per hectare. As regards the average cost of production per quintal, it was worked out at Rs. 2059.

### Cost and returns:

Table 3 reveals that groundnut, on an average gave a net income of Rs. 16151 per hectare, which was comparatively higher on large farms due to higher yield. The average of family labour income and farms business income was Rs.22702 and Rs. 30922 per hectare, respectively. The average input-output ratio came to 1:1.45. It was slightly higher on large

**Table 1 : Total cost and its percentage, item-wise break-up in groundnut cultivation**

Item of cost	Size group (in hectare)			Average
	Marginal 0-1	Small 1-2	Large 2 and above	
Family human labour	7750 (25.35)	6625 (18.18)	4250 (9.81)	6551 (18.52)
Hired human labour	3500 (11.41)	5875 (16.13)	10750 (24.80)	5902 (16.69)
Total human labour	11250 (36.76)	12500 (34.32)	15000 (34.61)	12453 (35.21)
Tractor power	1800 (5.87)	2100 (5.76)	2500 (5.76)	2056 (5.81)
Seed	5400 (17.61)	7200 (19.77)	9000 (20.76)	6804 (19.24)
Manure and fertilizers	1300 (4.24)	2450 (6.73)	3600 (8.31)	2197 (6.21)
Irrigation	1650 (5.38)	2500 (6.86)	2750 (6.34)	2181 (6.17)
Plant protection	450 (1.45)	600 (1.65)	1050 (2.42)	633 (1.79)
Rental value of land	8000 (26.10)	8000 (21.96)	8000 (18.46)	8000 (22.63)
Interest on fixed capital	220 (0.71)	220 (0.60)	220 (0.50)	220 (0.62)
Interest on working capital	581 (1.89)	854 (2.34)	1233 (2.82)	815 (2.30)
Total input cost	30651 (100.0)	36424 (100.0)	43343 (100.0)	35359 (100.0)

Figures in parentheses denote percentage to the respective total

**Table 2 : Per hectare yield and cost of production per quintal for groundnut**

Particulars	Size group (in hectare)			Average
	0-1 Marginal	1-2 Small	2& above Large	
Yield (in quintal per hectare) Main product	14.5	17.5	22	17.17
Rate of groundnut (in Rs. per quintal) Main product	3000	3000	3000	3000
Value of output (in Rs.) Main product	43500	52500	66000	51510
Cost of production per quintal (in Rs.)	2113	2081	1970	2059

**Table 3 : Cost and returns of groundnut (in Rs. per hectare)**

Particulars	Size group (in hectare)			Average
	Marginal 0-1	Small 1-2	Large 2 and above	
Input	30651	36424	43343	35350
Gross income	43500	52500	6000	51510
Net income	12849	16076	22637	16151
Family labour income	20509	22701	26907	22702
Farm business income	28819	30921	35127	30922
Input-output ratio	1:1:41	1:1:44	1:1:52	1:1:45

sized farms. Singh and Verma (1978) also made investigation on economics of production, marketing and processing of groundnut tin district. Unnao, U.P. Sarup, and Rani (1981) studied on an economic analysis lags in groundnut cultivation and Patnaik and Uma Shankar (1985) observed on economics of performance of groundnut marketing channel in Andhra Pradesh.

#### Break-up of input cost according to cost-concept:

Table 4 reveals that on an average Cost A, B and C were worked out to Rs. 20588, Rs.28808, Rs.35359 per hectare respectively. These costs showed an increasing trend with the increase in size of farms. It was due to higher investment capacity of the big farmers.

#### Marketing of groundnut:

##### Marketing channel :

The following main marketing channels were indentified for marketing of groundnut in the study area.

##### Channels I :

Producer – Wholesaler + Miller – Wholeseller II – Retailer consumer (regulated market)

The channel was found common with the farmers who sold their product through regulated marketing system. About

28.22 per cent of the marketable surplus was sold through regulated market (Table 5).

##### Channel II :

Producer – Village trader – Wholeseller – Retailer – consumer (unregulated markets).

This channel was found to be more common with the small and marginal farmer in the marketing of groundnut in the study area. About 71.77 per cent of the marketable surplus was sold through this channel (Table 5).

#### Flow on produce through different channels:

The quantities of groundnut sold through two different channels and the prices received have been given in Table 5

It is evident from Table 5 that the average price received by the producers/farmers on per quintal basis was different in various marketing channels. The marketable surplus marketed through different channels also showed a great variation. Out of the total marketable surplus, 28.22 per cent age was sold through channels I and 71.77 per cent through channels II. As regard price received by the farmers, it was higher being Rs.3000 per quintal in channels I (sold through regulated markets) in comparison to Rs. 2800 per quintal in channel II (unregulated market).

**Table 4 : Cost-concept-wise breakup of input in different size group of farms (in rupees per hectare)**

Particulars	Size group (in hectare)			Average
	0-1 Marginal	1-2 Small	2 and above large	
Cost A	14681	21579	30872	20588
Cost B	22901	29799	39093	28808
Cost C	30651	36424	43343	35359

**Table 5: Quantities and price received through different channels**

Size group (in hec.)	Average quantity (in quintals sold through)			Average price received (in Rs. per quintal)	
	Channel-I	Channel-II	Total	Channel-I	Channel-II
Marginal (0-1)	-	1.5	1.5	-	2800
Small (1-2)	2.1	4.62	6.72	3000	2800
Large (2 and above)	3.7	8.63	12.33	3000	-
Average	5.8 (28.22)	14.75 (71.77)	20.55 (100.00)	-	-

**Price spread:**

The price spread refers to the difference between the price paid by the consumer and the price received by the producer for equivalent quantity of farm product. This spread consists of marketing costs and margins of intermediaries, which ultimately determine the overall effectiveness of marketing system. If goods could be moved from producer to the ultimate consumer at the minimum cost consistent with the provision of services and consumer desires, the marketing system is said to be efficient.

The prices spread in the marketing of groundnut in both channels under study were worked out and are presented in Table 6.

It is observed from Table 6 that the marketing charges paid by producer, wholesaler and retailer in the two type of markets showed that producer have to pay more charges under regulated market system because of higher transportation due to situation of market at a large distance. In case of wholesaler, the marketing charges paid by him were higher because of mandi fees in regulated markets.

Table 7 reveals that marketing channel I (regulated marketing system), the producers share in the price paid by the consumer, in marketing of groundnut, came to 87.10 per cent. In this channel, total marketing cost came to 85.31 per cent per quintal of which by producer Rs. 20 per quintal. These paid by wholesaler and retailer came to Rs. 105 and Rs. 26 per quintal, respectively.

It was lower in comparison to channel because of existence of one more middleman. In this channel, the marketing cost came to Rs. 87.00 per quintal followed by producer Rs. 00.00 per quintal. The marketing charges paid by village trader, wholesaler and retailers came to Rs. 29, Rs.32 and Rs.26 per quintal, respectively. From the above findings, it may be concluded that farmers get a little more share in the price paid by the consumer under regulated marketing system in comparison to unregulated marketing. It was mainly due to higher sale price received by the farmers on one hand and the lower margin of profits accompanied by slightly lower total marketing charges under regulated marketing system on the other. Verma and Nigam (1979) worked out the study on price

**Table 6 : Details of marketing charges**

Particulars	Regulated markets (Rs. per quintal)	Unregulated markets (Rs. per quintal)
<b>Charges paid by producer</b>		
Transportation	10.0	-
Loading and unloading	5.0	-
Weighing charges	3.0	-
Others	2.0	-
Total	20	0.00
<b>Charges paid by village trader</b>		
Transportation	-	9
Loading and unloading	-	5
Weighing charges	-	3
Packaging	-	10
Others	-	2
Total	0.00	29
<b>Charges paid by wholesaler</b>		
Transportation	10	12
Loading and unloading	5	5
Weighing charges	3	3
Mandi fee (2.5%)	75	00
Packaging	10	10
Others	2	2
Total	105	32
<b>Charges paid by retailer</b>		
Transportation	8	8
Loading and unloading	5	5
Weighing charges	3	3
Vardana	10	10
Total	26	26

**Table 7 : Price spread in groundnut (in Rs. per quintal basis)**

Particulars	Regulated market		Unregulated market	
	(in Rs.)	(In percentage)	(in Rs.)	(In percentage)
Producer sale price	3000	-	2800	-
Marketing charges paid by producer	20	0.58	00.00	0.00
Net price received by producer	2980	87.10	2800	85.31
Purchase price of village trader	-	-	2800	-
Charges paid by village trader	-	-	29	0.88
Margin of village trader	-	-	150	4.57
Sale price of village trader	-	-	2979	-
Purchase price of wholesaler	3000	-	2979	-
Charges paid by wholesaler	105	3.06	32	0.97
Margin of wholesaler	120	3.50	85	2.58
Sale price of wholesaler or retailer purchase price	3225	-	3096	-
Charges paid by retailer	26	0.76	26	0.79
Margin of retailer	170	4.96	160	4.87
Sale price of retailer or consumer purchase price	3421	-	3282	-

**Table 8 : Percentage distribution of marketing margins in different channel**

Particulars	Channel - I		Channel - II	
	(In Rs./qntl)	(In percentage)	(In Rs./qntl)	(In percentage)
Village trader margin	-	-	150	31.12
Wholesaler margin	120	27.21	85	17
Retailer margin	170	38.54	160	33.19
Marketing charges	151	34.24	87	18.04
Total marketing cost	441	100	482	100

spread in groundnut marketing in district Kanpur, U.P. Similarly Singh *et al.* (1993) observed on price spread and marketing pattern of groundnut in Haryana and Velavan and Balkrishnan (2000) carried out the marketing of groundnut in Salem district, Tamil nadu. Shelke, *et al.* (2009) resulted on price spread and marketing pattern of groundnut in Maharashtra State.

#### Marketing cost and margin:

Table 8 reveals that the total margin of profit charged by intermediaries were higher in channel II (unregulated) in comparison to channel-I (regulated).

The total marketing cost was also higher in channel II in comparison to channel I. In terms of percentage share, marketing costs shared for 34.24% and 18.04% in the total marketing margin of channel I and channel II, respectively. The percentage share of margin was found to be higher in the case of followed by retailer wholesaler and village trader in both the channels.

#### Constraints of groundnut production and marketing:

The major constraints in the groundnut production and marketing are such as like use of poor quality seed, low seed rate, use of rhizobium culture not very popular, plant protection measure, uncertainty of rain inadequate application of fertilizer,

lack of proper use of irrigation, late sowing, bad method of sowing and main constraints in the marketing as forced sales problems. The following appeared market problems in the study area (Bala Ji *et al.*, 2001).

- The commission agents thought employed by the producer seller were more inclined towards buyer and favoured them at the expense of producers.
- Monopoly of the groundnut producers in the market specially in respect of price settlement on the basis of kernels found in the pod.
- Even weigh men (Taula) favoured the purchasers manipulating against the producer-seller.
- Payment to producer seller was generally delayed as six month.
- Farmers do not get optimum price level.

#### Suggestions for solving the problems in groundnut production and marketing:

In the favour of increasing the productivity and area under groundnut crop several constraints affected it representing solution measures may be adopted for solving such difficulties. As proper use of fertilizer, use of bio-fertilizer, use of package of practices, use of high yielding varieties, proper use of irrigation, grading and standardization of

groundnut must be arranged. Groundnut arrivals are needed to be sold by the method of auction or tender. Payment for producers should be made immediately. Co-operative societies must come forward to take steps to install groundnut processing units and providing higher percentage to the groundnut growers in the consumer's price and adequate training programme for the field workers.

### Conclusion:

From the above study, the following main conclusions may be drawn as :

- The yield and returns in groundnut cultivation varied with the variation in the use of inputs. These were higher on big farms as compared to marginal and small farms.
- The human labour and seed together accounted for the highest per cent share in the total cost of groundnut cultivation in the study area.
- The marketing channel of groundnut crop available with the farmers was 71.77 per cent of the unregulated market and the regulated market contributed only 28.22 per cent to the groundnut production. The percentage was higher due to the long process and formalities which took place in regulated market.
- The producer share in consumer's price was worked out at 81 per cent and 78 per cent in regulated and local/unregulated markets, respectively. The higher producers share in regulated markets as compared to unregulated/local market was higher due to lower marketing cost, lower margin of profit and higher sale price.

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