

**AN ECONOMIC ANALYSIS OF PRODUCTION OF PEARL MILLET IN JAIPUR  
DISTRICT OF RAJASTHAN**

**ABSTRACT**

The present study was conducted in the year 2022 with a sample of 120 respondents. The results indicated that the number of respondents who had Graduation education were more in Medium size farms followed by Small and Marginal, and it was also observed that the number of illiterates were more in Medium size farms followed by Marginal and Small size of farms. The average area per hectare holding in marginal size farms was 0.66ha, small size was 1.59 ha and in medium size farms were 4.32 ha. Total cost of cultivation of Pearl millet for marginal, small and medium size farms were (Rs.36010/ha, Rs.35007/ha and Rs34223/ha) respectively. The gross returns obtained per hectare by medium size and small size farms were high (Rs51750/ha). as compare to marginal size farms (Rs.49500/ha) respectively, and the net returns per hectare obtained by small size farms were high (Rs.50625/ha) as compared to marginal and medium size farms (Rs.13490/ha and Rs.17525/ha) respectively. Input- output ratio per hectare was highest in marginal size farms (1:1.37) compare to small and medium size farms (1:1.44 and 1:1.51), and the Marketable surplus for farmers in marginal, small and medium surplus were (6.73%, 21.73% and 35.33%) respectively.

**Key Words:**

Socio-economic background, cost and returns.

**INTRODUCTION**

India is the country of 1.21 billion people. More than 60 per cent of the India's population lives in rural areas where the main occupation is agriculture. In India, agriculture is characterized by small limit holdings. The average farm size is 1.57 hectares (Economic survey 2011-2012). Around 93 per cent land holdings are smaller than 4 hectares and they cultivate nearly 56 per cent of arable land (**Economic survey 2011-2012**).

India is the largest producer of pearl millet, both in terms of area (9.1 million hectares) and production (7.3 million tons), with an average productivity of 785 kg/ha during the last 5 years (**WOAB, 2010**). As compared to the early in 1980, the pearl millet area in India has declined by 26 per cent during the last five years, but production has increased by 19 per cent owing to 44 per cent increase in productivity. Pearl millet cultivation is done mainly during Kharif (rainy) season across the country. It is also grown to a lesser extent during Rabi (post rainy) season in Andhra

Pradesh, Karnataka, Tamil Nadu and Pondicherry. Summer pearl millet cultivation varies from state to state with varying rainfall and soil type.

## RESEARCH METHODOLOGY

Therefore study was conducted to assess the 'An Economic Analysis of Production And Marketing of Pearl Millet' in Jaipur district of Rajasthan was undertaken with the following specific objectives..

1. To study the socio economic profile of Pearl Millet growers in different size farm groups.
2. To find out the Costs and Returns per hectare of Pearl Millet crop in different size farm groups.

A complete list of all villages will be obtained from related Gram Panchayat office therefore, villages will be arranged in ascending order on the basis of area under Pearl Millet cultivation. The Govindgarh block consists of 131 villages. Then 7 villages were selected randomly out of Total 120 villages for the present study.

1. Marginal size farm group-having area of cultivation less than 1 ha
2. small size farm group- having area of cultivation of 1-2 ha
3. medium size farm group- having area of cultivation more than 4-10 ha

Total 10% respondents were selected in all the three size farm groups in each selected village. Altogether total respondents were 120 viz., 53 marginal respondents, 31 small respondents and 36 medium respondents out of total 120 respondents were selected respectively. The interview method used for data collection. Interview schedule was divided into major parts. First section included profile of respondents and second section was included question related to economic analysis of production and marketing of pearl millet. Data were analyzed by using Input- Output Ratio (B.C Ratio), Gross income, Marketing cost, Marketable surplus.

## RESULT AND DISCUSSION

Revealed that among different size of farms during bearing period, total cost incurred by the marginal size farms were high (Rs 34223/ha) as compared to small and medium size farms (Rs.35007/ha and Rs.34223/ha). Sample average for total cost was Rs.35080/ha in different size of farms group. The cost of human labor, fertilizers, and machinery labor were the items of cost with major share in the variable costs, because most of the operations like harvesting, and weeding were human labor-intensive operations. The distribution of pattern of operational cost under various inputs revealed that cost of human labor was the highest in the medium size farms (Rs.1500/ha), compared to small

size (Rs.1900/ha) and marginal size farms (Rs.1300/ha) respectively. As Pearl millet would respond well with chemical fertilizer so the cost of farm yard manure used was ranged from Rs.1000 (medium size farms) to Rs.850 (marginal size farms). Whereas the expenditure on fertilizers was same in all size of farm group (Rs.1375/ha). Sample average for depreciation on fixed resources was Rs.1088.33 interest on working capital Rs.700, interest on fixed capital was Rs.1180 Land revenue paid to government was Rs.63.33 in different size of farms group. This table discusses about different variable inputs use by different size of farm groups for the production of pearl millet per hectare during gestation period.

**Table 1: Variable inputs used in Pearl millet crop in different size of farm group in per hectare during gestation period**

**Number of respondents=120**

**M S M=53+31+36=120**

S.No.	Different farm operation	Size of farm group			Sample average
		Marginal	Small	medium	
1	Hired human labor	1300	1900	1500	<b>1566.66</b>
2	Bullock labor charges	2800	2300	2900	<b>2666.66</b>
3	Machinery labor Charges	2400	2300	2200	<b>2300</b>
4	Cost of seedling	650	600	550	<b>600</b>
5	Cost of farm yard manure	850	800	1000	<b>883.33</b>
6	Cost of chemical fertilizer	1375	1375	1375	<b>1375</b>
7	Cost of irrigation charges	1000	1100	1300	<b>1133.33</b>
8	Miscellaneous charges	800	970	1000	<b>923.33</b>
9	Interest on working capital@6-8%	700	702	698	<b>700</b>
10	Deprecation on fixed resources 10%	1095	1000	1170	<b>1088.33</b>
11	Land revenue paid to government	90	60	40	<b>63.33</b>
12	Interest on fixed capital @10%	1450	1100	990	<b>1180</b>
13	Rental value of own land	17000	17000	17000	<b>17000</b>
14	Imputed value of family labor charges	4500	3800	2500	<b>3600</b>
	Total cost of cultivation	36010	35007	34223	<b>35080</b>

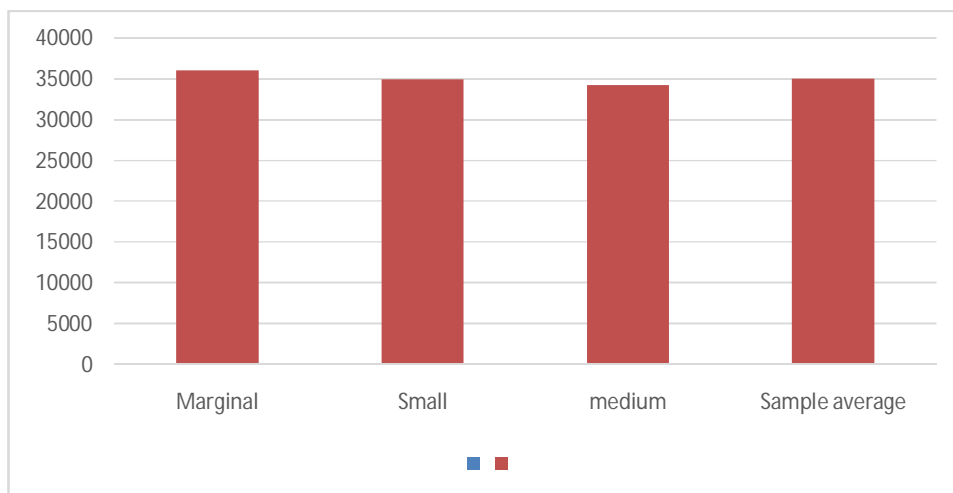


Fig. 1. Distribution of Variable inputs used in Pearl millet crop in different size of farm group in per hectare during gestation period.

That Costs and Returns in Pearl millet cultivation in different size of farms group. Among different size of farms groups, the total cost of cultivation incurred by the medium farms were high (Rs34223/ha) as compared to small (Rs.35007/ha) and marginal farms (Rs.36010/ha). Sample average for total cost of cultivation was Rs35080/ha in different size of farms group. The gross returns obtained per hectare by medium size and small size farms were high (Rs.51750/ha) as compare to marginal size farms (Rs.49500/ha) respectively. The net returns per hectare obtained by small size farms were high (Rs.15618/ha) as compared to marginal and medium size farms (Rs13490/ha and Rs17525/ha) respectively. The average yield of Pearl millet in different size of farms group was 22.5 qt/ha. The yield was highest in case of medium size farms 23qtl/ha as compared to small 22.5qtl/ha and marginal size farms 22qtl/ha respectively. Average cost of production per quintal was Rs. 1560.20/qt. GrossPrice per quintal was Rs.2250/qt.

**Table: 2.** Costs and Returns in Pearl millet crop per hectare in different Size of Farms Group Number of Respondents.

Number of respondents=120

M S M=53+31+36=120

(Value in rupees/qt.)

S. No	Different farm operation	Size of farm group			Sample average
		Marginal	Small	Medium	
1	Total cost of cultivation	36010	35007	34223	<b>35080</b>
2	Yield in quintal per hectare	22	22.5	23	<b>22.5</b>
3	Gross return per hectare in rupees	49500	50625	51750	<b>50625</b>
4	Net return per hectare	13490	15618	17525	<b>15544.33</b>
5	Cost of production per quintal	1636.81	1555.86	1487.95	<b>1560.20</b>
6	Price per quintal	2250	2250	2250	<b>2250</b>
7	Input and output ratio	1:1.37	1:1.44	1:1.51	<b>1:1.43</b>

That Cost Concepts on different size of farms group per hectare. Cost A1 was highest in medium size farms (Rs.13653/ha) followed by small size farms (Rs.13107/ha) and lowest in marginal size farms (Rs.13060/ha) respectively. Cost A2 in marginal, small and medium size of farms groups was Rs.30060/ha, Rs.30107/ha and Rs.30653/ha respectively Cost B was highest in medium size farms (Rs.31643/ha) as compared to small size farms (Rs.312070/ha) and lowest in marginal size of farms (Rs31510/ha) respectively. Cost C was highest in medium size farms (Rs.34223/ha) as compared to small size farms (Rs35007/ha) and lowest in marginal size farms (Rs.36010/ha). Sample average for Cost A1, Cost A2, Cost B and Cost C was Rs.13253/ha, Rs.30273.33/ha,

Rs.31453/ha and Rs.35080ha in different size of farms group.

**Table: 3.** Cost Concepts in Pearl millet crop per hectare in different Size of Farms Group

Number of Respondents =120

S M L= 58+ 41+ 21 =120

(Value in Rupees)

S. No	Different farm operation	Size of farm group			Sample average
		marginal	small	Medium	
1	Cost A <sub>1</sub>	13060	13107	13653	<b>13273.33</b>
2	Cost A <sub>2</sub>	30060	30107	30653	<b>30273.33</b>
3	Cost B	31510	31207	31643	<b>31453.33</b>
4	Cost C	36010	35007	34223	<b>35080.33</b>

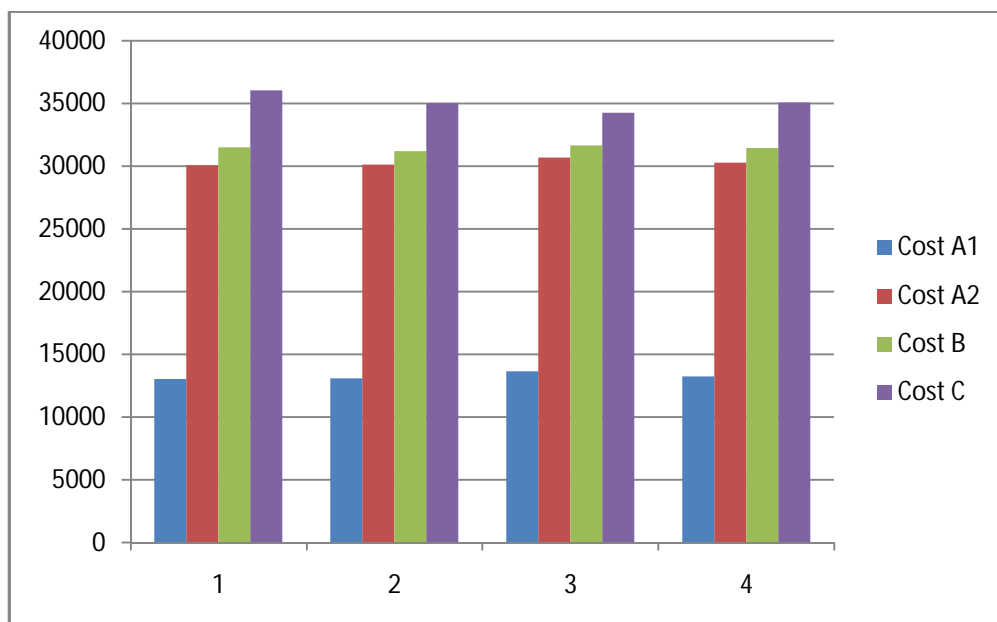


Fig. 2. Distribution of Cost Concepts in Pearl millet crop per hectare in different Size of Farms Group

That Measures of Profitability in Pearl millet cultivation in different size of farms group. The gross returns obtained per hectare by medium size farms were high (Rs.51750/ha) as compare to small and marginal size farms (Rs.50625/ha and Rs 51750/ha) respectively. This makes the sample average for gross returns was 50625/ha in different size offarms group. Farm business income in marginal, small and medium size of farms group was Rs.19440/ha, Rs20518/ha and Rs.21097/ha respectively. Sample average for farm business income was Rs.20351.66/ha in different size of farms group. The net returns per hectare obtained by small size farms were high (Rs.15618/ha) as compared to marginal and medium size farms (Rs.17525/ha and Rs.13490/ha) respectively. Sample average of net returns was 15544.33/ha in different size of farms group. Sample average of Family labor income was Rs.19171.66/ha in different size of farms group.

**Table: 4.** Measures of Farm Profitability in Pearl milletcrop per hectare in different Size of Farms Group

Number of respondents=120

M S M=53+31+36=120

(Value in rupees)

S.No	Particulars	Size of farm group	Sample

		<b>marginal</b>	<b>Small</b>	<b>Medium</b>	<b>average</b>
1	Gross return	49500	50625	51750	<b>50625</b>
2	Farm business income	19440	20518	21097	<b>20351.66</b>
4	Net returns	13490	15618	17525	<b>15544.33</b>
5	Family labor income	17990	19418	20107	<b>19171.66</b>

## **CONCLUSIONS**

The study shows that the production and marketing of Pearl millet Jaipur of the study is to analyze, socio economic characteristic of sample respondents, economics of Pearl millet production, price spread and constraints in production and marketing of Pearl millet. 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 Pearl millet production is more profitable in large farms as compared to medium size farms and small size farms. The study indicated that there is scope to increase the producer's share in consumer's rupee by making the market more effective so that the number of intermediaries is to be restricted and marketing costs and marketing margins to be reduced. This will be the way for making Pearl millet cultivation more lucrative. Major constraints in production was found that high cost of labor and less awareness about new technologies among different farms size group followed by a huge price fluctuation was the major marketing constraint in Pearl mille

## **REFERENCE**

- Dinesh., 2011**, Production and value addition to groundnut in Chitradurga district of Karnataka, An economic analysis. *M..Sc. (Agri). Thesis*, Univ. Agric. sci., Dharwad, Karnataka (India).
- Baba B.A. and Maina Y.B. (2013)** "Marketing Margin and Transaction Cost in Pearl Millet Market Supply in Borno State, Nigeria" *Greener Journal of Business and Management Studies*, 3 (5): 201-206.

**Sharma, S.M. and Dahiya R.H.(2013),** " Economics of tomato cultivation in Jaipur District of Rajasthan. 6(11): 1-11.

**Shukla A., Adarsh Lalit, Sharma V., Sharad Vats and Alam A. (2015)** "Pearl Millet and Finger Millets: The Hope of Food Security" Applied Research Journal 1(2): 59-66.

**Okech, S.O. Kimurto, P.K. Ngigi, M. (2016)** "Profits and Efficiency along Pearl Millet Market Chain: A Value Addition Approach", Industrial Engineering Letterswww.iiste.org 6 (5).

**Prusty, S.R. and Tripathy, S. (2017).** Marketing of pulses in jagatsinghpur district of Odisha. 13(1): 159-164.

**Choudhary, N. and Ramchandra (2019),** An Economic Analysis Of Marketing Of Pearl Millet (Pennisetum Glaucum) In Jaipur District, Rajasthan, *International Journal of Agriculture and Allied Sciences*, 3(1): 5-8.