Short Communication

Cost and Return Structure of Wheat Crop in Bharatpur Region of Rajasthan

Poonam Tomar*[1], Anuj Kumar[2] and Sunil Kumar[3]

The agriculture is the most important sector of the Indian economy. Wheat is the major cereal crop of India in terms of area as well as production. India's share in global wheat is recorded as 15.36% in the year 2017-18. In Rajasthan, wheat is essentially grown under better irrigation facilities except in the area of high rainfall [1]. It is sown in October-November and harvested from the middle of March to end of April [2]. There is significant role of fertilizer consumptions, irrigation facilities, HYV seed and cropping intensity for enhance productivity wheat crop finds important place in the cropping scheme of farmers in Bharatpur region, which comprises of Bharatpur, Dholpur, Karauli and Sawaimadhopur. Keeping in view the increasing importance of wheat in cropping scheme of farmers of Bharatpur region. This study can be helpful to the wheat grower in doubling farmer income under changing scenario.

A four-stage sampling design is adopted for the selection of sample farms. The area of the study is Bharatpur region of Rajasthan state. Bharatpur region consisted four districts namely: Bharatpur, Dholpur, Karauli and Sawaimadhopur. From the four district eight tehsils are selected based on the highest operational holdings. From these selected tehsils twenty-four villages (three from each tehsils) and ten farmers from each village are selected randomly (total 240 farmers). Farms are classified on the basis of irrigation facilities, in order to determine the low irrigated, medium irrigated and large irrigated farms.

The present study is mainly based on the primary data which are collected through interview method from selected sample respondents for the agriculture year 2016-17. Various cost concepts are used to work out the costs and return on per hectare basis of wheat crop for different categories of farmers.

Cost A_1: Includes hired labour, farm power, value of seeds, value of manure and fertilizers, depreciation, irrigation charges, land revenue and interest paid on crop loan.

Cost A_2: Includes cost A_1 and rent paid for leased land

Cost B: Includes cost A_2 + rental value of owned land

*Poonam Tomar
tomar.poonam07@gmail.com

[1-3]Department of Economics, University of Rajasthan, Jaipur - 302 004, Rajasthan, India

[2]Department of Economics, Govt. P. G. College, Dholpur - 328 001, Rajasthan, India

and interest on owned fixed capital and working capital.

Cost C: Includes cost B + imputed value of family labour.

Note: If there is no case of leased in land then cost A, will be the same as cost A_2.

On the basis of selling price of farmer's main and by products the gross return is computed. For calculating the net returns on per hectare basis total cost is deducted from gross returns.

Level of input used for wheat crop

The important Rabi crop, wheat is grown on all the selected farms in each irrigation system available in the Bharatpur region of Rajasthan. Wheat crop is grown upon 29.41 percent of total gross cropped area. (Table 1) shows the data on level of input used, prices and their shares in the total operational cost. The importance of each input can be seen by calculating shares of input in total operational cost of cultivation of the wheat crop.
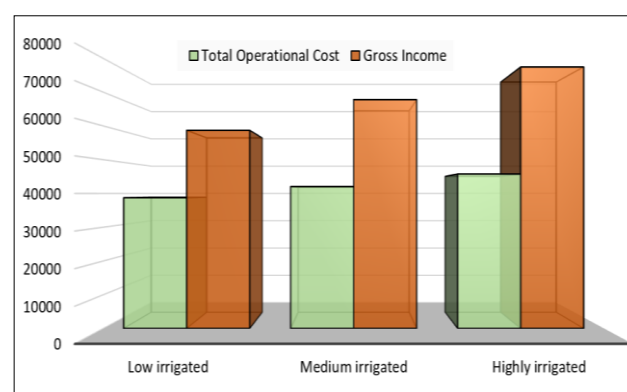

Fig 1 Per hectare cost and return for wheat crop under different categories of farms in Bharatpur Region (2016-17)

The above (Table 1) indicates the level of input used and their shares in the total operational cost of cultivation of wheat crop. The relevance of each input has been examined and surveyed. Apparently, the table informs that the total operational cost is highest (Rs. 45747) on the highly irrigated farms followed by medium irrigated farms (Rs. 42047) and low irrigated farms (Rs. 38732).

Res. Jr. of Agril. Sci. (Jan-Feb) **12**(1): 193–194

194

Table 1 Input used and their shares in total cost for wheat crop under different categories of farm in Bharatpur region 2016-17 (per hectare)

Input/costs	Low Irrigated farms	Medium Irrigated farms	Highly irrigated farms
Human labour			
Mandays	54	59	66
Price (Rs/Man day)	280	280	280
Share in Total cost (%)	39.04	39.29	40.4
Farm Power			
Level of use [hr.]	14	15	15
Price (Rs. /hr.)	880	880	880
Share in Total cost (%)	31.8	31.39	28.85
Seed			
Level of use [kg]	142	139.5	139.5
Price (Rs. /Kg)	26	26	26
Share in Total cost (%)	9.53	8.63	7.93
Agro Chemicals [FYM+ Fertilizers (NPK) +PPM]			
Value in Rs	4300	4700	5120
Share in Total cost (%)	11.1	11.18	11.19
Irrigation			
Value in Rs.	3300	4000	5320
Share in Total cost (%)	8.52	9.51	11.63
Total input cost (Rs.)	38732	42047	45747
Yield (Qtl/Ha)	30.2	34.75	39.75
By product (Qtl/ha)	37	43.5	49.5

This is owing to the higher use of human labour, farm power, agrochemicals and irrigation [3]. In comparison to all categories of farm, the level of utilization of human labour and agrochemicals reveal an increasing trend with the rising irrigation facilities. The highly irrigated farms have produced the highest per hectares average yield of wheat crop of 39.75 quintals and it is lowest (30.20 quintals) on low irrigated farms. The variations in the yields are basically due to variation in the level of use of fertilizers and better irrigation facilities [4].

Cost and return structure of wheat crop

The Table consider per hectares cost and return structure for wheat crop under different irrigation systems.

As the (Table 2) reveals the returns have direct kinship with adequacy of irrigation facilities. On account of higher use of human labour, agrochemicals and irrigation facilities on highly irrigated farms, per hectares input cost is highest (Rs. 45747). The return over total operational cost had shown a direct association with adequate irrigation level [5]. The operational cost per quintal and output input ratio shows inverse correlation respectively with the level of adequacy in irrigation. The high operational cost per quintal of yield is incurred by low irrigated farms amounting to Rs. 1282.52, while it remains lowest (Rs. 1150.87) on highly irrigated farms. The gross income is maximum (Rs. 77463.75) on highly irrigated farms and minimum (Rs. 58695) on low irrigated farms [6]. Therefore, the cost efficiency of wheat crop cultivation is directly associated with the level of adequate and better irrigation facilities.

Table 2 Per hectare cost and return for wheat crop under different categories of farms in Bharatpur region 2016-17 (In Rupees)

S. No	Categories of farm	Total operational cost	Gross income	Return over operational cost	Operational cost (per Qtls)	Output/Input ratio
1.	Low irrigated farms	38732.00	58695.00	19963.00	1282.52	1.52
2.	Medium irrigated farms	42047.00	67778.75	25731.75	1209.98	1.61
3.	Highly irrigated farms	45747.00	77463.75	31716.75	1150.87	1.69

SUMMARY

This study is undertaken to work out the costs and returns of wheat crop in Bharatpur region of Rajasthan for different categories of farms according to their irrigation facilities. Study is mainly based on primary data, which are collected through interview method from selected sample respondents having (80 Low, 80 Medium, 80 Highly irrigated farms) for the agricultural year 2016-17. The results indicate that production of wheat is profitable as reflected through its net returns. The perhectare return over total cost are Rs. 19,963.00, 25731.75 and 31716.75 on low irrigated, medium irrigated and highly irrigated farms respectively. It has been found that output input ratio of wheat is marginally higher (1.69) on highly irrigated farms compare to medium irrigated (1.61) and low irrigated farms (1.52) and all farms (1.63) due to proper irrigated facilities and improve the quality of harvest on account of highly irrigated farms. This study is helpful to understand cost and return structure of wheat crop in Bharatpur Rajasthan and other regions with similar condition.

LITERATURE CITED

1. Ministry of agriculture and cooperation (2015). Farmer's income in India: evidence from secondary data. Directorate of Economics and statistics, New Delhi, India, Agriculture situation in India, 72(3), 30-70.
2. Meghwal, R. (2013). Agriculture technologies and its impact on agriculture productivity in Rajasthan. Journal of Bio innovation, 2(5), 218-227.
3. Verma, R., Singh, I., Sharma, S. (2013). Energy use pattern in production of wheat crop in Bikaner district of Rajasthan. International Research journal of Agriculture Economics and statistics, 4(1), 79-84.
4. Agam, P.A., Tale, S.G., Thakare, S.S. (2017). Economics of wheat production. International Research Journal of Agriculture Economics and statistics, 8(1), 1-7.
5. Sendhil, R., kumar, A., Singh, S., Charath, R. (2017). Framework for doubling the income of wheat producers by 2022: trends, pathway and drivers. Indian Journal of economics and development, 13(2a), 1-8.
6. Meena, B.S. (2012). Adoption behaviour of wheat production technology. Hind Agri-Horticulture society, Agriculture update, 7(3/4), 283-286.