



A study on economic of potato cultivation in Agra district of U.P.

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Abstract

Potato is the major crop among the vegetables crops in India. It is more labour and capital intensive crop which also provides better return per rupees of investment being about rupees 4.48, 4.20 and 3.53 on small, medium and large farms respectively. The overall average return per rupees of investment came to Rs. 4.07 rupees.

Keywords: potato cultivation, vegetables crops, investment

Introduction

At the time of Independence, India's agriculture was in a state of backwardness. Productivity per Hectare and per worker was extremely low. The techniques employed were age old and traditional. Because of low productivity, agriculture merely provided 'subsistence to the farmers and had not become 'Commercialized' Approximately 45% of the total consumption of farmers came from their own production in 1951-52. This highlights the low importance of money in the village economy. All the factors described above when taken together describe the nature of India's agriculture. They reveal that the Indian agriculture was backward and qualitatively traditional in nature on the eve of the First Five Year plan. However it is not sufficient to call Indian agriculture backward, traditional and stagnant and leave the discussion there. We must examine the causes responsible for this state of affairs. This exercise can be carried out by examining the land relations, size of holdings, agricultural techniques, irrigation facilities, widespread rural indebtedness, role of moneylenders in rural economy etc.

The heavy yield of potato per hectare enhances its value as a food plant production. It has become important source of income to the farmers. Secondly potato is very short period crop covering 70 to 80 day only for sowing to harvesting. In many parts of the world vegetable constitutes a large part of the diet in which the consumption of potatoes is much greater i.e. in Germany and other European countries and in and in the united States. The potato, a native of South America has been under cultivation in the Andes and Chilean high lands of that continent for over a thousand years. The annual production potato is the world surpasses that of all other vegetables with wheat and rice in India. The potato has cultivated since its introduction in the early part of the 17th century. The cultivation of potato has not spread

in India as should have done this is apparent when the consumption rate of about 200 kg per capital per annum in several countries of the west as compared with 4 kg of potato consumed per capita in India. The area under potato in India is about 504000 hectares with an annual production of about 4233000 tonnes, the area and the production are on increase and in 2015-16 the area under potato was million hectares, production was 47 millions tonnes and yield was 60000 kg/hectare.

Main objectives of the study

The present study was conducted with following specific objectives:

- To study the resource structure on different on different size of farms.
- To examine to cost of cultivation and cost of production of potato crop on different size of farms.
- To analyse the returns on different size of farms from potato crop.

Methodology

The village khandaloi of district Agra was selected purposely since, village was having the maximum number of farmers growing potato and having more area under potato in khandoli block of Agra District. First of all a list of the farmers growing potato was taken from the village lekhpal. These farmers were divided in three categories viz small medium and large the total number of farmers was 36, 27 and 12 respectively. About one third cases were selected randomly. Thus 12,9 and 4 cases were selected in small, medium and large farm size groups respectively. In all 25 cases were studied. The primary data were collected by survey method. The primary data relate to year 2016-2017.

Table 1: Item wise break-up of cost of cultivation in case of potato crop in different farm size groups. (in Rs.)

S.No.	Items	Smalls	Medium	Large	Overall
		Variable Cost			
1.	Human labour				
	Hired labour	1887.50	4308.89	24270.00	10155.46
	Owned labour	1261.67	2097.78	3090.00	2149.82
2.	Bullock labour				
	Hired labour	-	-	-	-
	Owned labour	-	544.44	-	181.48

3.	Tractor labour	1431.79	2395.00	5235.00	3020.60
4.	Fertilizer and manures	4323.92	7548.67	33293.00	15055.20
5.	Seed value	10383.33	17100.00	67725.03	17360.11
6.	Irrigation charges				
	Hired irrigation	589.17	-	-	196.39
	Owned irrigation	263.83	760.44	3085.50	1369.81
7.	Plant protection	570.83	888.89	3200.00	1553.24
8.	Interest on working capital	1140.22	1721.58	6751.81	3204.54
	Sub Total	21852.26	37365.69	146650.31	68622.65
	Fixed Cost				
9.	Rental value	3314.96	6650.34	22491.00	10821.82
10.	Depreciation	405.52	845.80	1511.67	920.75
11.	Interest on fixed capital	415.52	789.34	1670.81	958.57
	Fixed Capital Sub total	4145.07	8285.48	26673.48	12701.14
	Grand Total	25997.33	45651.17	172323.79	81323.79

Results and Discussion

The following table shows variable cost and fixed cost. Here the variable cost includes the cost of human labour, bullock labour, machinery charge, seed value, manures and fertilizer, irrigation charge. Plant protection, interest of variable cost and fixed cost includes land revenue, depreciation and interest on fixed capital.

The total input overall per farm came to Rs. 81323.79 out of which family labour account Rs. 2149.82 hired human labour Rs. 10155.46 bullock labour Rs. 181.48, Tractor labour cost came of Rs. 3020.60 and hired irrigation cost came of Rs. 196.39, owned irrigation cost came to Rs. 1369.81 seeds cost came to Rs. 31736.11, fertilizer cost came to Rs. 15055.20, plantprotection cost came Rs. 1553.24, interest on working capital was Rs. 3204.54, rental value of land was Rs. 10821.82, depreciation cost came to Rs. 920.75 and interest of fixed capital was Rs. 430.16 respectively. Seed and fertilizer were the major items of cost on the farm.

Table 2: Production of potato per hectare and per farm under different farm size group.

S.No.	Size group	Area under potato crop(hectare)	Potato Production per farm	Potato Production per sheet
1.	Small	0.78	243.67	312.39
2.	Medium	1.55	467.78	300.71
3.	Large	5.25	1424.00	271.42
	Overall	2.52	712.15	294.84

The above Table shows that the per farm production of potato overall average came to 712.15 quintals. The yield per hectare overall average came to 294.84 quintals. The yields per hectare came highest on small farms as compared to other categories of farms.

Table 3: Gross value of potato per farm and per hectare on different size of farmers.

S.No.	Size group	Potato Production per farm	Potato Production per sheet
1.	Small	1166774.58	149582.78
2.	Medium	189650.00	121917.85
3.	Large	644125.00	122690.47
	Overall	316816.52	131397.03

The over all average gross value in case of potato crop per farm and per hectare came to Rs. 316816.52 and Rs. 131397.03 respectively. In case of small, medium and large farms the per hectare value came to Rs. 149582.78, Rs. 121917.85 and Rs. 122690.47 respectively.

Table 4: Net income from potato on different size farms. (in Rs./farm)

Farm size	Gross value potato (Rs.)	Total cost of cultivation	Net income per farm	Input-output ratio per farm
Small	116674.58	25997.33	90677.58	1:4.48
Medium	189650.00	45106.11	144543.89	1:4.20
Large	644125.00	182249.82	461875.18	1:3.89
Overall	316816.52	81323.79	235492.73	1:3.89

Table 4 shows that the overall average net income per farm came to Rs. 235492.73. In case of small, medium and large farm size groups it came to Rs. 90677.58, 144543.89 and 461875.18 respectively.

The overall average input- output ratio came to 1:3.89. The input-output ratio on small, medium and large farm came to 1:4.48, 1:4.20 and 1:3.53 respectively. It can be concluded that return per rupee of investment was highest on small farms. It was because more yield of potato on such farms.

Conclusion

Potato is more labour intensive as well as capital intensive crop. Since labour cost forms the major part of the total cost. The turn over from potato crop is also quite satisfactory i.e. the overall average return per rupees of investment came to 3.89. It came highest on small because of better production per hectare on small farms.

References

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