



## ECONOMIC ANALYSIS OF POTATO CULTIVATION : A CASE STUDY OF SAHARSA DISTRICT (BIHAR)

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### ABSTRACT

A study was conducted on Economic analysis of potato cultivation is based on sixty six randomly selected farmers of Barasher village of Sattarkataiya block of Saharsa district. The study indicated that the average cost of cultivation of potato was about Rs. 22,877 per hectare. The highest share in the total cost was recorded by seed, followed by manures and fertilizers and human labour. Average per ha gross return worked out to be as high as Rs. 54,600 with the net return of Rs. 31,723. The percentage return was also high being about 2.39 per cent of the total cost of cultivation. Thus, potato cultivation is the most remunerative crop enterprise in the project area.

**Key words :** Variable inputs, cost-benefit ratio, gross return, net return.

Agriculture, with the introduction of modern technology has become a commercial enterprise. Inclusion of high paying crops in the cropping pattern has been highly emphasised. Potato is a crop which takes less time to grow but fetches high returns to the growers. Besides this, in the present situation of increasing population in our country, more production of potato will be helpful in feeding the growing population.

In Bihar, Barasher village in Saharsa district is popularly known for heavy production of this crop and has a high bearing on economic status of the farming community. As such, it is important to examine the economics of production of this crop. The detailed objectives of the study were, (i) to estimate the costs, returns and economic measures for potato cultivation by different farm categories (ii) to examine the importance of different cost items in the total cost structure.

### MATERIALS AND METHODS

Sattarkataiya block of Saharsa district was selected on the basis of the highest area under potato in the district. Barasher village in the Sattarkataiya block was selected. A list of all the farmers along with their operational area of the selected village was prepared. The farmers were categorised into small (upto 2 ha), medium (2-4 ha) and large (above 4 ha) size groups. Then fifteen per cent from each size group were selected following random sampling procedure. Thus, the farmers selected from small, medium and large sized groups were 32, 28 and eight respectively,

making a sum total of sixty six farmers. Input- output data were collected by survey method which pertained to agricultural year 2007-08. Tabular analysis was followed.

### RESULTS AND DISCUSSION

The cost of cultivation of potato which included all the variable cost items, like labour, draft power, seed, manures and fertilizers, insecticides, etc., has been presented in Table-1. Expenditures on the purchased inputs and imputed value of family own inputs have been separately included in this study. Average per ha total cost of cultivation of potato was found to be Rs. 22,877 and it showed increasing trend with the size of the farms. In the total cost, the share of seeds was calculated to be the highest, followed by manures and fertilizers, human labour, pesticides and irrigation which accounted for 29.74 per cent, 25.43 per cent, 23.20 per cent, 8.67 per cent and 5.83 per cent of the total cost, respectively. The family owned inputs, used in the cultivation of potato was on an average valued at Rs. 13,559 which was about 40 per cent of the total input costs.

Average yield of potato tuber per ha for different farm categories and harvest price formed the basis of return which have been presented in Table-2. The average per ha gross return was found to be as high as Rs. 54,600. The net return was calculated to be Rs. 31,723 on full cost basis and Rs. 41,041 on cash cost basis. Return analysis for different farm categories shows that the yield and gross return were the highest

**Table-1:** Cost of cultivation of potato per ha with the share of each input in the total cost.

Items	Cost of cultivation per ha (Rs.)			
	Small	Medium	Large	All farms
Human labour				
Family	3620	3053	300	2324
Hired	1236	2150	5566	2984
Total	4856 (22.83)	5203 (23.32)	5866 (23.50)	5308 (23.21)
Draft power				
Family	687	480	1301	822
Hired	245	103	49	133
Total	932 (4.38)	583 (2.61)	1350 (5.40)	955 (4.17)
Seed				
Own	3950	4696	6095	4913
Purchased	2320	1919	1430	1890
Total	6270 (29.48)	6615 (29.65)	7525 (30.14)	6803 (29.74)
Organic manures (all own)	690	698	368	585
Chemical fertilizers (purchased)				
N	1630	1805	2183	1873
P	1592	1799	1853	1748
K	1601	1555	1681	1612
Total	4823	5159	5717	5233
Total manures and fertilizers	5513 (25.93)	5857 (26.25)	6085 (24.38)	5818 (25.43)
Pesticides	2000 (9.41)	1990 (8.92)	1966 (7.88)	1985 (8.67)
Irrigation	1200 (5.64)	1272 (5.70)	1529 (6.12)	1334 (5.83)
Interest on credit	123 (0.60)	402 (1.81)	207 (0.83)	277 (1.21)
Interest on operating cost	368 (1.71)	286 (1.73)	436 (1.75)	397 (1.74)
Total variable cost				
Full cost basis	21262 (100.00)	22308 (100.00)	24964 (100.00)	22872 (100.00)
Cash cost basis	11824	12593	16257	13559

**Table-2 :** Cost, return and economic measures for potato cultivations.

Parameters	Farm categories			
	Small	Medium	Large	Average
<b>Cost of cultivation (Rs./ha)</b>				
Full cost basis	22262	22308	24964	22877
Cash cost basis	11824	12593	16257	13559
Cost of production (Rs./q)				
Full cost basis	79.94	65.23	85.79	73.32
Cash cost basis	38.89	36.82	55.86	43.45
Potato yield (q/ha)	304	342	292	312
Potato price (Rs./q)	175	175	175	175
Gross return (Rs./ha)	53200	59850	50925	54600
<b>Net return (Rs./ha)</b>				
Full cost basis	31938	37542	25961	31723
Cash cost basis	41376	47257	34668	41041
Benefit-cost ratio				
Full cost basis	2.50	2.68	2.04	2.39
Cash cost basis	4.50	4.75	3.13	4.03

on medium-sized farms, followed by small sized farms and large sized farms. Net returns and benefit-cost ratio also followed the same trend on different categories of farms. This indicated that the medium and small sized farms were more rational in the use of their limited resources as compared to the large sized farms.

On the basis of the results of the study it can be concluded that potato cultivation is a highly remunerative crop enterprise, giving a return of about 239 per cent of the total cost of cultivation (Rs. 22,877). The farmers should be provided with the liberal credit

policy by the Government to produce potato on more extensive scale.

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