

Original Research Article

Comparative Economics of Exported Onion Growers and Non Exported Onion Production in Nasik District

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ABSTRACT

The study examined socio-economic characteristics of exported onion growers and non-exported onion growers in Nasik District of Maharashtra. It found that the average age of Non - Exported Onion farmers was seen to be 40.86 years and that of Exported Onion farmers was 42.65 years. The middle aged farmer (35 – 45 years) mostly preferred domestic marketing of their onion produce. Whereas the young age group of farmers were seen to export the onion. The farmers more than 45 years of age were seen to be moving towards Export farming. The educational status of Exported and Non- exported Onion growers shows that even if the literacy rate was 100 per cent in both the cases, the Exported onion growers were more educated than the Non- Exported Onion growers. The average family size in Non-Exported Onion growers was seen to be 4.90 and that in Exported was seen 4.63. The occupational status of the farmers has been categorized into three groups Agriculture, Agriculture-cum-Business and Agriculture-cum-Service. The occupational level of Non-Exported farm was 1.96 and that of Exported farm was 1.80 score at 3 quantum score. It shows that, as Export farming seen to be profitable, most of the Exported onion farmers rely solely on agriculture and do not need any supplementary income source. It was observed that per hectare cost of cultivation of Non-Exported onion was ₹ 140824 and that in Exported Onion was ₹ 172629. The share of Cost-A and Cost-B in Cost-C was 68.86 per cent and 94.39 per cent, respectively. The same in Exported Onion production was seen to be 55.94 per cent and 96.69 per cent of Cost-C, respectively. It was observed that per hectare gross income obtained in Non-Exported Onion farm was ₹ 212450 and in Exported onion farm was ₹ 418746.78. It was clear that, farm business income, family labour income and net profit in case of Non-Exported Onion production were ₹ 115584.50, ₹ 79531 and ₹ 71626 respectively. And that in case of Exported onion production were ₹ 322239.78, ₹ 251940.48 and ₹ 246117.48 respectively. It referred that, Exported Onion production was more profitable than Non-Exported Onion production. It was clear that; Output-Input ratio was 1.50 in case of Non-Exported Onion Production and 2.42 in case of Exported Onion Production. Per quintal cost of production in Non Exported Onion was ₹ 951.51 and in Exported Onion was ₹ 942.81.

Keywords

Economics,
Onion growers
and
production,
Nasik

Introduction

Onion is extremely important commercial vegetable crop not only for internal consumption, but also for highest foreign

exchange. Globally 847 lakh tonnes of onions are produced. At least 175 countries grow onions. India is world's second largest

producer of onions, having 11.78 lakh hectare under crop in 2015-16 producing 203.33 lakh tonnes of onion with the productivity 17.6 tonnes per hectare, after China.

Maharashtra contributes nearly 30 per cent of the total production of onion in India with area under onion cultivation around 4.57 lakh hectare giving the production of 56.54 lakh tonnes, with productivity 12.37 tonnes per hectare. Onion grown in Maharashtra state has unique features of their quality, taste and shelf life. Nasik district is famous in onion growing and its marketing and has maximum production within Maharashtra state. It had 1.42 lakh hectare area under onion cultivation with 17.68 lakh metric tonnes of onion production in the year 2015-16.

Objective

To study the socio-economic characteristics of exported onion grower and non-exported onion grower

To Study the costs and returns and returns in exported and non-exported onion production

Materials and Methods

Nasik district was selected purposely since production of exportable onion is maximum. Further, Niphad tehsil was selected because this tehsil is well known for production and export of onion. Five villages were selected on the basis of maximum production of exportable onion namely, Lasalgaon, Ugaon, Sukene, Gondegaon and Chandori. From each selected village, six onion growers who export the onion and six onion growers who do not export onion were selected for the study. The total sample comprises of 60 farmers (30 onion growers who export onion and 30 onion growers who do not export

onion). The data pertaining to complete agricultural year 2015-16 were collected by the personal interviews by the survey method with the help of a specially designed schedule. The data thus collected were analyzed by tabular method for estimation of cost of production.

Results and Discussion

The socio-economic characteristics of the sample farmers considered in this study were composition of family size, level of education, occupational status, land ownership and land distribution pattern.

Age Distribution of the Onion growers

Age of Exported and Non Exported Onion grower family members was calculated till the time of interview. Farm family members were grouped into three categories according to their ages (Table 1.). In case of the Non-exported Onion farmers it can be seen in the table that, 13.33 per cent farmers belonged to the age group of 25 – 35 years, 66.67 per cent between 36 – 45 years, which is the major group of non-exporters and 20 per cent of the farmers were above 45 years of age.

Whereas, in case of Exported Onion growers 40 per cent of farmers were 25 – 35 years is the major group, 30 per cent between 36 – 45 years and 30 per cent of the farmers were above 45 years of age. Table 2. Reveals that, the average age of Non - Exported Onion farmers was seen to be 40.86 years and that of Exported Onion farmers was 42.65 years. It shows that the middle aged farmer (35 – 45 years) mostly preferred domestic marketing of their onion produce. Whereas the young age group of farmers were seen to export the onion. The farmers more than 45 years of age were seen to be moving towards Export farming.

Educational status of the Onion growers

The educational status of Exported and Non-exported Onion growers is given in Table 1. which shows that even if the literacy rate was 100 per cent in both the cases, the Exported onion growers were more educated than the Non- Exported Onion growers.

In case of Non- Exported Onion farmers, it can be seen that, 6.67 per cent of the farmers studied upto school level or matriculation, 33.33 per cent of the farmers had higher secondary education, while 60 per cent of them were graduated. None of them had a Post graduate degree. In case of Exported Onion growers, 0.3 per cent of the sample farmers had studied upto matriculation, 13.33 per cent had higher secondary education, 70 per cent were graduate and 13.33 per cent were Post graduate. According to the quantum score analysis, the Non- Exported Onion growers had 3.53 score, and the Exported Onion growers had 3.93 score out of 5 (as in Table 2.).

Family size of the Onion growers

This study measured family size in terms of actual members in a farmer's family during the period of study. The sample farmers were categorized into three groups according to their family size as in Table 1. In case of Non-Exported Onion growers, it was seen that, 3.33 per cent families had 1 to 3 members, 90 per cent families had 4 to 6 members, and 6.67 per cent of families had more than 6 family members. In case of Exported Onion growers, 16.67 per cent families had 1 to 3 members, 73.33 per cent families had 4 to 6 members, and 10 per cent of families had more than 6 family members. And the average family size in Non-Exported Onion growers was seen to be 4.90 and that in Exported was seen 4.63 (as given in Table 2).

Occupational Status of the Sample farmers

Although Agriculture was seen to be the main source of employment for the people in study area, the selected farmers were also engaged in other occupations. Besides Agriculture, some farmers were engaged in dairy business, some were engaged in government and non-government activities, school activities and other non-agricultural services.

The occupational status of the farmers has been categorized into three groups as shown in Table 1. viz., Agriculture, Agriculture-cum-Business and Agriculture-cum-Service. It is evident from the table that in case of Non- Exported Onion growers, 36.67 per cent of the farmers' sole occupation was Agriculture. While 30 per cent farmers were involved in both Agriculture and Business, and 33.33 per cent were involved in Agriculture cum Service. In case on Exported Onion growers, 46.66 per cent of the farmers' occupation was agriculture only.

While 26.67 per cent farmers were involved in both Agriculture and Business, and 26.67 per cent were involved in Agriculture cum Service. The occupational level of Non-Exported farm was 1.96 and that of Exported farm was 1.80 score at 3 quantum score. It shows that, as Export farming seen to be profitable, most of the Exported onion farmers rely solely on agriculture and do not need any supplementary income source (Table 2).

Land Holding of Sample farmers

It appears from Table 1. That, in case of Non Exported Onion growers, 40 per cent of the sample farmers had less than 2 hectares of land holding and 60 per cent of the

farmers had 2 to 5 hectares of land while none of them had more than 5 hectare of land holding. Whereas, in case of Exported Onion growers, 6.66 per cent of sample farmers were seen to have less than 2 hectares of land holding, 66.67 per cent of farmers had 2 to 5 hectares of land holding and 26.67 per cent of sample farmers had more than 5 hectares of land holding.

The total land holding under Non-Exported and Exported Onion growers were calculated to be 67.3 hectares and 128.1 hectares while the total Area under *rabi* Onion was calculated to be 24.6 hectares and 31.95 hectares respectively (Table 4.2.).

Livestock availability with onion growers

It was seen that all the Non-Exported onion growers had livestock within their farm. About 3.33 per cent of them had one milch animal, 56.67 per cent of the sample farmers had 2 to 3 milch animals, 40 per cent of them had more than 3 milch animals and 40 per cent had bullock pair.

Whereas in case of Exported Onion growers, 6.66 per cent of farmers had no livestock. 3.33 per cent of farmers had one milch animal, 46.67 per cent had 2 to 3 milch animals and 43.33 per cent had more than 3 milch animals. Also 56.67 per cent of them had bullock pairs in their farm.

Cropping pattern of Exported and Non-Exported Onion Growers

Cropping pattern of Exported and Non-Exported Onion growers was estimated as presented in Table 3. The result revealed that, gross cropped area was 6.14 hectares in Non-Exported Onion farm and 11.40 hectares in Exported Onion farm. It was observed that, Grapes and Sugarcane were the annual crops being cultivated in the

study area 4.86 percent and 7.60 percent of the area proportionate to Onion in Non-Exported Onion farm and 9.65 per cent, 9.89 per cent in Exported Onion farm respectively. Soybean was another major crop seen in *kharif* season with 9.29 per cent and 5.15 per cent in Non-Exported and Exported Onion farms respectively, of the total cropped area of *kharif* season. While in *rabi* season, wheat was identified the second major crop with 7.28 per cent of the gross cropped area of Non-Exported farm and 5.53 per cent in Exported Onion farm. Onion crop had a proportionate area of 13.36 per cent in Non Exported farm and 9.34 per cent in Exported farm. Vegetable crops were given less importance in the cropping pattern.

In regards to cropping intensity, it was observed that, the Non-Exported Onion farms had higher cropping intensity (289.20 per cent) than the Exported Onion farms (282.98 per cent). Double cropped area was 65.33 per cent and 64.71 per cent in Non-exported and Exported Onion farms respectively.

The objective of comparative assessment of costs and returns in Exported and Non-Exported Onion production was attained and results were obtained. Physical inputs like seeds manures, fertilizers, labour inputs, irrigation, plant protection chemicals in various combinations are transformed to Exportable and Non-Exportable produce.

The inputs when converted into monetary terms, determine the per hectare cost of cultivation. Similarly, main produce and by-produce when converted into monetary terms, gives out the gross returns. With the help of this, the costs and returns, were calculated and compared to know weather, the Exported Onion production is profitable or the Non-Exported Onion production.

Table.1 Frequency distribution of socio-economic characteristics of Exported and Non Exported Onion growers

Sr. No.	Particulars	Non- Exported Onion growers		Exported Onion growers	
		Freq.	Percent	Freq.	Percent
1	Age of farmer (years)				
	a. 25-35	4	13.33	12	40
	b. 36-45	20	66.67	9	30
	c. More than 45	6	20	9	30
2	Education level				
	Illiterate	0	0	0	0
	School level	2	6.67	1	0.3
	Higher Secondary	10	33.33	4	13.33
	Graduate	18	60	21	70
	Post Graduate	0	0	4	13.33
	Literacy rate	30	100	30	100
3	Family Size (person)				
	Upto 3	1	3.33	5	16.67
	4 to 6	27	90	22	73.33
	More than 6	2	6.67	3	10
4	Occupational level				
	Agriculture	11	36.67	14	46.66
	Agriculture – cum - Business	9	30	8	26.67
	Agriculture – cum - Service	10	33.33	8	26.67
5	Land Holding (ha)				
	Less than 2	12	40	2	6.66
	2 to 5	18	60	20	66.67
	More than 5	0	0	8	26.67
6	Livestock (Nos.)				
	i. Milch Animals				
	0	0	0	2	6.67
	1	1	3.33	1	3.33
	2 to 3	17	56.67	14	46.67
	More than 3	12	40	13	43.33
	ii. Bullock pair	12	40	17	56.67

(Figures in parenthesis are the percentage to sample size)

Table.2 Socio economic status of Exported and Non Exported Onion growers

Sr. No.	Particulars	Standards	
		Non Exported onion growers	Exported onion growers
1.	Age of farmer	40.86	42.65
2.	Education level in 5 quantum score (Illiterate/school/higher secondary /graduate/post graduate)	3.53	3.93
3.	Family size (person)	4.90	4.63
4.	Occupational level in 3 quantum score (Agriculture/Business/Service)	1.96	1.80
5.	Total land holding (ha)	67.3	128.1
6.	Area under onion (ha)	24.6	31.95
7.	Bullock pair (No.)	12.00	17.00
8.	Milch animal (No.)	100.00	95.00

Table.3 Cropping pattern of Exported and Non Exported Onion growers (ha/farm)

Sr. No.	Particular	Non Exported Onion growers		Exported Onion growers	
		Area	Per cent	Area	Per cent
<i>KHARIF</i>					
1.	Onion	0.11	1.85	0.48	4.18
2.	Grapes	0.30	4.86	1.10	9.65
3.	Sugarcane	0.47	7.60	1.13	9.89
4.	Soybean	0.57	9.29	0.54	5.15
5.	Maize	0.20	3.26	0.54	4.75
6.	Groundnut	0.26	4.18	0.14	1.26
7.	Bajra	0.13	2.06	0.03	0.23
8.	Vegetables	0.10	1.68	0.02	0.18
	Total	2.14	34.78	4.02	35.29
<i>RABI</i>					
9.	Onion	0.82	13.36	1.07	9.34
10.	Grapes	0.30	4.86	1.10	9.65
11.	Sugarcane	0.47	7.60	1.13	9.89
12.	Wheat	0.44	7.28	0.63	5.53
13.	Gram	0.05	0.87	0.07	0.61
14.	Vegetables	0.07	1.25	0.01	0.12
	Total	2.14	34.78	4.02	35.29
<i>SUMMER</i>					
15.	Onion	0.46	7.44	0.64	5.59
16.	Grapes	0.30	4.86	1.10	9.65
17.	Sugarcane	0.47	7.60	1.13	9.89
18.	Maize	0.52	8.47	0.44	3.89
19.	Vegetables	0.13	2.06	0.09	0.82
	Total	1.87	30.44	3.36	29.48
20.	Gross cropped area	6.14	100	11.40	100
21.	Net sown area	2.14	34.78	4.02	35.29
22.	Double cropped area	4.00	65.22	7.38	64.71
23.	Cropping intensity%	--	289.20	--	282.98

Table.4 Per hectare physical input and output of Exported and Non Exported Onion production

Particular	Unit	Non Exported Onion production		Exported Onion production	
INPUT					
1. Hired human labour	Man days	147.80		156.80	
2. Bullock pair labour	Pair days	2.80		2.72	
3. Machine labour	Hrs.	2.28		2.75	
4. Seed	Kg.	9.35		7.51	
5. Manure	Qt.	25.69		27.98	
6. Nitrogen	Kg.	144.47		145.60	
7. Phosphorus	Kg.	52.48		50.89	
8. Potash	Kg.	78.78		78.12	
9. Irrigation	Nos.	6.57		7.00	
10. Plant protection	Nos.	2.77		2.93	
11. Family labour	Man days	31.62		23.29	
OUTPUT					
Onion Bulb produce	Qt.	148.05		183.10	

Table.5 Per hectare cost of cultivation of Exported and Non Exported Onion

(₹/ha)

Sr. No.	Particulars	Non Exported Onion		Exported Onion	
		Cost (₹)	Percent	Cost (₹)	Percent
1.	Hired human labour	36950.00	26.24	39200.00	22.72
2.	Bullock pair	1680.00	01.19	1632.00	00.95
3.	Machine labour	2280.00	01.62	2750.00	01.59
4.	Seed	23375.00	16.60	18775.00	10.88
5.	Fertilizer	6139.60	04.36	6073.75	03.52
6.	Manure	4110.40	02.92	4476.80	02.59
7.	Plant protection	12465.00	08.85	13185.00	07.64
8.	Irrigation	3285.00	02.33	3500.00	02.03
9.	Packaging charges	00.00	00.00	73.24	00.04
10	Land revenue	238.46	00.17	440.94	00.26
11	Incidental expenditure	417.89	00.30	379.37	00.22
12	Interest on working capital @ 6%	5456.48	03.87	5424.77	03.14
13	Depreciation on capital assets	567.65	00.40	595.81	00.35
14	Cost-A (∑ item 1 to 11)	96965.50	68.86	96506.70	55.94
15	Rental value of land	35328.84	25.09	69644.10	40.37
16	Interest on fixed capita @ 11%	624.41	00.44	655.39	00.38
17	Cost-B (∑ item 12 to 15)	132919.00	94.39	166806.00	96.69
18	Family labour	7905.00	05.61	5822.50	03.37
19	Cost-C (∑ item 16 to 17)	140824.00	100	172629.00	100

Table.6 Per hectare profitability of Exported and Non Exported Onion production

		(₹ /ha)	
Sr. No.	Particulars	Non Exported Onion	Exported Onion
1.	Gross Returns	212450.00	418746.48
2.	Cost A	96865.50	96506.70
3.	Cost B	132919.00	166806.00
4.	Cost C	140824.00	172629.00
5.	Farm Business income	115584.50	322239.78
6.	Family Labour Income	79531.00	251940.48
7.	Net Profit	71626.00	246117.48
8.	Output-Input ratio	1.50	2.42
9.	Per Quintal Cost of Production	951.51	942.81

Physical inputs and outputs in Exported and Non-Exported Onion production

Per hectare utilization of physical input and output in cultivation Exported and Non-Exported Onion were worked out and presented in Table 4. Use of per hectare physical input was found to be at par on farms. In cultivation of Non-Exported Onion, 147.8 man days of hired labour and in that of Exported Onion 156.80 man days of hired human labour were required for a hectare of onion production. Non Exported onion production required 31.62 man days of family human labour and the Exported Onion production required 23.29 man days of family human labour per hectare.

In case of bullock pair requirement for per hectare, 2.80 days of bullock pair labour were used for production of Non Exported onion production whereas, it was found comparatively less in Exported onion production (2.72 days).

Machine labour used in Non Exported Onion production and Exported Onion Production was observed to be 2.28 hours and 2.75 hours per hectare, respectively. The Non-Exporting onion farmers used 9.35 kilograms seed per hectare while the Exporting farmers comparatively used less seed (7.51 kilograms) for same area.

The Non-Exporting and Exporting farmers used 25.69 and 27.98 quintals of manure, 144.47 and 145.60 kilograms of Nitrogen, 52.48 and 50.89 kilograms of phosphorus, 78.78 and 78.12 kilograms of potash per hectare respectively. Plant protection applications given to the Non-Exported and Exported Onion was 2.77 numbers and 2.93 numbers respectively. Irrigations given to Non-Exported onion and Exported onion were 6.57 number and 7.00 numbers, respectively. With respect to the input, the per-hectare output was calculated to be 148.05 quintals in Non-Exported farm and that in Exported farm was 183.10 quintals. The Exportable Onion produce was found out to be more than the Non-Exported Onion produce within limited inputs.

Per hectare cost of cultivation

It was observed from Table 5. That, per hectare cost of cultivation of Non-Exported onion was ₹ 140824 and in Exported Onion was ₹ 172629. The share of Cost-A and Cost-B in Cost-C in Non Exported Onion production was 68.86 per cent and 94.39 per cent, respectively. The same in Exported Onion production was seen to be 55.94 per cent and 96.69 per cent of Cost-C, respectively. Share of various items of costs in Cost-C on Non-Exported and Exported farms was seen for hired human labour

26.24 per cent and 22.72 percent, bullock labour 1.19 per cent and 0.95 per cent, machine labour 1.62 per cent and 1.59 per cent, seed 16.60 per cent and 10.88 per cent, manure 2.92 per cent and 2.59 per cent, fertilizer 4.36 per cent and 3.52 per cent, also plant protection chemicals 8.85 per cent and 7.64 per cent, and for irrigation 2.33 per cent and 2.03 per cent, respectively. And the family labour contributed 5.61 per cent and 3.37 per cent of Cost-C in Non Exported and Exported Onion production, respectively.

Profitability in Exported and Non Exported Onion production

Gross income was equal to the value of main produce as the bulb producing farmers did not concentrate towards spring onion production or any of its by-product. The green part of onion is either fed to flocks of Sheep or is a farm waste. The different measures of farm income were also estimated at their respective costs, output-input ratio and per quintal cost of production are presented in Table 6. It was observed that per hectare gross income obtained in Non-Exported Onion farm was ₹ 212450 and in Exported onion farm was ₹ 418746.48.

Per hectare profitability in Exported and Non-Exported Onion production was calculated and presented in Table 4.6. It was clear that, farm business income, family labour income and net profit in case of Non - Exported Onion production were ₹ 115584.50, ₹ 79531 and ₹ 71626 respectively. And that in case of Exported onion production were ₹ 322239.78, ₹ 251940.48 and ₹ 246117.48 respectively.

It referred that, Exported Onion production was more profitable than Non-Exported Onion production. Hence, the hypothesis is accepted. It was clear that; Output-Input

ratio was 1.50 in case of Non-Exported Onion Production and 2.42 in case of Exported Onion Production. It implied that, when 1 rupee spent on Onion production it would lead to give the returns of ₹ 1.5 in Non-Exported Onion production and ₹ 2.42 in Exported Onion production. Per quintal cost of production in Non Exported Onion was ₹ 951.51 and in Exported Onion was ₹ 942.81.

The following conclusions are drawn from the present study:

The average age of Non - Exported Onion farmers were seen to be 40.86 years and that of Exported Onion farmers was 42.65 years.

The educational status of Exported and Non-exported Onion growers shows that even if the literacy rate was 100 percent in both the cases, the Exported onion growers were more educated than the Non- Exported.

The average family size in Non-Exported Onion growers was seen to be 4.90 and that in Exported was seen 4.63.

The total land holding under Non-Exported and Exported Onion growers were calculated to be 67.3 hectares and 128.1 hectares, respectively.

Per hectare cost of cultivation of Non-Exported onion was ₹ 140824 and that in Exported Onion was ₹ 172629.

The share of Cost-A and Cost-B in Cost-C in Non Exported Onion production was 68.86 per cent and 94.39 per cent and that in Exported Onion production was 55.94 per cent and 96.69 per cent, respectively.

Per hectare gross income obtained in Non-Exported Onion farm was ₹ 212450 and in Exported onion farm was ₹ 41876.78.

Output-Input ratio was 1.50 in case of Non-Exported Onion Production and 2.42 in case of Exported Onion Production.

Per quintal cost of production in Non-Exported and Exported Onion was ₹ 951.51 and ₹ 942.81, respectively.

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