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## An economic viability of small and marginal farmers in Nashik district of Maharashtra

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### Abstract

India has been a predominantly an agrarian economy and agriculture continues to be the main stay the economy even today. Majority of the farmers in India are small and marginal farmers. Over 58 percent of rural household depends on agriculture for their principal means of livelihood. Although its contribution to Gross Domestic Product is 16.5% (Economic survey, 2020), it is still the largest employment source and a significant piece of the overall socio-economic development of India. This paper aims at analyzing the economic viability of small and marginal holders considering the average income generated from different sources in Nashik district of Maharashtra. The farmers are categorised into two groups on the basis of economic surplus left with a farm household after deducting the domestic expenditure from the net returns from crop and livestock plus off-farm income of the respective farm household. The farmers having positive economic surplus were grouped as viable farmers and the farmers with negative economic surplus were categorized as non-viable farmers. The economic analysis of data observed that the average economic surplus for marginal and small farms in Niphad are economically positive by depending upon crops and dairy. Income from off-farm activities helped farmers to improve their overall economic surplus whereas marginal farmers have negative surplus and small farmers is positive in Dindori. Also, it was found that overall, 84.38% sample farmers were viable and 15.62% were non-viable in Niphad whereas the Viable farmers in Dindori were 61.75% and non-viable was 31.25%. It was concluded that the viability was high in small farmers in Niphad and non-viability was higher among marginal farmers in Dindori.

**Keywords:** Small, marginal, farmers, income, expenditure, economic surplus and viability

### Introduction

Agriculture remained the mainstay of Indian economy and major source of livelihood of rural household, predominantly by small and marginal farmers, and securing the food and nutritional security. It provides gainful employment to a large section of population of country, particularly, the rural population. Growth of agriculture sector has been fluctuating in India. Over 58 percent of rural household depend on agriculture for their principal means of livelihood. Although its contribution to Gross Domestic Product is 16.5% (Economic survey, 2019-20), it is still the largest employment source and a significant piece of the overall socio-economic development of India.

In Maharashtra the total number of operational holdings as per the agriculture census 2015-16 is 1464.54 lakh. In which the total number of small and marginal farmers constituting 86.07% share i.e., 1260.60 lakh. The average size of holdings of small and marginal farmers of India is 1.40 ha and 0.38 ha, respectively. As per the census, total number of operational holdings in the Maharashtra state has increased from 137 lakh in 2010-11 to 153 lakh 2015-16 i.e., an increase of 11.58%. The Maharashtra state ranks 11th in average size of operational holding i.e., 1.34 ha amongst all states, as per Agriculture Census 2015-16. The total area of small and marginal (up to 2.0 ha) operational holdings was 91.20 lakh ha constituting 45% of the total area of operational holdings, whereas number of small and marginal operational holdings were 121.55 lakh, which were 79.5% of the total operational holdings (Economic Survey of Maharashtra 2019-20). In India, Maharashtra ranks 1st in total number of small holding and 3rd in total no of marginal holding.

Smaller farms, smaller volume of produce, higher transportation costs, reduced ability to negotiate for better prices are the consequences leading to lower prices and lower income to farmers. Declining income just due to reducing farm sizes are a serious disincentive for farmers to continue farming. That's why policy interventions, like minimum support prices (MSP) and procurement prices do not help these farmers with negligible marketable surplus.

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The small piece of land however, does not give enough employment and income. At the same time, it can't be sold also, because land is the last piece of insurance for them and in any case, gainful sustainable employment outside agriculture does not come easily. Neither the state, nor the market provide a satisfactory solution to this chronic problem. So, the study was conducted to analyze the economic viability of small and marginal farmers in Nashik district of Maharashtra.

### Methodology

For the present study, data were collected from two tehsils of Nashik district. *viz.*, Niphad and Dindori. From each tehsil 4 villages were selected randomly making a total of eight villages in the study area. In these villages farmers were categorized into two groups based on size of holding *viz.* Marginal farmers (up to 1 ha) and small farmers (1.01-2.0 ha). From each village 8 farmers are selected randomly *i.e.*, 4 marginal and 4 small farmers making a total sample of 64 farmers for the present study which constitute 32 small and 32 marginal farmers. From each tehsil 16 small and 16 marginal farmers were selected. All the relevant data required for study were collected by survey method by conducting personal interviews using specialized designed questionnaires for the study purpose. The data were collected regarding family details, land holdings, farm building, season, cropping pattern, variable and fixed cost, farm business income, domestic expenditure, dairy expenditure and income, off farm income *etc.* of sample farmers for the year 2020-21 were collected by visiting 64 sample farmers.

Tabular analysis was used to estimate income, expenditure

and economic surplus generated on the farm and off-farm. The sample farmers were categorized into two groups on the basis of economic surplus left with a farm household after deducting the gross domestic expenditure from the sum of net return from crop and livestock plus off-farm income of the respective farm household. The farmers having positive surplus were grouped as viable farmers and the farmers with negative economic surplus were categorized as non-viable farmers.

### Results and Discussion

#### Cropping pattern followed by sample farmers in Dindori and Niphad Tehsils

During *Kharif* season soybean, maize and for *Rabi* season onion, wheat are major crops cultivated by both marginal and small farmers in Niphad. Whereas tomato, pulses and sugarcane are the minor crop for small and marginal farmers in Niphad. In Dindori, paddy, soybean and wheat, Onion are major crops cultivated in *Kharif* and *Rabi* season, respectively.

#### Expenditure pattern of the sample farmers

##### Annual household expenditure pattern of the sample farmers in Nashik district

The amount expenditure incurred by the sample farmers on different items including food expenditure (household grocery, dairy products, fruit and vegetable, meat products and other food items) and non-food expenditure (clothing, education, health, fuel and electricity, social ceremony and other miscellaneous expenditure) in the selected study area *i.e.*, Niphad and Dindori. Presented in Table 1.

**Table 1:** Average Gross annual household expenditure on food and non-food items by sample farmers (Rs. /Farm)

Particular	Farm-size categories					
	Niphad			Dindori		
	Marginal	Small	Overall	Marginal	Small	Overall
Average annual food expenditure	66168.25 (29.68)	75758.75 (27.96)	70963.50 (28.74)	64688.75 (30.87)	71988.13 (28.50)	68338.44 (29.58)
Average annual non-food expenditure	156809.25 (70.32)	195115.37 (72.04)	175962.31 (71.26)	144827.75 (69.13)	180610.00 (71.50)	162718.88 (70.42)
Total	222977.50 (100.00)	270874.12 (100.00)	246925.81 (100.00)	209516.50 (100.00)	252598.13 (100.00)	231057.32 (100.00)

The results from the table observed that in Niphad, Total household expenditure was Rs. 270874.12 and Rs. 222977.50 per farm for small and marginal farmers respectively with overall total Rs. 246925.81, whereas in Dindori it was Rs. 252598.13, Rs. 209516.50 per farm for small and marginal farmers respectively, with overall average Rs. 231057.32.

Among both the tehsils, the average expenses of non-food expenditure were more, occupying 71.26 and 70.42% of total expenditure than average expenses of food expenditure were 28.74 and 29.58% in Niphad and Dindori respectively. Hence, the household consumption pattern revealed that the expenses incurred on non-food items was exceptionally very high which need be reduced in order to improve economic viability of the farmers.

#### Gross annual average expenditure of sample farmers

Economic viability of the farm household was estimated on the basis of gross annual expenditure and gross annual income of the farm household. The estimation of gross annual expenditure taking into all the cost components which includes household expenditure dairy expenditure and crop

expenditure is presented in Table 2.

It is observed that, the total annual expenditure on different components of farmers was Rs. 368644.63 and Rs. 274770 per farm for small and marginal farmers respectively with overall total Rs. 321706.39, whereas in Dindori it was Rs. 348631.39, Rs. 253122 per farm for small and marginal farmers respectively, with overall average Rs. 300876.80 per farm.

On overall farm expenditure it is observed that, among all items of expenditure, the amount spend on household consumption was more sharing 76.76% of the total family expenditure followed by expenditure on crop (14.12) and dairy expenditure (9.12) in Niphad. In Dindori, the expenditure incurred on food were 76.80% followed by crop expenditure (13.42) and dairy expenditure (9.78). Component wise, the highest expenses were incurred on household consumption expenditure compare to dairy expenses and crop expenses. Here it is noticed that percentage amount spent on household consumption was comparatively high on small farmers than marginal farmers.

**Table 2:** Gross annual average expenditure of sample farmers (Rs. /Farm)

Particular	Farm-size categories					
	Niphad			Dindori		
	Marginal	Small	Overall	Marginal	Small	Overall
Household consumption expenditure	222978.50 (81.17)	270874.12 (73.48)	246925.81 (76.76)	209516.50 (82.78)	252598.13 (72.45)	231057.32 (76.80)
Dairy Expenditure	26156.50 (9.51)	32550.34 (8.82)	29353.00 (9.12)	23450.25 (9.26)	35408.00 (10.16)	29429.23 (9.78)
Crop Expenditure	25635.00 (9.32)	65220.17 (17.70)	45427.58 (14.12)	20155.25 (7.96)	60625.26 (17.39)	40390.25 (13.42)
Total expenditure	274770.00 (100.00)	368644.63 (100.00)	321706.39 (100.00)	253122.00 (100.00)	348631.39 (100.00)	300876.80 (100.00)

### Income pattern of sample farmers

The sources of income were categorized into farm income and off-farm income the former includes Net income (Total farm income - Total annual expenditure) obtain from crop cultivation and allied activities (livestock and dairying) and the later comprises income obtained through wages and salaries, government or private services and other sources (business, xerox printing shop, household glossary shop etc.) which have been analyzed for two tehsils and the results are presented in Table 3 and Table 4.

### Average annual farm business income of sample farmers

The farm business income calculates with addition of total income generated from crops and income from dairy. The average annual income was calculated per farm in rupees of sample farmers.

It could be observed from Table 3 that, the marginal farmers farm business income from crop was Rs. 248305.31 per farm followed by income from dairy (Rs. 42796.70) and total crop and dairy income was Rs. 291102.01. In small farmers, farm business income from crop and dairy was Rs. 350244.60 and Rs. 56568 respectively with total farm business income Rs. 291102.01 in Niphad.

The farm business income of marginal farmers in Dindori was Rs. 201798.17 from crop and Rs. 40796.30 from dairy. The total farm income was Rs. 242594.47 per farm. In case of small farmers, farm business income from crop was Rs. 336701.10 and income from dairy was Rs. 45079.43 and total farm income was Rs. 381780.53 per farm. The above results revealed that small farmers earn higher income than marginal farmers in both Niphad and Dindori.

**Table 3:** Average annual farm business income of sample farmers (Rs. /Farm)

Particular	Farm-size categories					
	Niphad			Dindori		
	Marginal	Small	Overall	Marginal	Small	Overall
Income from crops	248305.31 (85.30)	350244.60 (86.10)	299274.95 (85.76)	201798.17 (83.18)	336701.10 (88.20)	269249.64 (86.25)
Income from dairy	42796.70 (14.70)	56568.00 (13.90)	49682.35 (14.24)	40796.30 (16.82)	45079.43 (11.80)	42937.60 (13.75)
Total Farm business income	291102.01 (100.00)	406812.60 (100.00)	348957.30 (100.00)	242594.47 (100.00)	381780.53 (100.00)	312187.24 (100.00)

### Economic surplus of sample farmers

Economic surplus was estimated by deducting the farm and total expenditure from the sum of returns from crops and dairy and adding off-farm income of respective sample farmers. The details are presented in Table. 4

The total expenditure in marginal farmers was Rs. 274770 and economic surplus from crop and dairy was Rs. 16332.01 per farm. The total expenditure was Rs. 368644.63 and economic surplus from crop and dairy was Rs. 38167.97 for small farmers in Niphad. The results showed that economic surplus was higher in small farmers than marginal farmers. In

Dindori, regarding small farmers, the total expenditure was Rs. 348631.39 per farm and surplus from crop and dairy was Rs. 33149.14, whereas marginal farmers were in a deficit of Rs. 10527.53 in economic surplus.

After adding off-farm income, small farmers in both Tehsils became more viable with increasing their positive overall surplus. Whereas marginal farmers in Dindori became viable as the overall economic surplus positive after the adding off-farm income. Therefore, income from dairy and off-farm activities can help farmers to become a viable farmer.

**Table 4:** Average economic surplus of sample farmers (Rs. /Farm)

Particular	Farm-size categories					
	Niphad			Dindori		
	Marginal	Small	Overall	Marginal	Small	Overall
Total farm income	291102.01	406812.60	348957.30	242594.47	381780.53	312187.24
Total expenditure	274770.00	368644.63	321706.39	253122.00	348631.39	300876.80
Economic surplus from crop and dairy	16332.01	38167.97	27250.91	-10527.53	33149.14	11310.44
Off-farm income	20550.00	28540.01	24545.24	18750.15	20935.00	19842.50
Overall economic surplus	36882.01	66707.98	51796.15	8222.62	54084.14	31152.94

### Viability of small and marginal farmers

The farmers were classified into viable and non-viable groups based on the overall economic surplus left with them. The farmers who had positive surplus were grouped as viable farmers, whereas those having negative economic surplus were group as non-viable farmers. The distribution of marginal and small farmers into viable and non-viable classes has been presented in Table 5.

In Niphad, the proportion of viable farmers was relatively higher at 84.38% of the total farmers households, whereas the other 15.62% were observed to be non-viable. On the other hand, in Dindori, the proportion of viable farmers was relatively lower for 68.75% of the total farmers and non-viable farmers are relatively higher were its as 31.25% as compared to Niphad.

**Table 5:** Overall economic viability of small and marginal farmers (Numbers)

Particular	Farm-size categories					
	Niphad			Dindori		
	Marginal	Small	Overall	Marginal	Small	Overall
Viable	12	15	27	9	13	22
	(75.00)	(93.75)	(84.38)	(56.25)	(81.25)	(68.75)
Non-viable	4	1	5	7	3	10
	(25.00)	(6.25)	(15.62)	(43.75)	(18.75)	(31.25)
Total	16	16	32	16	16	32

The proportion of viable farmers were relatively higher among the small farmers which accounting 93.75%, 81.25% to the total small farmers, whereas 75%, 56.25% marginal farmers found to be viable in Niphad and Dindori, respectively. In comparison for Dindori, the proportion of non-viable farmers among the marginal farmers was 43.75%, 25% to the total marginal farmers, whereas 6.25%, 18.75% to the total small farmers. It can be concluded that the non-viability was higher in marginal farmers in Dindori and viability was higher in small farmers in Niphad.

### Conclusion

The following results obtained from the data analysis. The economic surplus from crop and dairy of small farmers is positive in Niphad, whereas marginal farmers have negative surplus and small farmers is positive. In both, Niphad and Dindori Overall economic surplus is positive and higher in small farmers than the marginal farmers. The average economic surplus for marginal and small farms in Niphad are economically positive by depending upon crops and dairy. Income from off-farm activities helped farmers to improve their overall economic surplus. It was concluded that the viability was high in small farmers in Niphad and non-viability was higher among marginal farmers in Dindori Tehsils.

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