

## A Study on Economic Viability of Small and Marginal Farmers in Rayalaseema Region of Andhra Pradesh

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### ABSTRACT

Indian agriculture is dominated by small and marginal farmers. They cultivate around 44 per cent of the area and they produce around 60 per cent of the total food grain production (49% of rice, 40% of wheat, 29% of coarse cereals and 27% of pulses) and over half of the country's fruits and vegetables production (Agricultural census, 2014). Therefore, small farmers are responsible for diversification and food security of the country. But, with very little marketable surplus, their farming is hardly commercial. They may be efficient, but their viability is a big concern. This paper aims at analyzing the economic viability of small and marginal holders considering the average incomes generated from different sources in Rayalaseema region of Andhra Pradesh. The farmers were categorized into two groups on the basis of economic surplus left with a farm household after deducting the domestic expenditure from the sum of net returns from agriculture, livestock and dairy 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.

**Keywords:** 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 the country, particularly, the rural population. Growth of agricultural sector has been

fluctuating in India. Over 58 per cent of the rural households depend on agriculture for their principal means of livelihood. Although its contribution to Gross Domestic Product (GDP) is 16.1 per cent (Central Statistics Office, 2014-15), it is still the largest employment source and a significant piece of the overall socio-economic development of India.

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In Andhra Pradesh there were 7621.12 thousand land holdings, out of which 6574.63 thousand holdings were owned by small and marginal farmers accounting for nearly 86 per cent of the total farm households (2011). Fragmentation of land has serious consequences in almost every aspect of agricultural growth and development i.e., in production, storage, transportation and marketing. Fragmentation means higher transaction cost of reaching out to them. Continuous decline in average size of land has implications for agriculture credit outreach too. Banks find it increasingly difficult to finance asset generating investments, as they are not viable on marginal and small farms, unless they are also leased out to neighbouring farms.

Smaller farms, smaller volumes of produce, higher transport costs, reduced ability to negotiate for better prices are the other consequences leading to lower prices and lower incomes for farmers. Declining incomes just due to reducing farm sizes are a serious disincentive for farmers to continue farming. That is why policy interventions like Minimum Support Price (MSP) and procurement prices do not help these farmers with negligible marketable surplus. 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 and in any case, gainful sustainable employment outside agriculture does not come easily. Neither the state, nor the market has been able to provide a satisfactory solution to this chronic problem. So the study was conducted to analyze the economic viability of small and marginal farmers in two agro-climatic zones in Rayalaseema region of Andhra Pradesh.

#### MATERIALS AND METHODS

For the present study, two agro climatic zones viz., Southern zone and Scarce Rainfall zone in Rayalaseema region of Andhra Pradesh were selected purposively. Chittoor district from

Southern zone and Anantapur district from Scarce Rainfall zone were selected based on the maximum area operated by the small and marginal farmers. All the mandals in each of the selected district along with their operated area of small and marginal farmers were listed out in descending order and top three mandals were selected. Similarly, all the villages in each of the selected mandals were listed out and arranged in descending order and top one village was chosen. At village level, the farmers were categorized according to their land holding size into marginal (<1 ha) and small (1-2 ha) category (RBI, 2008). From these two categories, a total of 120 farmers were selected at random, representing 60 farmers from each category. So, the final sample will consisted of two districts, six mandals, six villages and 120 farmers (60 farmers each in marginal and small categories) from which the researcher collected the requisite data. A well-structured pre-tested schedule was employed to collect the required information from the sample farmers for the agricultural year 2016-17.

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 domestic expenditure from the sum of net returns from agriculture, livestock and dairy 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.

#### RESULTS AND DISCUSSION

##### 3.1 Cropping pattern followed by the sample farmers in Chittoor and Anantapur districts

Paddy and groundnut were the predominant crops grown by the sample farmers in Chittoor district during *kharif* and *rabi* seasons

respectively whereas in Anantapur district groundnut and redgram were the major crops cultivated in *khari*f and groundnut was grown in *rabi*.

### 3.2 Income pattern of sample farmers

The sources of income was categorized into farm income and non-farm income, the former includes net income (gross income – operational costs) obtained from crop cultivation and allied activities (live stock and dairying) and the later comprises income obtained through wages and salaries, government or private services and other sources (business, brick making, construction transport, finance etc) which have been analyzed for the two regions and the results are presented in Table 1.

#### 3.2.1 Income pattern of sample farmers in Chittoor district (Southern Zone)

The average annual net income generated by the farms ranged from ` 70,532.89 on marginal farms to ` 1,02,259.03 on small farms, whereas on pooled farms it was ` 86,395.96. Income generated from crops, live stock and dairy (farm income) occupied major share out of the total income with 56.65 per cent on pooled farms, while it was 50.78 per cent on marginal farms and 60.71 per cent on small farms indicating farm income increased with increase in the size of holding. The proportion of income generated from crops (40.89%) was higher than income generated from livestock and dairy (15.77%). Almost similar trend was seen on both marginal and small farms.

The proportion of income generated through non-farm activities ranged from 49.22 per cent on marginal farms to 39.29 per cent on small farms showing that, non-farm income decreased with increase in the farm size. The same on pooled farms was 43.35 per cent of total income. The income received through wages and salaries was the main source of income among non-farm activities in the region with 26.93 per cent followed by income earned from government or private services

(10.61%) and others (5.81%). Similar trends were observed on both farm size categories.

#### 3.2.2 Income pattern of sample farmers in Anantapur district (Scarc Rainfall Zone)

The net annual income received from different sources by the marginal, small and pooled farms was 66,259.08, 97,732.33 and 81,995.70 respectively. It is observed that the annual income generated from different sources increased with increase in the farm size. It was found that of the total net annual income, major share was earned from crop and dairy, followed by income from non-farm activities. The proportion of income generated from farm was 48.49 per cent on pooled farms, whereas it ranged from 40.48 per cent on marginal farms to 53.92 per cent on small farms. Income received from crops was more (36.72%) compared to livestock and dairy (11.78%).

The other important source of income for the farmers was income generated on non-farm activities that contributed 51.51 per cent of total income on pooled farms while it ranged from 59.52 per cent on marginal farms to 46.08 per cent on small farms indicating that the income generated through non-farm activities was more on marginal farms compared to small farms. Among non-farm activities the income earned from wages and salaries contributed 32.94 per cent followed by income generated through government or private services (11.72%) and others sharing 6.84 per cent of total income. Similar pattern was observed on both farm size categories.

The above results showed that, the average annual net income received increased with increase in the farm size. Net income generated from crops was more than income generated through livestock and dairy. It is interesting to note that the proportion of income earned through non-farm activities was more on marginal farms than small farms indicating inverse relationship between non-farm income and the farm size.

**Table 1: Distribution of total household income across different income sources of the sample farms in Rayalaseema region of Andhra Pradesh****(Per farm / Per annum)**

S.No	Particulars	Chittoor			Anantapur		
		Marginal	Small	Pooled	Marginal	Small	Pooled
<b>1.</b>	<b>Farm income</b>						
a.	Net income over operational costs	23163.35 (32.84)	47482.90 (46.43)	35323.13 (40.89)	18169.78 (27.42)	42042.16 (43.02)	30105.97 (36.72)
b.	Livestock and dairy	12652.36 (17.94)	14595.63 (14.27)	13624.00 (15.77)	8654.25 (13.06)	10658.18 (10.91)	9656.22 (11.78)
	Total farm income	35815.71 (50.78)	62078.53 (60.71)	48947.12 (56.65)	26824.03 (40.48)	52700.34 (53.92)	39762.18 (48.49)
<b>2.</b>	<b>Non-farm income</b>						
a.	Wages & salaries	21496.65 (30.48)	25036.55 (24.48)	23266.60 (26.93)	26215.58 (39.57)	27809.00 (28.45)	27012.29 (32.94)
b.	Government / Private services	8655.25 (12.27)	9675.33 (9.46)	9165.29 (10.61)	8654.25 (13.06)	10564.44 (10.81)	9609.35 (11.72)
c..	Other sources	4565.28 (6.47)	5468.62 (5.35)	5016.95 (5.81)	4565.22 (6.89)	6658.55 (6.81)	5611.89 (6.84)
	Total non-farm income	34717.18 (49.22)	40180.50 (39.29)	37448.84 (43.35)	39435.05 (59.52)	45031.99 (46.08)	42233.52 (51.51)
	Total income	70532.89 (100.00)	102259.03 (100.00)	86395.96 (100.00)	66259.08 (100.00)	97732.33 (100.00)	81995.70 (100.00)

Note: Figures in parentheses indicate percentages to the respective totals

### 3.2 Expenditure pattern of the sample farmers

The amount expenditure incurred by the sample farmers on different items like food, clothing and footwear, fuel and electricity, education, health, comforts, luxuries, recreations and other items in the selected agro-climatic zones of Rayalaseema region were analyzed and presented in Table 2.

#### 3.2.1 Annual expenditure pattern of the sample families in Chittoor district

The results from the table revealed that, on an average per household expenditure incurred by the sample farmers was ` 73,392.43, ` 83,587.50 and ` 78,489.97 on marginal, small and pooled farms respectively.

It is observed that, on pooled farms the per cent of expenditure incurred on food was more, occupying 52.60 of total expenditure followed by education (15.67%), comforts luxuries, recreations and others (10.76%), clothing and footwear (9.09%), and fuel and lighting (2.61%). The percentage of amount spent on items like clothing and footwear, fuel and lighting, education and

health more or less remained same. Further it is noticed that, the percentage of amount on food items was more on marginal farms (55.06) than small farms (50.14) as against to this the percentage amount spent on comforts luxuries, recreations and others was more on small farms (11.31) than marginal farms (10.22).

#### 3.2.2 Annual expenditure pattern of the sample families in Anantapur district

It is noted that, the total annual expenditure on different items on marginal, small and pooled farms was worked out to ` 76,904.97, ` 86,659.09 and ` 81,782.03 respectively.

On pooled farms it is observed that, among all the items of expenditure, the amount spent on food items was more sharing 49.68 per cent of the total family expenditure followed by expenditure on education (15.01%), comforts luxuries, recreations and others (13.48%), clothing and foot wear (10.69%), health (8.58%) and least amount was spent on fuel and lighting (2.57%). Here it is noticed that, the percentage of amount spent on food items was comparatively high on

marginal farms (51.39%) than small farms (47.96%). Contrary the percentage of amount spent on comforts luxuries, recreations and others was more on small farms (14.32%) than marginal farms (12.65%). It is interesting that,

the percentage share of expenditure on items like clothing and footwear, fuel and lighting, education and health was almost similar on both the farms.

**Table 2: Annual expenditure pattern of the farm families in Rayalaseema region of Andhra Pradesh**

S.No	Particulars	Chittoor			Anantapur		
		Marginal	Small	Pooled	Marginal	Small	Pooled
1.	Food	40410.00 (55.06)	41914.29 (50.14)	41162.15 (52.60)	39519.96 (51.39)	41563.64 (47.96)	40541.80 (49.68)
2.	Clothing and footwear	6277.50 (8.55)	8039.29 (9.62)	7158.40 (9.09)	7950.00 (10.34)	9568.18 (11.04)	8759.09 (10.69)
3.	Fuel and light	1887.68 (2.57)	2208.93 (2.64)	2048.31 (2.61)	2155.00 (2.80)	2022.73 (2.33)	2088.87 (2.57)
4.	Education	10825.00 (14.75)	13867.86 (16.59)	12346.43 (15.67)	10716.67 (13.93)	13931.82 (16.08)	12324.25 (15.01)
5.	Health	6489.75 (8.84)	8107.14 (9.70)	7298.45 (9.27)	6836.67 (8.89)	7163.64 (8.27)	7000.16 (8.58)
6.	Comforts, luxuries, recreation and others	7502.50 (10.22)	9450.00 (11.31)	8476.25 (10.76)	9726.67 (12.65)	12409.09 (14.32)	11067.88 (13.48)
7.	Total expenditure	73392.43 (100.00)	83587.50 (100.00)	78489.97 (100.00)	76904.97 (100.00)	86659.09 (100.00)	81782.03 (100.00)

### 3.3 Economic Surplus Generated on Different Categories of Farms

To test the viability of the farms, economic surplus was calculated by deducting the domestic expenditure from the total net income from crops, livestock and dairy and off farm income of a selected farm household. Table 3 indicated that, both marginal and small farmers could not meet their household expenditure on the basis of their total disposable income from crops, livestock and dairy farming. Marginal farmers were in a deficit of ` 37,576.72 and ` 50,080.94 in Chittoor and Anantapur districts respectively. It is the adversity of the situation that even the small farmers were living under a deficit economic surplus from agriculture to the tune of ` 21,508.97 and ` 33,958.75 in above said districts respectively.

After adding the off-farm income, small farmers in both the districts became viable as the overall economic surplus after

meeting the domestic expenditure remained positive, whereas marginal farmers remained non-viable due to negative economic surplus. Therefore income from dairy and off-farm activities can help them to become viable farmers. Thus, it could be concluded that both marginal and small farmers both districts are not economically viable by depending upon crops, livestock and dairying. Income from off-farm activities helped them to become viable farmers in the case of small farmers.

### 3.4 Viability of farms

The distribution of marginal and small farmers into viable and non-viable classes has been presented in Table 4. Out of the total 120 sample farmers, the number of viable farmers was 37 (30.83%) and of non-viable farmers were 83 (69.17%). Out of 60 marginal farmers, only 25 per cent were viable, while remaining 75 per cent were non-viable. In the case of small farmers, 36.67 per cent were viable and 63.33 per cent were non-viable.

The district-wise comparison of this aspect depicted that the marginal farmers were viable only to the tune of 30 per cent in Chittoor and 20 per cent in Anantapur. This kind of divergence exists because of difference in the farm size as well as crop and livestock and

dairy productivity on marginal farms across two districts. The position of viable small farmers was better with 40 and 33.33 per cent in Chittoor and Anantapur districts respectively.

**Table 3: Economic surplus from crops, livestock, dairy and overall after including off-farm income of marginal and small farmers in Rayalaseema region of Andhra Pradesh**  
(₹/farm/annum)

S.No	Particulars	Chittoor		Anantapur	
		Marginal	Small	Marginal	Small
1.	Net income over operational costs	23163.35	47482.90	18169.78	42042.16
2.	Net income from livestock and dairy	12652.36	14595.63	8654.25	10658.18
3.	Total net income from crops, livestock and dairy	35815.71	62078.53	26824.03	52700.34
4.	Domestic expenditure	73392.43	83587.50	76904.97	86659.09
5.	Economic surplus from crops, livestock and dairy	-37576.72	-21508.97	-50080.94	-33958.75
6.	Off-farm income	34717.18	40180.50	39435.05	45031.99
7.	Overall economic surplus	-2859.54	18671.53	-10645.89	11073.24

**Table 4: Distribution of marginal and small farmers into viable and non-viable classes on the basis of overall economic surplus in Rayalaseema region of Andhra Pradesh**

Farm size categories	Chittoor		Anantapur		Rayalaseema	
	Viable	Non viable	Viable	Non viable	Viable	Non viable
<b>Marginal</b>	9 (30.00)	21 (70.00)	6 (20.00)	24 (80.00)	15 (25.00)	45 (75.00)
<b>Small</b>	12 (40.00)	18 (60.00)	10 (33.33)	20 (66.67)	22 (36.67)	38 (63.33)
<b>Pooled</b>	21 (35.00)	39 (65.00)	16 (26.67)	44 (73.33)	37 (30.83)	83 (69.17)

Note: Figures in parentheses indicate percentages to total

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