

The Economic Status of the Marginalized Farmers in Guntur District of Andhra Pradesh, India

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Abstract

Nearly 53% of the population is employed in the agricultural sector, which occupies more than 46% of the country's land area and is essential to the inclusive and sustainable growth of the Indian economy. The necessity for a strong growth rate in the agricultural sector was highlighted by the fact that, in 2019–20, almost 30.5% of rural residents lived below the poverty line. Therefore, by giving the vast majority of the nation's population jobs and food security, the agriculture sector not only helps the economy grow overall but also lowers poverty. Food grain production grew from 52 million tons in 1950–51 to 250 million tons in 2019–2020. At the same time, oil seed production increased from 5 million tons to 28 million tons throughout the last 60 years. In terms of production of sugarcane, groundnuts, cereals, fruits, wheat, and paddy, India came in third. Agriculture and related industries' contribution of the GDP decreased gradually from 38.8% in 1980–1981 to 13.7% in 2019–20. Additionally, the proportion of workers employed in agriculture fell from 75.9% in 1961 to 56.4% in 2015–16. The performance of agriculture in the post-independence period had been impressive as compared to the pre independence period. The overall performance of agriculture and allied sector had got up to the mark during the period 2001-2011. The low growth in GDP from agriculture during 2011-2019 coupled with higher instability would have led to more vulnerability and distress among the farming community.

Keywords: Agriculture, Cultivation, Small Farmers, Marginal Farmers, Households.

Introduction

Production in agriculture is seasonal. The farmer has a set amount of time to finish various agricultural tasks. The timely completion of various tasks will significantly affect both productivity and output. In a similar vein, the cost of cultivation will either directly or indirectly affect the use of inputs. A thorough examination of crop profitability and cultivation costs at the farm level provided additional insight into the situation of farmers and the standard of living of farm households. For a long time, there has been a lot of discussion about the connection between farm size, crops, production, and cost. In the light of above facts, for an in-depth analysis of region wise and crop wise-specific cost and returns of marginal and small farm households have been collected and analysed in this chapter. The crop specific analysis throws light on the income of the farm households with limited non-farm employment opportunities.

The amount and structure of cultivation costs have a big impact on farming as a company. Conventional methods and home-grown inputs are necessary for traditional farming. New methods, contemporary tools, and machinery used in modern agriculture heavily rely on purchased inputs. The degree of technology and usage of contemporary inputs determines the cost structure represented by the proportion of different inputs in the overall cost of cultivation.

The cost of agriculture will be directly and indirectly impacted by the usage of contemporary inputs like as fertilizers, herbicides, seeds, tractors, and labor. The direct result is an increase in the cost of production and cultivation. In the Delta and Guntur regions, farmers grow cash crops and high-value commodities, but the risk is rising. Farmers are not encouraged to increase their farm business investments by the risk and uncertainty involved in growing both traditional and commercial crops. Small and marginal farmers are unable to engage in more lucrative crop businesses. These possibilities are confined to the study of cropping pattern. Marginal and small farmers as a result of risk and uncertainty, use highly intensive use of inputs, cultivation of high value crops will have indirect impact on standard of living of these farm households. Farms under risk and uncertainty and its impact on farm business, cultivation practices and cost of cultivation, net returns and input-output ratios of sample households are also analysed in detailed in this chapter. The costs of cultivation among marginal and small farm households are also analysed. The analysis presented in this chapter is related to per acre use.

Problem of the study Area

Agricultural production in state is almost exclusively carried in private individual holdings. As per 2014-15 agricultural censuses, marginal holdings with 37.27 ha of area constituting about 26.07 per cent of total land holdings, control about 7.6 per cent of the gross cultivated area. Marginal holdings in the size of class range of 0.5 ha to 1 ha area constitute another 23.0 per cent of the holdings, control 12.5 per cent of the cultivated area. It indicates that the marginal holdings account for close to 63.96% of the overall operational area. In comparison, small holdings account for approximately 22.15% of the total holdings and operate about 27.18% of the land under cultivation, with about 28.83% of the total cultivated area. Roughly 86.11 percent of all assets are 2 ha or less, and approximately 54.90 percent of the cultivated land is under their management.

Due to debt, small and marginal farmers are consequently compelled to sell their produce as soon as it is harvested, at which point the total sale price will be the lowest. Farmers receive a minimum price that is significantly lower than the cost of production. Rich farmers typically wait to sell their goods until they achieve advantageous market prices, which are once higher than the minimum support price. When small and marginal producers sell their produce on the market, it is evident that the minimal support price typically determines their earnings.

Need for the study

The importance of small and marginal farmers in maintaining societal stability cannot be quantified in monetary terms. Therefore, without ensuring that these farms are lively and economically sustainable, no agricultural strategy will be successful. According to the reasons outlined in the previous payers, small and marginal farmers continue to be trapped in a cycle of debt and poverty. In the state of Andhra Pradesh, this agrarian crisis has escalated to deadly levels and taken the form of suicides. The severity of this issue and its contributing factors made it clear that cultivators who fall into the marginal and small farmer categories accounted for the majority of suicides.

In addition to the general issues facing the agrarian sector, such as poverty, crop failure, debt, marital discord, and alcoholism, these farmers are also having a difficult time getting timely, high-quality inputs, including capital, and efficiently marketing their produce. They are also less able to adopt expensive technologies than medium- and large-scale farms.

Objectives of the study

1. To analyze the economics of cultivation and farm income in the study area
2. To analyze the viability and non-viability of tenant, marginal and small farmers in study area
3. To suggest ways to counter the present distress and means to improve the situation of marginal and small farmers and farming in the state of Andhra Pradesh.

Methodology

The Krejcie and Morgan Sampling Method is one of the most used techniques. Krejcie & Morgan (1970) developed a table utilizing the sample size formula for finite population to make figuring out the sample size for a finite population easier. According

the krejcie and Morgan table follow the 95 percent of confidence, 0.05 degree of accuracy. Based on the above model the sample size is confined to 526.

Once the sample size is fixed, for each village the sample size for each stratum is determined by following the proporsnate sampling method using a random start. Thus, 5219 operational farm households were listed. After arranging the list of farm households in an ascending order in terms of the size of their landholdings, the size of the sample for each village is fixed in proportion to their percentage of the farm house holdings in that village. Out of the listed 2219 samples are from marginal, 1877 are from small farmers and 1123 from tenant farmers were selected. Of the total households, 224 households from marginal farm households and 188 households from small farms and 114 respondents from tenant farmers were selected. Thus altogether 526 farm households were selected. The total number of households selected from both categories for the present study is shown in the table 1 and 2.

Table-1
List of selected Mandals and Villages in Guntur District

Regions	Mandal	Village
Guntur	Tadikonda	Kanteru
		Pamulupadu
	Kollipara	Attota
		Civaluru
Palnadu	Rompicherla	Santhagudipadu
		Dasaripalem
	Gurazala	Gannavaram
		Gottimukkala
Delta	Kollipara	Vellaturu
		Pedapulivarru
	Repalli	Bethapudi
		Peteru

Table-2
The Size of Operational Farm households and Sampling Households in the study area

List of Villages	Marginal Farmers	Small	Tenant farmers	Total farmers	Selected Marginal farmers	Selected Small Farmers	Selected Tenant Farmers	Total selected farmers
	1	2	3	4=(1+2+3)	5	6	7	8=(5+6+7)
Kanteru	185	165	85	435	19	16	9	44
Pamulupadu	175	145	65	385	17	14	7	38
Attota	190	175	75	440	19	18	7	44
Civaluru	195	155	70	420	20	16	7	43
Guntur region	745	640	295	1680	75	64	30	169
Santhagudipadu	170	130	90	390	17	13	9	39
Dasaripalem	160	120	80	360	16	12	8	36
Gannavaram,	187	145	100	432	19	15	10	44
Gottimukkala	177	150	75	402	18	15	8	41
Palnadu region	694	545	345	1584	70	55	35	160
Vellaturu	200	175	125	500	20	17	13	50
Pedapulivarru	218	185	145	548	22	19	15	56
Bethapudi	177	187	115	479	18	19	12	49
Peteru	185	145	98	428	19	14	9	42
Delata Region	780	692	483	1955	79	69	49	197
Total	2219	1877	1123	5219	224	188	114	526

Per acre expenditure on Inputs-All crops

The information pertaining to per acre expenditure on major principal crops and its distribution among different inputs on both categories of farm households in the three regions along with the breakup of the expenditure on marginal and small farmers is presented in the table-3, 4, 5. To ascertain the relative importance of different farm inputs in the total cost, input wise breakup of total cost and representative percentage of different component items to total cost are computed and presented.

Apart from overhead cost, the expenditure on fertilizers, pesticides and human labours are the predominant components of total cost. The expenditure on fertilizers and pesticides is high in Delta region than Guntur and Palnadu regions among both marginal and small farm households. In Delta region, the proportion of expenditure on fertilizers is 27.87 per cent to total cost of cultivation followed by 26.97 per cent in Guntur and 26.15 per cent in Palnadu region. Here the proportion of expenditure on fertilizers and pesticides among marginal and small farm in three regions can be observed that they are inversely related with the farm size on both categories of farm sizes. This may be due to the fact that marginal and small farm households' practices more intensive farming. The use of fertilizers and pesticides is increasing due to low fertility of soil. The fertility of soil increases with multiple crops and crop rotation. Another reason in that there is the farmer competes with co-farmers in applications of fertilizers and pesticides without following the government extension services and scientist's measures. They follow only their neighbor farmers in the village. If one applies 10 bags of fertilizers another farmer applies more than ten bags. In this manner the share of expenditure on fertilizers and pesticides on the total cost increases.

Another major input in the cultivation is hired labour. The expenditure on hired human labour constituted 22.51 Per cent (Rs. 12,068) to the total cost of cultivation. Intra-regional data clearly shows that per acre expenditure on human hired labour is found to be high in Delta region accounting for 22.07 per cent (Rs. 14,316) followed by 19.82 per cent (Rs.13,468) in Guntur and 18.97 per cent (Rs. 6,582) in Palnadu. The category of farm size clearly shows that the expenditure on hired labour is high among small farmers in the three regions, with 12.38 per cent (Rs. 7,526), 23.42 per cent (Rs. 17,010) and 18.97 per cent (Rs. 7,041) respectively. In case of marginal farmers, it is 20.05 per cent (Rs. 12,138) in Delta, 19.96 per cent (Rs. 10,325) in Guntur and 18.65 per cent (Rs.6,082) in Palnadu

which is spent on hired labour. This leads to the conclusion that the farmers of Delta and Guntur regions are cultivating labour intensive crops viz cotton, chillily, paddy etc where more demand in their labour for application of fertilizes and harvesting of paddy. Now a day the cause for increase in the wages of labour is due to implementation of MGNREGA works in these villages, where they will get assured employment.

It is a quite common thing that, there will be a scarcity for the labour during the peak period of cultivation. During this time the labour with hike the wages and so the expenditure on hired laboures is increasing alarmingly. On the other hand, the proportion of family labour is high in Delta region, accounting for 8.39 percent (Rs. 13,521/-). One interesting point to be observed that the imputed cost of labour is Rs. 13521/- in Delta region and it is Rs. 4624/- and Rs.4945/- in case of Guntur region and Palnadu region. Majority of marginal and small farmers work on their own farm, and hence, situation the imputed cost of labour will be high among the small and marginal farm in the three regions. A similar pattern observed among the tenant, marginal and small farms in the three regions with slight variations. It is also observed that there is direct relationship between proportion of expenditure to total cost on hired labour and farm size and inverse relation between expenditure on family labour to total cost and farm size.

This is also established with a tilted regression equation of the farm

$$\text{Log } L = \text{Log } a + b \text{Log } x$$

Where

L= the value of hired labour per acre and

X= Farm size in acres

The fitted regression equations are

Delta	=	6.37 to 0.216 Logx
Palnadu	=	5.73+0.132 Logx
Guntur	=	6.12+0.434Logx

Table 3
Region and Category wise Per Acre Expenditure –All Crops
(Values in Rupees)

Inputs	Delta Region			
	Tenant	Marginal	Small	Total
Machined labour	3768	3977	5379	4931
Bullock labour	4691	3698	6306	5449
Seeds	3530	4236	4448	4416
Fertilisers	25576	19674	22449	22936
Manure	2957	3083	1423	2541
Pesticides	17060	14713	13994	15460
Hired labour	21700	24003	24352	24020
Irrigation	2391	2032	3091	2878
Transport cost	2338	1898	2414	2316
Marketing charges	2208	2417	2650	2544
Miscellaneous	2564	4503	2405	3081
Depreciation	1825	2218	3322	2632
Interest on working capital	7865	7784	10080	8798
Cost A	98473	94236	102313	102002
Leased in land	20750	22933	20909	21148
Cost A1	119223	117169	123222	123150
Rental value of owned land	0	21079	22095	21634
Interest on fixed capital	0	2676	2526	2766
Cost B	119223	140924	147843	147550
Owned labour	17908	17463	10076	13521
Total Cost	137131	158387	157919	161071

Note: Figures in parenthesis indicates percent to the respective total

Table 4
Region and Category wise Per Acre Expenditure –All Crops
(Values in Rupees)

Inputs	Palnadu Region			
	Tenant	Marginal	Small	Total
Machined labour	3759	3200	3075	2999
Bullock labour	1788	1905	1834	2470
Seeds	2646	2820	2701	3120
Fertilisers	12842	11276	10770	9890
Manure	1713	1187	1562	1170
Pesticides	4264	4509	3569	3990
Hired labour	10593	10818	10434	10769
Irrigation	2358	2364	2213	2075
Transport cost	1019	1115	1049	910
Marketing charges	1050	1450	1425	1390
Miscellaneous	1224	1000	1145	1500
Depreciation	505	1013	720	581
Interest on working capital	4497	3401	3715	3676
Cost A	48258	46058	44212	44540
Rental value of owned land	0	12821	13367	13150
Interest on fixed capital	0	1808	1736	2330
Cost A1	48258	60687	59315	60020
Leased in land	15254	15422	13667	12287
Cost B	63512	76109	72982	72307
Owned labour	6970	5735	5347	4624
Cost C	70482	81844	78329	76931

Note: Figures in parenthesis indicates percent to the respective total

Table 5
Region and Category wise Per Acre Expenditure –All Crops
(Values in Rupees)

	Guntur Regions			
Inputs	Tenant	Marginal	small	Total
Seeds	3146	3820	3301	3625
Machined labour	7259	7745	7525	7434
Bullock labour	888	1025	934	549
Fertilisers	13542	12476	13456	11996
Manure	1713	1339	1712	1550
Pesticides	4764	5509	4069	4295
Hired labour	9193	11273	11293	10339
Owned labour	7470	6590	6505	4945
Irrigation	2358	2139	2313	2637
Leased in land	15254	15189	13867	13148
Rental value of owned land	0	13562	13567	13600
Interest on working capital	4997	4754	5062	4486
Interest on fixed capital	1888	2288	2036	2640
Depreciation	705	1313	1120	920
Miscellaneous	1324	1250	1245	1675
Marketing charges	1250	2052	1725	1602
Transport cost	1219	1365	1449	1120
Total Cost	90032	93689	91179	86561

Note: Figures in parenthesis indicates percent to the respective total

The regression equation reveals a positive and statistically significant association between farm size and spending on hired workers across all three areas. This finding suggests a negative correlation between the number of farms in these locations and the use of family labor. Another significant factor that has an impact on the outcome is the investment in seeds. The proportion of expenditure on seeds to total cost is 3.06 percent (Rs. 4,931/-) in Delta region, 3.89 percent (Rs. 2999/-) in Palnadu region and 4.19 per cent (Rs. 3,625/-) in Guntur region. It is clearly found that the expenditure on seeds is high in Delta when compared to Guntur and Palnadu regions.

This also leads to a conclusion this trend is that it may be due to cropping pattern of Delta and Guntur farmers who are cultivating commercial crops like cotton, chillies, turmeric and maize. The cost of seeds of these crops is high when compared to Paddy, turmeric, and horticultural crops. These low-cost crops are cultivated in Palnadu region where the expenditure on seeds comparatively low. There is a significant difference in proportion of expenditure on seeds to total cost between three regions.

Some agricultural operations like, seed bed preparation, inter cultivation for weeding and land leveling for the cultivation of crops like paddy, cotton, chilies and vegetables etc cannot be done with emetine the case of bullock labour hence, in these operations there found direct impact on total cost. The proportion of expenditure on bullock labour on the farm size among the three regions is found to be high in Delta region which is accounting for 3.38 per cent (Rs 5449/-) followed by 3.21 percent (Rs. 2470/-) in Palnadu and 0.63 per cent (Rs. 549/-) in Guntur regions. This may be due to the nature of cropping pattern. Hence, we can says that there is a direct relationship between expenditure on bullock labour and farm size.

Another important input that bare that share in increasing the total cost is Tractor (machine labour). The proportion share of expenditure on tractor to total cost is high in Guntur with 4.19 per cent (Rs. 7434/-). In case of Palnadu region, it accounts for 3.90 percent (Rs. 2999/-) followed by Delta which accounts for 3.06 per cent (Rs. 4931/-). This may be due to cropping pattern and hardness of the soil. Commercial crops like turmeric, cotton and chilies require deep ploughing. Whereas the paddy growing areas need tractor for seed-bed preparation (dammu). Another reason for this increasing hike in the tractor cost followed by the diesel oil price. However, no significant relationship is found between the farm size and proportion of expenditure on tractors to total cost.

Another important and major input is land. The rental values of owned land is found to be high in Delta region, but the proportionate to the total cost it is found to be high in Palnadu region, which accounts for 15.97 per cent (Rs. 12,287) while it is 15.19 Per cent (Rs.13,148/-) in Guntur and 13.43 per cent (Rs.12,148/-) in Delta regions. There is in significant difference in proportion of rental value of land in Delta, Guntur and Palnadu regions. This Phenomenon led to the conclusion that assured the validity of water supply, cropping intensity and fertility of soil is base for fixing the rental value of the land in Delta region.

The above analysis reveals that per acre expenditure on rental value of owned land is higher in Delta region when compared to Guntur and Palnadu regions. This may be due to high cropping intensity and growing commercial crops. It is also found that per acre expenditure is positively or directly related to farm size among the three regions.

The proportion of expenditure on fertilizers and pesticides to total cost are higher in Delta region which is accounting for 14.24 percent (Rs.22,936/-), followed by Guntur region with 13.86 percent (Rs.11,936/-) and 12.86 percent (Rs.9,890/-) in Palnadu region. In Palnadu region most of the crops are rainfed and traditional crops where they required meager use of fertilizers and pesticides. In Delta and Guntur regions both traditional and cultivating commercial crops cultivating among these crops we need to use a greater number of quantity of fertilizers and pesticides when compared to traditional crops.

The analysis also demonstrates a notable disparity in the ratio of spending allocated to hired workers in relation to overall costs across the three areas. Delta and Guntur region have spent lion's share on human labour as, turmeric, Cotton and Chillis are labour intensive crops, when compared to jowar etc. The analysis of within-group comparisons indicates a clear correlation between the amount of spending allocated to hired staff and the overall size of the farm. A negative correlation is shown between the extent of family work and the size of the agricultural operation. Per acre rental value of own land and tractor is found to be higher in Delta region when compared to Guntur and Palnadu regions.

Keeping this in view an attempt has been made in this study to examine the economics of farm business in the study area on the three regions and different size groups. The different types of cost concept of farm management are studied by using the determinants observed by Ministry of Agriculture, Government of India and other notable

agencies. Gross returns on farm group production and net returns viz, farm business income, family labore income; net income and farm investment income are also computed and analyzed in detailed.

Region wise distribution of cost of cultivation by different cost concepts:

The information pertaining to per acre cost of production according to various cost concepts viz., Cost A₁, Cost A₂, Cost B and Cost C is shown in Table-6. Here Cost A₁ represents the out of pocket expenses incurred by the farmers, Cost A₂ represents rental value of leased-in land along with Cost A₁, Cost B represents imputed value of own land and interest on fixed capital along with Cost A₂ and Cost C represents imputed values like family labour income and interest on fixed capital along with Cost B. Region wise cost of cultivation on the basis of different cost concepts are computed and are also furnished. Here Cost A₁, includes all the paid – out cost Viz., expenditure incurred on owned and hired human labour, owned and purchased seed, owned and purchased organic manure, fertilizers, pesticides and other farm operating expenses such as irrigation, Transport, Marketing charges, Miscellaneous expenditure and interest on working capital. The value of depreciation on farm assets is included also in Cost A₁. Cost A₂ is obtained by adding rental value of leased –in land to Cost A₁. Cost B is obtained by adding rental value of leased –in land to cost A₁.

Table -6
Regions and Category wise Cost of Cultivation –All Crops

Cost Concepts	Delta Region			
	Tenant	Marginal	Small	Total
Cost A	98473	94236	102313	102002
Cost A₁	119223	117169	123222	123150
Cost B	119223	140924	147843	147550
Total Cost	137131	158387	157919	161071
	Palnadu Region			
Cost A	48258	46058	44212	44540
Cost A₁	48258	60687	59315	60020
Cost B	63512	76109	72982	72307

Cost C	70482	81844	78329	76931
	Guntur Region			
Cost A	52358	56415	55204	52228
Cost A1	67612	71604	69071	65376
Cost B	67612	87454	84674	81616
Cost C	88144	93689	91179	86561

Note: Figures in parenthesis indicates percent to the respective total

Cost B will be obtained by adding rental value of owned land and interest on fixed capital to Cost A2. Then finally net loss can be calculated by adding of by family labor income to Cost B. They did not substantially help the farmers. Operational cost includes expenditure on seeds, fertilizers, pesticides, bullocks, tractors and human labour. The expenditures like depreciation, irrigation charges, rent paid on leased in land, rental value of owned land etc., comes under overhead cost. The cost C is found to be high in Delta followed by Guntur and Palnadu regions. The intra size analysis also clearly shows that there is positive relation with firm size in the three regions.

Returns from Farming

The analysis focuses on the per-acre returns from cultivation across various farm holdings, categorized by area. This examination involves calculating many key return measures, including gross return, farm business revenue, family labor income, net income, and farm investment income.

Gross Income

The data pertaining to per acre gross returns from the cultivation of all crops by region and farming category wise are given in table-5.4. It can be observed from the table that per acre gross returns are high in Delta region (Rs.1,62,215/-) which is high by 54 per cent and 46 per cent more than that of Palnadu and Guntur regions with was Rs.87,461/- in Guntur and Rs.75,211/- in Palnadu Region. Further, the data reveals that the gross returns per acre constantly are higher among the tenant and marginal farmers in Delta farm households than that of Guntur and Palnadu regions. A positive relationship is observed between farm size and gross returns among the three regions of farm households. This leads to conclusion that the tenant and marginal farmers face constrains like inefficient management of farms.

Farm Business Income

Farm business income represents returns to the farmers from land, family labour, interest on fixed capital and management. It can be obtained by deducting the paid-out costs i.e., Cost A1 or Cost A2 as the case may be from gross returns per acre. Region wise farm business incomes on all crops in cultivation by different farm sizes are shown in Table 5.4. From the table it can be observed that the farm business income is high in Delta farm households (Rs. 39,005/-) followed by Rs. 22,085/- in Guntur region farm households and Rs.15,191/- in Palnadu region farm households. The intra size group analysis clearly reveals that farm business income is increasing with the farm size in both Delta and Guntur. In it is found there is an inverse relationship between farm sizes with farm business income in Palnadu region farm households.

Family Labour Income

Family labour income gives the return to the family labour and management of the crop enterprise and can be obtained by deducting Cost B. Region wise family labour income by size wise computed and presented in the table-7. From the table it can be observed that the family labour is positive in all the three regions. The tenant farmers received negative family labour income, which is Rs.-8,879/- and Palnadu region farmers received a meager income. The farmers in the study area tenant farmer and Palnadu region farm households not get even the family labour income from the cultivation.

Net Income

Net income indicates profit or loss from farm business. It is residual of gross income after deducting total Cost C from it. Per acre net return or loss is presented in table 5.4. From the table it can be shocking observe that per acre net return is found to be negative in marginal and small farmers in the three regions, where there is net loss of Rs. - 7,788/- in Delta region farmers. Rs. -7,021/- in Guntur region and Rs.-8,930/- in Palnadu region. This has led to the conclusion that cultivation is not at all economical in the three regions.

Table-7
Region and Category wise per Acre Returns –All Crops

	Gross Income			Farm Business Income			family Labour Income			Net Income		
	Delta	Palnadu	Guntur	Delta	Palnadu	Guntur	Delta	Palnadu	Guntur	Delta	Palnadu	Guntur
Tenant	128252	63772	88224	9029	15514	20612	-8879	260	5662	-8879	-6710	-1808
Marginal	159000	79515	92988	64764	18828	16620	18076	3406	5534	613	-2329	-701
Small	162215	76555	90515	38993	17240	21444	14372	3573	5841	4296	-1774	-664
Total	162155	75211	87461	39005	15191	22085	14605	2904	5845	1084	-1720	900

Note: Figures in parenthesis indicates percent to the respective total

Output-Input Ratios

To estimate the returns per a rupee of investment in cultivation, the output- input ratios are calculated and presented in the table 8. It can be observed from the table that the output-input ratio is 1.01 in Delta farm holdings followed by 0.98 in Palnadu and 1.00 in Guntur region farm households. The intra farming category and region wise analysis clearly shows that 0.935 on tenant farmers followed by marginal farmers with 1.004 and small farmers with 1.027 in Delta region. In case of Guntur region, the same trend is followed the tenant farmers with 0.980, marginal farmers with 0.993 and small farmers with 0.993. In case of Palnadu region it is found to be high in small farmers with 0.977, followed by marginal 0.972 and tenant farmers with 0.905. It can be observed that the return per rupee investment is lower on tenant farmers, followed by marginal and small in the three regions. However, there is a positive relationship between rate of returns and farm size. The low output-input ratio reflects the uneconomical crop production enterprise. These farm holdings have cultivated crops without any economic gain. Thus, it leads to the conclusion that the entire tenant, marginal and small farm households gain the negative returns on agriculture and have not received even their investments in most of the occasions.

From the foregoing analysis it can be concluded that the cultivation is associated with risk and uncertain yields. Consequently, gross income, farm business income, family labour income and net income are very low. So far, an analysis has been carried out with respect to the resource use and farm business at the aggregate level i.e. all crops put together. However, the analysis at the disaggregate level, i.e., individual crops may throw light on the relative impact on resource use in cultivation of different crops. Keeping this in view, an attempt has also been made in this section to examine the resource use and economics of predominant crops in the study area, i.e., Turmeric, Paddy, Cotton, Chillies, Maize and Jowar cultivation.

Table-8
Region and Category wise Per Acre Output-Input Ratios-All Crops

	Delta	Palnadu	Guntur
Tenant	0.935	0.905	0.980
Marginal	1.004	0.972	0.993
Small	1.027	0.977	0.993
Total	1.007	0.978	1.010

Note: Figures in parenthesis indicates percent to the respective total

Conclusion

The economic status of marginalized farmers in Guntur District reflects the broader challenges faced by small and resource-poor cultivators in Andhra Pradesh. Despite their vital contribution to agricultural production, these farmers continue to struggle with fragmented landholdings, rising cultivation costs, low crop yields, and limited access to institutional credit and modern farming technologies. Dependence on moneylenders, fluctuating market prices, and vulnerability to climate variability further aggravate their economic distress. Government schemes and subsidies have provided some relief, but gaps in implementation, awareness, and accessibility prevent many from fully benefiting. To ensure sustainable improvement in their livelihoods, there is a pressing need for comprehensive measures such as strengthening cooperative credit systems, ensuring fair procurement prices, promoting farmer producer organizations, and enhancing skill development in modern and climate-resilient farming practices. Overall, empowering marginalized farmers through policy support, institutional interventions, and community-based initiatives is crucial for improving their economic well-being and ensuring inclusive agricultural growth in Guntur District.

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