



Constraint Analysis of Small Farmers in Agriculture in Guntur District of Andhra Pradesh

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ABSTRACT

Small scale farmers accounting to an approximate no. of 13.43 lakhs which constitute the vast majority of farmers in Andhra Pradesh are in deep crunch disrupting their livelihoods over a prolonged period of time. A farm study has been conducted in Guntur district of Andhra Pradesh to analyze the socio economic conditions and assess the different categories of identified constraints faced by small farmers like agro – ecological constraints, technical constraints, socio – economic constraints, market related constraints and family related constraints. These constraints were analysed using Garrett’s ranking method. Some of the major challenges reported by sample farmers include dependence on monsoon, labour scarcity and high labour charges, high input costs, price fluctuations and education.

Key words : Constraints, Labour scarcity, Price fluctuations, Small farmers.

In particular, during the past two decades, there has been a distinct slow down in the agricultural growth. As a result, the gap between the growth of agriculture and other sectors has widened. Due to risks and uncertainties in production, access to institutional credit by the small and marginal farmers has been quite low. The other difficulties faced by the small farmers include absence of collaterals for getting bank loans, increased expenditure on cultivation and low returns. Therefore, typical Indian farming is all about poor farmers, fragmented landholdings, minimum farm mechanization, traditional agricultural practices, and low use of inputs & poor market linkage. All these result in poor performance of the sector in spite of a robust overall economic growth, leading to farmers continuing in low investment/return production cycle and increasing agrarian distress, which are manifested through migration, and reduced participation in agricultural activities (Sahoo, 2010).

Small scale farmers accounting to an approximate of 13.43lakhs constituting the vast majority of farmers in Andhra Pradesh are in deep crunch disrupting their livelihoods over a prolonged period of time. Guntur district of Andhra Pradesh covers about 150845 small farmers (www.agcensus.nic.in). Main problems faced by majority of the sample farmers are high cost of

cultivation, low Minimum Support Price (MSP), lack of co-operative farming and lack of proper institutional support. All these problems may fully or partly affect the viability of small farmers in agriculture, increasing poverty and leading to suicides of the farmers. In this context “Challenges of small-scale farming in Guntur District of Andhra Pradesh” assumes greater significance and the present study has been taken up with following specific objectives.

1. To study the socio economic conditions of small farmers in Guntur district.
2. To identify and analyze the constraints faced by small farmers in agriculture.

This paper aims at understanding the challenges faced by farmers in production and marketing of agricultural products. The study was carried out under following heads *viz.* agro-ecological constraints, technological constraints, socio-economic constraints, market related constraints and family related constraints to highlight the problems threatening the livelihoods of sample small farmers in Guntur district of Andhra Pradesh.

MATERIAL AND METHODS

Multi stage sampling technique was followed for the purpose of selection of primary sampling units. Guntur district was purposively

selected for the study due to the presence of large number of small farmers *i.e* approximately 150845, who are cultivating different crops under varied agro climatic conditions.

In Guntur district, according to the data of CPO (Chief Planning Office), out of fifty seven mandals, two mandals with maximum number of small farmers were selected from each of the three revenue divisions viz., Guntur, Tenali and Narsaraopet. From each mandal, two villages having maximum number of small farmers were selected. Ten small farmers from each village were selected randomly making a total sample of 120 farmers for the study.

Both primary and secondary data were collected to fulfill the objectives of the study. The primary data were collected through the field survey by interview method with the help of a structured schedule. The data regarding the agro-economic aspects, farm holding details of the study area were collected from the Chief Planning Office, Guntur district, Department of Agriculture and other agencies.

Tabular analyses using percentages and averages were used to arrive at valid results. Garrett's ranking test was employed to prioritize the constraints faced by the small farmers in agriculture. The major prevailing constraints highlighted during preliminary survey were arranged in ascending order and were converted into ranks by using Garrett's formulae. Accordingly these ranks were converted to scores by referring to Garrett's table. Garrett's formula for converting ranks into per cent is given by:

$$\text{Per cent position} = \frac{100 * (R_{ij} - 0.50)}{N_j}$$

where

R_{ij} = Rank given for i^{th} item by j^{th} farmer

N_j = Number of items ranked by j^{th} farmer

0.5 subtracted from R_{ij} as rank is an interval on a scale and its mid-point best represents an interval.

The constraint with highest score value was considered the most important problem faced by sample small farmers.

RESULTS AND DISCUSSION

The socio economic conditions of small farmers and different challenges faced by them were studied.

1. Socio- economic conditions of small farmers

1.1 Age and education status

Table 1 presents the age and education status of sample small farmers in Guntur district of Andhra Pradesh. It was found that 34.17 per cent of the farmers were in the age group of 46-55 years followed by 28.33 per cent in 36-45 year age group, 21.67 per cent in 56-65 year age group, 6.67 per cent in 66-75 year age group, 5.83 per cent in < 35 years age group and 3.33 per cent in > 76 year age group.

Majority of the farmers contributing 34.17 per cent belonged to illiterate group followed by 31.67 per cent to secondary education, 28.33 per cent to primary education, 3.33 per cent to intermediate and 2.5 per cent to degree level of education.

1.2 Operational area, cropping pattern and family expenditure of small farmers

Operational land holdings, annual family expenditure and cropping pattern particulars of sample farmers were presented in tables 2, 3 and 4 respectively. The average operational area of the

Table 1. Age and education status of sample farmers (N=120).

S.No.	Age	Number of farmers	Educational status	Number of farmers
1	< 35	7 (5.83)	Illiterate	41 (34.17)
2	36-45	34 (28.33)	Primary education	34 (28.33)
3	46-55	41 (34.17)	Secondary education	38 (31.67)
4	56-65	26 (21.67)	Intermediate	4 (3.33)
5	66-75	8 (6.67)	Degree	3 (2.5)
6	> 76	4 (3.33)	Total	120
7	Total	120 (100.00)	—	—
8	Mean age	51	Mean education level	Primary education

Table 2. Operational land holdings particulars of sample farmers in ha. (N=120).

S.No	Particulars	2014			2013			2012			Average Area		
		Irrigated	Dry	Total	Irrigated	Dry	Total	Irrigated	Dry	Total	Irrigated	Dry	Total
1	Area owned	0.72	0.57	1.29	0.74	0.57	1.31	0.74	0.58	1.32	0.73	0.57	1.30
2	Leased in	0.3	0.22	0.52	0.3	0.24	0.54	0.3	0.24	0.54	0.3	0.23	0.53
3	Leased out	0.07	0.08	0.15	0.04	0.08	0.12	0.04	0.07	0.11	0.05	0.08	0.13
	Total	1.09	0.87	1.96	1.08	0.89	1.97	1.08	0.89	1.97	1.08	0.88	1.96

Table 3. Season wise Cropping pattern in the study area.

Season	Crops	Area in ha.			Percentage			Average area (in ha.)	Percentage
		2014	2013	2012	2014	2013	2012		
<i>Kharif</i>	Paddy	1.57	1.56	1.56	12.7	10.52	12.78	1.56	11.9
	Cotton	1.16	1.16	1.15	9.39	7.82	9.42	1.15	8.81
	Chilli	0.74	0.75	0.74	5.99	5.06	6.06	0.74	5.66
	Jute	0.83	0.77	0.69	6.71	5.19	5.65	0.76	5.81
	Subabul	0.8	0.8	0.8	6.47	5.4	6.55	0.8	6.09
	Red gram	0.31	0.32	0.35	2.51	2.16	2.87	0.33	2.49
	Drumstick	0.4	0	0	3.24	0	0	0.13	1.01
	Maize	0	0.4	0	0	2.7	0	0.13	1.01
<i>Rabi</i>	Tomato	0	0.6	0	0	4.04	0	0.2	1.52
	Maize	1.56	1.53	1.4	12.62	10.32	11.47	1.5	11.4
	Bengal gram	0.9	0.94	0.95	7.28	6.33	7.78	0.93	7.08
	Sun hemp	0.63	0.6	0.6	5.1	4.05	4.91	0.61	4.64
	Black gram	1.27	1.44	1.14	10.28	9.71	9.33	0.28	9.77
	Green gram	1.48	2.8	2.03	11.97	18.88	16.63	2.1	16.02
	Tobacco	0.71	0.76	0.8	5.74	5.12	6.55	0.75	5.77
	Sorghum	0	0.4	0	0	2.7	0	0.13	1.02
Total	12.36	14.83	12.21	100	100	100	13.13	100	

Table 4. Annual Family expenditure pattern of small farmers.

S.No	Particulars	2014		2013		2012		Average Value (Rs.)	Percentage
		Value (Rs.)	Percentage	Value (Rs.)	Percentage	Value (Rs.)	Percentage		
1	Food	34,584	40.55	32450	40.97	30500	41.98	32,511	41.12
2	Clothing	9073	10.64	8041	10.15	7146	9.84	8,087	10.23
3	Electrification	2468	2.9	2127	2.68	1853	2.55	2,149	2.72
4	Cooking gas/fuel	2394	2.81	1938	2.45	1855	2.55	2,062	2.60
5	Television charges	1822	2.14	1484	1.87	1356	1.87	1,554	1.96
6	Telephone/cell phones	2144	2.52	1885	2.38	1612	2.22	1,880	2.38
7	Education	16425	19.26	16450	20.76	15525	21.37	16,133	20.41
8	Medical expenses	4027	4.73	3175	4.01	2359	3.25	3,187	4.03
9	Motor cycles/cycle fuel	746	0.88	755	0.95	722	1.00	741	0.94
10	House repairs	2510	2.95	2493	3.15	2493	3.43	2,499	3.16
11	Religious And Other	2792	3.28	1667	2.10	715	0.99	1,725	2.18
12	Functions	6080	7.13	5330	6.73	5075	6.99	5,495	6.95
13	Food ration received on ration card	266	0.32	1422	1.80	1433	1.97	1,040	1.32
	Total	85298	100	79217	100	72644	100	79,064	100

small farmers (N=120) was 1.96 ha in 2014. In total operated area, paddy occupied highest (11.9%) operational area in *kharif* crops of the sample farmers, followed by cotton (8.81%), subabul (6.09%), jute (5.81%), chilli (5.66%). In *rabi* season, green gram was the major (16.02%) contributing crop followed by maize (11.4%) and black gram (9.77%).

2. Constraints faced by small farmers in agriculture

2.1 Agro-ecological constraints

Table 5, clearly shows that sample farmers reported various constraints like dependence on monsoon, soil problems, lack of water supply and heavy rains. Most of the sample farmers reported that dependence on monsoon for crop production was the major problem. Heavy rains, soil problems and lack of water are the other agro- ecological constraints identified in the study.

These results are in accordance with Sattar (2012) who concluded in his study that soil salinity, water logging, pest attack, soil erosion and low quality seeds are the foremost confronts that are faced by the farmers pertaining to their agriculture productivity in Pakistan.

2.2 Technical constraints

It could be observed from table 6 that sample farmers reported various technical constraints like diseases, pests, labour availability and wages, lack of proper varieties and storage problems. Most of the sample farmers reported that labour availability and high labour wages were the major problems, followed by diseases, pests, lack of proper varieties suitable to the area and storage problems.

The results are in accordance with Ahuja *et al.* (2009), where they found that with respect to production constraints pests are causing

Table 5. Agro – Ecological constraints faced by the sample farmers.

S.No.	Particulars	Total score	Mean score	Rank
1	Dependence on monsoon	6765	56.38	I
2	Heavy rains	6081	50.68	II
3	Soil problems	5869	48.91	III
4	Lack of water supply	5285	44.05	IV

Table 6. Technical constraints faced by the sample farmers

S.No.	Particulars	Total score	Mean score	Rank
1	Labour availability and labour wages	10507	87.56	I
2	Diseases	7704	64.20	II
3	Pests	7310	60.92	III
4	Lack of proper varieties	3904	32.54	IV
5	Storage problems	3812	31.77	V

Table 7. Socio economic constraints faced by the sample farmers.

S.No	Particulars	Total score	Mean score	Rank
1	High cost of inputs	8475	70.63	I
2	Credit availability	6503	54.20	II
3	Inadequate inputs	6224	51.87	III
4	Lack of help from local government	4654	38.79	IV
5	Poor extension services	4024	38.54	V

maximum yield loss in oilseeds and pulses. Also, in addition to the production constraints, socioeconomic constraints are also very important as farmers are facing great difficulty in getting quality seeds at right time and market their produce at reasonable prices.

2.3 Socioeconomic constraints

Table 7 depicts various socio-economic constraints reported by sample small farmers. High cost of the inputs was the major problem followed by access to credit, inadequate inputs, and lack of help from local government and poor extension services.

The major constraints taken into account were technical, socio-economic and agro-ecological constraints as evidenced by Roy and Dutt (2000). Jalal-Ud-Din (2011) revealed that majority of the respondents were illiterate. Kumar (2006) in his study revealed that in the absence of formal financial institutional support, small and marginal farmers have resorted to private money lenders.

2.4 Marketing Constraints

Market related constraints including price fluctuations and delay in payment were presented in table 8. Soon after harvest, market prices were found to be low in the study area. If farmers go for storage of produce to avail benefit in the nearby future also, prices are not satiable to them. Due to this reason, storage costs were increased and product quality got declined.

Finally some farmers sell their produce at lower prices and some of them still store their produce expecting higher prices.

2.5 Constraints related to family

It is evident from table 9 that among the three identified problems related to family, lack of education was the main problem in the sample area followed by medical and electrification expenses. Most of the farmers are interested in providing better education for their children.

CONCLUSIONS AND RECOMMENDATIONS

The different categories of constraints faced by sample small farmers comprise agro-ecological constraints, technical constraints, socioeconomic constraints, market related constraints and family related constraints which are sub categorized into various constraints in the study. It was found that dependence on monsoon, labour scarcity and high labour charges, high input costs, price fluctuations and education for their children were the major challenges faced by the sample small farmers under Agro – Ecological, Technical, Socio – Economic, Market constraints and Family related constraints respectively.

It could be recommended that, government must design suitable policies for small farmers. Thorough monitoring of proper supply of inputs with low prices, proper and ease of sanctioning institutional credit facilities, good marketing facilities with remunerative prices to the produce must be improved. Most important one is government must be facilitating agri entrepreneurial development schemes to the rural people to sustain their livelihood. Government also must focus on educating the farmers to manage their lives and get the off farm income sources to become viable.

Table 8. Market related constraints faced by the sample farmers.

S.No.	Particulars	Total score	Mean score	Rank
1	Price fluctuations	7560	63	I
2	Delay of payment	4440	37	II

Table 9. Family related constraints faced by the sample farmers.

S.No.	Particulars	Total score	Mean score	Rank
1	Education	6285	52.38	I
2	Medical expenses	5943	49.52	II
3	Electrification	5772	48.1	III

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