



UNDERSTANDING THE FARMERS NEEDS WITH REFERENCE TO CROP NUTRITIONAL INPUTS IN DISTRICTS OF TELANGANA

D.RAFI¹, P.JOSHNA²

¹Ph.D Scholar, Department of Agricultural and Rural Management Tamil Nadu Agricultural University,
Coimbatore, Ph.NO: 7569110380

Rafilucky34@gmail.com

²Second Year MBA(ABM) student in IABM Tirupathi

Abstract: The focus of Indian agriculture has been changing ever since the introduction of planning era (Deshpande et al.,2004).Because of severe shortage of food grain production, an increased attention was given for augmenting productivity and production of food grains starting from late sixties till the eighties. In recent years growth of agriculture has increased remarkably, but this growth was mainly due to increased yield per unit area rather than by expansion of the cultivated area. The fastest and most practical route to improved yield is application and extension of existing agricultural technologies. Good soil structure and permanent cover allow the reduction of mechanisation, fuel consumption and irrigation. Farmers need resources to grow food. They need many different types of resources like natural resources, such as land, air, nutrients, water and sunlight. Proper nutrition is essential for satisfactory crop growth and production. The use of soil tests can help to determine the status of plant available nutrients to develop nutrient input recommendations to achieve optimum crop production. The profit potential for farmers depends on producing enough crop per acre to keep production costs below the selling price. Given the present scenario in farming 77 per cent in Wanaparthy 81 per cent in Gadwal and 80 per cent in Mahbubnagar farmers were willing to opt for alternative enterprise for livelihood.

Subdivision has an impact on the landholding possessed by the sample farmers. But in Wanaparthy and Mahbubnagar, the holding held by sample farmers registered a marginal increase in over the extent of land possessed by preceding generation. Cent per cent of farmers in selected three districts, were found to have assured source of irrigation. All the farmers in Wanaparthy used power drawn machinery for harvesting, which was not so in Gadwal district and Mahbubnagar. Cent per cent of farmers in selected districts were using UREA and DAP. NPK GRADE was used by 77 per cent of farmers in Wanaparthy 93 per cent in Gadwal and 20 per cent in Mahbubnagar. The average consumption of fertilizers in Wanaparthy was 320 kg, while 530 kg in Gadwal and 450 kg in Mahbubnagar. On an average of 15 tonnes of organic manure per ha was used in Wanaparthy 0.93per cent in Gadwal and 6.9 per cent in Mahbubnagar. Farmers preference for colour DAP was influenced by quality expectation to extent of 88per cent in Wanaparthy and more are less similar trend was found in other two districts. The awareness of ZNDAP was not uniform among selected districts. The farmers of Mahbubnagar were totally ignorant in the use of ZNDAP. The application of fertilizers by farmers was influenced by their own self-assessment followed by dealer's advice in Wanaparthy while in Gadwal and Mahbubnagar farmers own experience was most powerful factor. Undoubtedly price and quality were major factors in deciding the grade of fertilizer in all the districts. In respect to micronutrient usage in the form of zinc was used by 55 per cent in Wanaparthy, 68 per cent in Gadwal, 60 per cent in Mahbubnagar. Farmers in general in selected districts were not satisfied with facilities available for soil testing if they are made available. The facilities that the farmers required were technical literature, field demos, farmer meetings etc in Wanaparthy district. Field demos, farmer meetings, soil testing in Mahbubnagar and Gadwal district. The constraints that the farmers encountered in farming were weather/inadequate rains/drought as lamented by all the farmers in three districts. Other constraints were non availability of labour in Wanaparthy and Gadwal and lack of technical support in Mahbubnagar. Yet other constraints were indebtedness, lower returns, and non-availability of inputs.

Keywords: Food grains, Fertilizers, Nutrient inputs, Growth, Soil testing



Introduction

The focus of Indian agriculture has been changing ever since the introduction of planning era (Deshpande *et al.*,2004).Because of severe shortage of food grain production, an increased attention was given for augmenting productivity and production of food grains starting from late sixties till the eighties. Sustaining the growth of farm sector from the impact of WTO regime was the main focus during the nineties. As a result of production centered approach, the gross production of food grains and other agricultural commodities has increased from just 51million tonnes (mt) in 1950-51 to about 264mt in 2014-15.Similar trend is noticed in many non-food grain crops as well(Government of India,2016). Today, India is not only a self sufficient country in food grains but also an exporter of food grains to many countries (Bhattacharya,2004; Deshpande *et al.*,2004). Although over two-third of population are relying on the agricultural sector for their livelihood, farm income related issues have somehow not received adequate attention in the policy circle till late nineties (Deshpande *et al.*,2004; Sen and Bhatia, 2004). Farmers were treated as mere agents of agricultural production over the years. Their economic well-being did not receive due attention until late nineties, when farmer suicides and indebtedness became a widespread phenomenon. The scholars and policy makers began to take a serious note of this agrarian catastrophe only when the distress resurfaced again in the recent years in the farm heartlands of the country (Sainath,2010).

In recent years growth of agriculture has increased remarkably, but this growth was mainly due to increased yield per unit area rather than by expansion of the cultivated area. In order to meet the demand for food grain towards growing population it is suggested that annual crop production should be increased to around 580 Mt and that yield should increase by at least 2 per cent annually. The fastest and most practical route to improved yield is application and extension of existing agricultural technologies. This would lead to substantial improvement in crop and soil management practices. In agriculture, the only way to improve production in terms of both quality and quantity is to conserve or to improve soil fertility. Good soil structure and permanent cover allow the reduction of mechanisation, fuel consumption and irrigation. Good soil fertility can reduce the need of fertilisers; healthy soil life means less pesticide use. Conservation Agriculture is an effective way to ensure soil protection and fertility and therefore to reduce inputs without compromising yields, or even achieving better production level. Farmers need resources to grow food. They need many different types of resources like natural resources, such as land, air, nutrients, water and sunlight. Proper nutrition is essential for satisfactory crop growth and production. The use of soil tests can help to determine the status of plant available nutrients to develop nutrient input recommendations to achieve optimum crop production. The profit potential for farmers depends on producing enough crop per acre to keep production costs below the selling price.

Objectives:

1. to understand the present status of farming.
2. to assess business opportunities for different input

Methodology:

This study was conducted in three districts of Telangana state. All the mandals in the district were listed and then five mandals were randomly selected. From each mandal two villages was selected randomly, thereby making them to ten. From each village 5 farmers were selected randomly, making a total of 50 belonging to various strata. The data required for the study were collected for the year 2017-18 using a structured schedule.



Results

The collected data was tabulated and analysed and the results of the study are presented as under

1. Holding Particulars of Sample Farmers :

The size of the land directly influences the production of farm, larger the size, greater would be production. However, the twin evils of agriculture are subdivision and fragmentation have led to reduction in the farm holdings as the generation passes by .But the selected district presented a different scenario regarding holding held by sample farmers in Wanaparthi district ,the extent of holding held by sample farmers was 1.77 acres as against 1.55 acres held by his father (Table1). The present generation added few cents to the extent of land they got some where earlier generation, as a matter of right on the landed property. In Gadwal district it was a different story as land size got reduced in present generation i.e., it decreased from 6.31 to 3.62 acres. In Mahbubnagar district there was a marginal increase in land by present generation as the extent of land rose from 7.4 to 7.6 acres.

2. Irrigation, Source of Irrigation and Farm Implements and Machinery:

Irrigation particulars provided in Table2 revealed that 100per cent of farmers in three selected districts were found to have assured source of irrigations. Coming to micro irrigation and 22.22per cent in Wanaparthi and 6.25per cent in Gadwal only possessed the micro system and in Mahbubnagar none possessed micro irrigation systems. Regarding using power drawn agricultural implements 11.11per cent in Wanaparthi,12.5 per cent in Gadwal and 40per cent in Mahbubnagar possessed their own power drawn farm implements. Greater per cent of farmers in the Wanaparthi and Gadwal hired the power drawn implements while the per cent of such farmers in Mahbubnagar was less. All the farmers in Wanaparthi used power drawn machinery for harvesting while it was not so in the Gadwal and Mahbubnagar. Almost all the farmers in selected districts using knapsack and petrol operated sprayer in farming.



Table 1: LAND HOLDING OWNERSHIP PATTERN

Sl. No	Para - meters	UO M	PANGAL		WANAPART HY		DISTRICT		GADWAL		ALLAMPUR		UNDAVELLY		DISTRICT		NAWABPET		DISTRICT	
			PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG
	Farmers with smart Phone	per cent	0	0	33.33	0.33	11.11	0.11	14.29	0.14	25	0.25	25	0.2	14.29	0.19	20	0.2	20	0.2
1 (a)	Agriculture land owned by his father (1st gen)	acre		6		4.67		5.56		2.5		7.25		20.2		9.22		7.4		7.4
1 (b)	Agricultural land available with self (2nd gen)	acre		5.12		5.33		5.19		3.29		2.75		11.6		5.75		7.6		7.6
1 (c)	Agricultural land taken on lease	acre		0		1		0.33		2.43		12.25		4.8		5.63		0		0
	Per cent change in holding size (1-2 gen)	per cent	9.54	9.54	55.56	55.56	24.88	24.88	37.14	37.14	-43.75	-43.75	43.57	43.57	37.14	18.93	109.71	109.71	109.71	109.71



Table 2: FARM RESOURCES

Sl. No	Parameters	UO M	PANGAL		WANAPARTHY		DISTRICT		GADWAL		ALLAMPUR		UNDAVELLY		DISTRICT		NAWABPET		DISTRICT	
			PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG
2 (a)	Farmers with assured Source of irrigation	No		1		1.0		1		1		1		1		1		1		1
2 (b)	Farmers using micro irrigation systems (drip/sprinklers)	No	83.33		66.67		77.8		14.29		25		20		18.8		0		0	
2 (c)	Farmers using prower driven agri implements				0		0		0		0		0		0					
	Own	No	16.67		33.33		22.2		14.29		25		60		31.3		40		40	
	Leased	No	50		66.67		55.6		85.71		75		40		68.8		40		40	
2 (d)	Preference for hand driven portable power weeders	No	16.67		0		11.1		0		0		0		0		0		0	
	Affordabilty	Rs					0								0					



2 (e)	Preference for power reaper for cutting / harvesting	No		1		1.0	100	1		1		0.25	100	1	81.3	0.81	40	0.4	40	0.4
2(f)	Type of sprayer owned				0		0		0		0				0		0		0	
	knapsack	No	100		100		100		100		100		100		100		100		100	
	Petrol Operated	No	66.67		100		77.8		85.7		100		100		93.8		80		80	
	battery Operated	No	0		0		0		0		0		60		18.8		20		20	



3. Fertilizer Usage By Selected Respondents:

In Wanaparthy district, cent per cent of farmers used UREA, DAP, MOP and NPK grade fertilizers in Gadwal 100per cent usage by farmers was applicable for UREA and DAP and NPK complex fertilizers, and the same in Mahbubnagar district barring usage of SSP. The special fertilizers was used by only 77 per cent in Wanaparthy, 93per cent in Gadwal and 20per cent of the farmers in Mahbubnagar district.(Table 3)

The quantum of fertilizers used depends on types of crops grown. The predominant crops in Wanaparthy were paddy, groundnut and cotton, maize, while in Gadwal maize, paddy, groundnut, and bengal gram, while in those found in Mahbubnagar were paddy, groundnut, maize.

The average consumption of fertilizers was 322 kg in Wanaparthy, 530 in Gadwal and 450 in Mahbubnagar. In rabi, the extent of fertilizers was relatively more with 344 kg in Wanaparthy followed by 310 kg in Gadwal and 360 in Mahbubnagar. It is significant to know that the extent of fertilizers usage in first two districts went up to 100per cent while in other district it was 80 per cent.

The usage of organic manure was 100 per cent in Wanaparthy and Gadwal whereas 80 per cent in Mahbubnagar. On an average 6 tonnes/ha of organic manure was used in Wanaparthy, 0.93 in Gadwal, and 6.4 in Mahbubnagar.

In Wanaparthy district 44per cent of farmers used black DAP, the remaining 66per cent used grey, while in Gadwal only 20 per cent of farmers applied black DAP with 80 per cent using grey and the trend was same in Mahbubnagar district. Farmers preference for colour DAP was influenced by quality to the extent of 88 per cent. In the other districts more or less, same trend was found with colour related to quality coming out as a major factor. In Gadwal dealers were major source in advocating DAP.

The awareness on use of ZNDAP was not uniform among selected district as 66.67 per cent in Wanaparthy, 18.75 per cent in Gadwal only used ZNDAP. The farmers of Mahbubnagar were totally ignorant of the use of ZNDAP. Coming to benefits of ZNDAP the response was positive by 66.67 per cent in Wanaparthy and 18.75 per cent in Gadwal district. 44.44 per cent of farmers in Wanaparthy put forth that ZNDAP was cost effective, while similar response was ventilated by 12.5 per cent only in Gadwal district.

SSP(G) was preferred by 66.67 per cent of farmers in Wanaparthy, while preference was restricted to 12.5 per cent in Gadwal with no response emerging from Mahbbobnagar. Regarding SSP(P) its use was accepted by 22.22 per cent in Wanaparthy and 37.5 per cent in Gadwal and 60 per cent in Mahbubnagar. In Mahbubnagar SSP(P) was preferred by greater per cent of farmers.

The application of fertilizers by farmers was influenced by several factors. Among the factors that influenced fertilizers consumption were self assessment followed by dealer's advice and peer groups and availability of funds in equal measure in Wanaparthy, and the next factor that influenced was results of soil testing. In Gadwal experience of farmers was most powerful factor in fertilizer application which was followed by dealer's advice and then funds availability. In Mahbubnagar once again it was farmer's experience which stood out as the most determining factor followed by dealer advice and peer groups in equal measure, soil test was the least factor listed out in determining the quantity of fertilizer used.

Undoubtedly price and quality were the major factors in deciding the grade of fertilizers in all the three districts of study. Other factors were farmers experience followed by dealers advice ease in availability and advice of peer groups in Wanaparthy and Gadwal district. In Mahbubnagar self-experience and peer groups advice preceded the other two factors namely ease in availability and dealers advice.

Farmers preference towards the particular brand mostly influenced by price and quality, This response was uniform in all the three districts, but the response on the other factors influencing the preference was mixed as in Wanaparthy ease of availability was dominant factor while credit was leading factor in Gadwal and so also in Mahbubnagar. Credit and peer groups advice was the other factors in Wanaparthy carrying equal importance, while ease of availability and peer group advice were other factors in Gadwal, and also in Mahbubnagar.



In respect of micronutrients usage of zinc was used by 55 per cent in Wanaparthi, 68per cent in Gadwal, 60per cent in Mahbubnagar. Boron and Ferrous were used by least per cent of farmers in Wanaparthi and in Gadwal and almost matching Wanaparthi in respect to Mahbubnagar. Farmers use on specialty fertilizers was almost nil in all the districts, barring Gadwal.

4. Average Farm Income:

In Wanaparthi and Mahbubnagar maximum percentage of farmers were found to fall in the income group of less than RS 30000 per annum, while in Gadwal highest per cent of farmers 43.75 per cent was found to fall in income group of RS 60000 to 1 lakh per annum. 33.33 per cent in Wanaparthi and 48per cent in Mahbubnagar were found to receive farm income in the range of RS 60000 to 1 lakh per annum. 25per cent in Gadwal was found to receive 1 lakh rupees per annum (Table 4). 75 per cent in Wanaparthi and 81per cent in Gadwal were able to meet family needs through farm income. Only 40 per cent in Mahbubnagar could able to meet their family expenditure from income received in farming and the rest of people were tapping either bank credit or private lenders.

Given the present scenario in farming 77 per cent in Wanaparthi 81 per cent in Gadwal and 80 per cent in Mahbubnagar farmers were willing to opt for alternative enterprise for livelihood.



Table 3 : NUTRIENT MANAGEMENT AND FERTILIZER USAGE PATTERN

Sl. No	Parameters	UOM	PANGAL		WANAPARTHY		DISTRICT		GADWAL		ALLAMPUR		UNDAVELLY		DISTRICT		NAWABPET		DISTRICT	
			PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG
3 (1)	Fertilizers known /preferred by farmers	No																		
	Urea	No	100		100		100		100		100		100		100		100		100	
	DAP	No	100		100		100		100		100		100		100		100		100	
	NPK Grade	No	100		100		100		100		100		100		100		100		100	
	SSP	No	100		100		100		42.86		75		40		50		60		60	
	MOP	No	100		100		100		85.71		75		100		87.5		100		100	
	12-32-16	No	0		0		0		0		0		0		0		0		0	
	20-20-0-13	No	33.33		100		55.56		85.71		100		60		81.25		80		80	
	19-19-19	No	66.67		100		77.78		42.86		25		60		43.75		20		20	
	others	No	100		100		100		100		100		100		100		100		100	
	Fertilizer use pattern				0		0				0				0					
	Kharif	Kg/a cre		333.3		322.22	322.22	322.2		428.57		387.5		530.0	450	450		450		450
	Rabi	Kg/a cre		333.3		344.44	344.44	344.4		421.43		275		310.0	350	350		360		360
	Summer	Kg/a cre		0		0	0	0		0		0		0.0	0	0		0		0



	Per cent change in Fertiliser used compared to last 3-5 yrs	No	100	100	100	100	100	100	100	100	1	100	100	100	100	100	100	100
3 (2)	Farmers aware of / using soil conditioners	No	0	33.33	11.11	0	0	0	0	0	0	0	0	0	0	0	0	0
	Quantity of Soil conditioner applied	Kg/ ac	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 (3)	Farmers applying OM (FYM/Compost/Goat Manure)	No	100	100	100	71.43	100	1	100	1.0	87.5	100	100	100	100	100	100	100
	Quantity of OM applied	T/ac	5.5	866.7	6.5556	655.6	6.556	271.4	2.7143	250	2.5	300	3.0	275	2.8	6.4	6.4	6.4
	Farmers using decomposer for straw	No	0	0	0	0	0	0	0	0	0	0	0.0	0	0	0	0	0
	Interested to apply decomposer if available	No	0	0.3333	11.11	0.111	0.1429	0.5	100	1.0	50	0.5	40	0.4	40	0.4	40	0.4



3 (4)	Farmers preference for Colour of DAP		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Black	No	66.67	0	44.44	14.29	0	40	18.75	60	60						
	Grey	No	33.33	100	55.56	85.71	100	60	81.25	40	40						
	Farmers feedback on colour preference of DAP		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Colour related to quality	No	83.33	100	88.89	100	50	100	87.5	60	60						
	Because Peers used	No	33.33	0	22.22	28.57	25	60	37.5	100	100						
	Dealer's advise	No	16.67	66.67	33.33	85.71	100	0	62.5	20	20						
3 (5)	Awareness / use of Zincated DAP	No	66.67	66.67	66.67	28.57	0	20	18.75	0	0						
	Observed benefit of Zincated DAP	No	66.67	66.67	66.67	28.57	0	20	18.75	0	0						
	Zincated DAP is cost effective	No	33.33	66.67	44.44	14.29	0	20	12.5	0	0						



3 (6)	Preference for SSP -G	No	66.67		66.67		66.67		0		25		20		12.5		0		0
	Preference for SSP -P	No	33.33		0		22.22		42.86		50		20		37.5		60		60
3(7)	Do you test quality of Super	No	0				0		0		0		0		0		0		0
3 (8)	Farmers deciding fertiliser dose based on		0		0		0		0		0		0		0		0		0
	soil test	No	0		33.33		11.11		0		0		0		0		20		20
	dealer's advise	No	16.67		66.67		33.33		100		100		20		75		80		80
	As per peer group	No	16.67		66.67		33.33		28.57		25		40		31.25		80		80
	Self assessment/ experience	No	100		100		100		100		100		100		100		100		100
	According to money available	No	33.33		33.33		33.33		42.86		0		0		18.75		0		0
	Any Specific	No	0		33.33		11.11		57.14		100		0		50		60		60



3 (9)	Farmers decide to buy a particular grade based on		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Price	No	83.33	100	88.89	100	100	100	100	100	100	100	100	100	100	100	100
	Quality	No	100	100	100	100	100	100	100	100	100	100	60	60	60	60	60
	dealer's advise	No	33.33	66.67	44.44	57.14	100	100	20	56.25	60	60	60	60	60	60	60
	ease in availability	No	16.67	33.33	22.22	57.14	50	60	60	56.25	80	80	80	80	80	80	80
	peer group advise	No	0	33.33	11.11	42.86	25	100	56.25	100	100	100	100	100	100	100	100
	Self assessment/ experience	No	83.33	33.33	66.67	100	100	100	100	100	100	100	100	100	100	100	100
3 (10)	Farmers' Preference of a grade/product is based on		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Price	No	83.33	100	88.89	100	100	100	100	100	100	100	100	100	100	100	100
	Quality	No	83.33	100	88.89	100	100	100	100	100	100	100	100	100	100	100	100
	ease in availability	No	33.33	66.67	44.44	42.86	100	80	68.75	20	20	20	20	20	20	20	20



	credit	No	0	66.67	22.22	71.43	75	100	81.25	60	60
	peer group advise	No	33.33	0	22.22	57.14	75	40	56.25	20	20
3 (11)	Farmers' awareness about micronutrients		0	0	0	0	0	0	0	0	0
	Zn	No	33.33	100	55.56	85.71	50	60	68.75	60	60
	B	No	0	33.33	11.11	14.29	0	80	31.25	20	20
	Fe	No	0	33.33	11.11	0	0	60	18.75	20	20
	Other	No	16.67	33.33	22.22	42.86	25	100	56.25	20	20
3 (12)	Farmers' use of speciality fertilizers	No	0	0	0	0	0	20	6.25	0	0
	Quantity of speciality fertilizers used	(kg /ac)	0	0	0	0	0	0	0	0	0



Table 4 : AVERAGE FARM INCOME

Sl. No.	Parameters	UOM	pangal	wanaparthy	district	Gadwal	allampur	undavelly	district	nawabpet	Mahbubnagar
			per	per	per	per	per	per	per	per	per
4	Average Farm income (Rs/annum)from farming										
	< 300000	No	83.33	66.67	77.78	57.14	25	20	37.5	60	60
	600000-100000	No	16.67	33.33	22.22	42.86	50	40	43.75	40	40
	>100000	No	0	0	0	0	25	60	25	0	0
4 (b)	Farm income meets family needs	No	66.67	33.33	55.56	71.43	75	100	81.25	40	40
	Having additional source of income	No	66.67	66.67	66.67	57.14	50	40	50	80	80
4 (c)	Availed bank/put. credit to meet expenses	No	100	66.67	88.89	57.14	100	80	75	80	80
4(d)	Taken land on lease for additional income	No	0	0	0	85.71	50	60	68.75	40	40
4 (e)	Willing to opt any non -farming activity for livelihood	No	83.33	66.67	77.78	71.43	75	100	81.25	80	80



5. Availability of Technical Support / Services To Farmers:

Regarding access to technical information 100 per cent farmers were found to approach government as a source of technical information as their first preference and fellow farmers were their second preference followed by private/NGOS as the source of information in Wanaparthy (Table 5). In Gadwal cent per cent preferred Government agency and fellow farmers equally in tapping technical information 60 per cent of farmers opted NGOS as third preference in Gadwal. For 60 per cent of farmers in Mahbubnagar private people and fellow farmers were first choice while for rest 40per cent it was government source. Greater per cent of farmers in Wanaparthy and Gadwal got the soils tested while less per cent of farmer preferred the same in Mahbubnagar.

When asked the reasons for not testing soils the response of farmers was different in different districts. The farmer in Wanaparthy since they lacked the confidence in soil test hence we were not convinced and similar response was presented in Gadwal.

The above response of farmers on soil sampling was almost driven by the dissatisfaction of farmers on getting the results as they were not able to get the results but if professional services were made available who can provide the results timely, then all the farmers were willing to get soils tested even on payment in all districts.

The activities that the farmers required on priority were technical literature, field demos, farmer meetings, soils testing in Wanaparthy district. Field demos, farmers meeting, field visits and soil testing were most demanded in Gadwal district. In Mahbubnagar district the activities that the farmer wanted mostly were field demos, farmers meeting, soil testing and toll free telephonic advisory. The availability of SMS alert on crops were not known to most of farmers.

Cent per cent of farmers in Mahbubnagar had to travel more than 5 km to procure farm inputs, while 68 per cent in Gadwal and 33 per cent in Wanaparthy were travelling a distance of less than 5 km to procure farm inputs.

6. Feed Back on Challenges in Farming :

The challenges that the farmers encountered in agriculture were ranked and presented in table 6 are as follows;

Weather/ inadequate rains /drought were given top rank in all districts. The second challenge was non availability of labour in Wanaparthy and Gadwal and lack of technical support was major factor in farming in Mahbubnagar. Other major challenges as per the rank order in Wanaparthy were indebtedness, lower returns, non availability of inputs, lack of technical support etc. The same in Gadwal were technical support, non availability of labour, lower returns, indebtedness, small landholding etc. In Mahbubnagar, the challenges of importance as per the ranks were lack of technical support, non availability of quality inputs, indebtedness, small land holding, low returns etc.



Table 5: AVAILABILTY OF TECHNICAL SUPPORT / SERVICES TO FARMERS:

Sl. No.	Parameters	UOM	PANGAL		WANAPARTHY		DISTRICT		GADWAL		ALLAMPUR		UNDAVELLY		DISTRICT		NAWABPET		DISTRICT	
			PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG	PER	AVG
5(a)	Farmers having access to technical information																			
	Govt/ AO	No	100		100		100		28.57		50		100		56.25		40		40	
	Pvt. /NGO	No	0		66.67		22.22		100		100		60		87.5		60		60	
	Fellow farmers	No	83.33		100		88.89		71.43		100		100		87.5		60		60	
5 (b)	Farmers given soil samples for testing	No	100		66.67		88.89		71.43		75		100		81.25		40		40	
5 (c)	Farmers received soil test reports	No	0		0		0		0		0		0		0		0		0	
5(d)	Farmers applied fertilizer based on soil test report	No	0		0		0		0		0		0		0		0		0	
	Reasons for not testing soil		0				0		0		0				0		0		0	
	Don't believe that soil test will help	No	0		0		0		0		0		0		0		0		0	
	Not confident about results	No	0		66.67		22.22		0		25		0		6.25		0		0	
	Fertiliser recommendation is less than being used	No	0		0		0		0		0		0		0		0		0	



	Any other specific reason	No	83.33		33.33		66.67		100		75		100		93.75		100		100	
	Aware and adopted	No	16.67		33.33		22.22		0		0		0		0		0		0	
	Not aware at all	No	16.67		0		11.11		85.71		100		100		93.75		60		60	
5 (e)	Willing to pay for professional soil testing services	No	100		100		100		57.14		100		100		81.25		100		100	
5 (f)	Activities most useful to farmers		0				0		0		0				0		0		0	
	Soil testing	No	316.7	3.167	300	3	222.2	2.22	314.3	3.143	325	3.25	320	3.2	318.8	2.813	320	3.2	320	3.2
	Toll free telephonic advisory	No	216.7	2.167	233.3	2.33	200	2	242.9	2.429	250	2.5	240	2.4	243.8	2.031	300	3	300	3
	Technical literature	No	216.7	2.167	166.7	1.67	500	5	185.7	1.857	150	1.5	140	1.4	162.5	3.219	240	2.4	240	2.4
	Field demonstration	No	500	5	500	5	422.2	4.22	485.7	4.857	475	4.75	480	4.8	481.3	4.563	500	5	500	5
	Farmers meetings	No	433.3	4.333	400	4	311.1	3.11	442.9	4.429	425	4.25	420	4.2	431.3	3.875	400	4	400	4
	Field visits	No	416.7	4.167	333.3	3.33	111.1	1.11	342.9	3.429	350	3.5	340	3.4	343.8	2.281	460	4.6	460	4.6
	SMS advisory	No	100	1	133.3	1.33	11.11	0.11	100	1	125	1.25	120	1.2	112.5	0.563	220	2.2	220	2.2
	Adopted any New technology to improve farm income	No	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	0.2	20	0.2
5(g)	Distance travelled to buy agric inputs				0		0		0		0		0		0		0		0	
	< 5km	No	0		100		33.33		100				0		68.75		0		0	
	> 5kM	No	100		0		66.67		0				100		31.25		100		100	



5 (h)	Farmers preferring Co. outlet to purchase agri. input	No	100		100		100		100		100		100		100		100
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Table 6: FEED BACK ON CHALLENGES IN FARMING

Sl. No.	PARAMETERS	UOM	PANGAL	WANPARTHY	DISTRICT	GADWAL	ALLAMPUR	UNDAVELLY	DISTRICT	NAWABPET	MEHABOOB NAGAR
			AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG	AVG
6	Farmers' feedback on major farming challenge										
	Weather i.e. Untimely rains/hail storm/drought etc	No	9	9	9	7.714	8	7.4	7.69	7.2	7.2
	Lack of technical support	No	5.167	4.33	4.89	5.14	5	7.2	5.75	7	7
	Non availability of labour	No	7.33	6.33	7	6.71	5.25	6.8	6.38	4.6	4.6
	Non availability of quality inputs	No	5.67	4.67	5.33	4.57	4	4.8	4.5	6.8	6.8
	Non availability of better market for farm produce	No	2.33	4.67	3.11	3.57	5.25	6	4.75	2.8	2.8
	small land holding	No	4.5	2	3.67	5	6	3.4	4.75	5	5
	low returns	No	4.67	7	5.44	5.29	4.75	6.2	5.44	4.8	4.8
	Indebtedness	No	5.33	6	5.56	6	5.75	2.2	4.75	5.8	5.8
	Any other specific	No	1	1	1	1	1	1	1	1	1



Conclusion

Subdivision has an impact on the landholding possessed by the sample farmers. But in Wanaparthy and Mahbubnagar, the holding held by sample farmers registered a marginal increase in over the extent of land possessed by preceding generation. Centper cent of farmers in selected three districts, were found to have assured source of irrigation. All the farmers in Wanaparthy used power drawn machinery for harvesting, which was not so in Gadwal district and Mahbubnagar. Cent per cent of farmers in selected districts were using UREA and DAP. NPK GRADE was used by 77 per cent of farmers in Wanaparthy 93 per cent in Gadwal and 20 per cent in Mahbubnagar. The average consumption of fertilizers in Wanaparthy was 320 kg while 530 kg in Gadwal and 450 kg in Mahbubnagar. On an average of 15 tonnes of organic manure per ha was used in Wanaparthy 0.93per cent in Gadwal and 6.9 per cent in Mahbubnagar. Farmers preference for colour DAP was influenced by quality expectation to extent of 88per cent in Wanaparthy and more are less similar trend was found in other two districts. The awareness of ZNDAP was not uniform among selected districts. The farmers of Mahbubnagar were totally ignorant in the use of ZNDAP. The application of fertilizers by farmers was influenced by their own self-assessment followed by dealers advice in Wanaparthy while in Gadwal and Mahbubnagar farmers own experience was most powerful factor. Undoubtedly price and quality were major factors in deciding the grade of fertilizer in all the districts. In respect to micronutrient usage in the form of zinc was used by 55 per cent in Wanaparthy, 68 per cent in Gadwal, 60 per cent in Mahbubnagar.

In Wanaparthy and Mahbubnagar maximum percent of farmer were found to fall in income group of RS30000 per annum while in Gadwal the highest per cent of farmers was found to fall in RS 60000 to 1 lakh annum, Only 25 per cent of farmers in Gadwal were found to fall above 1 lakh rupees/annum category. 75 per cent of farmers in Wanaparthy, 81 per cent in Gadwal, 40 per cent in Mahbubnagar were able to meet family expenditure from farming. In Wanaparthy 100 per cent of farmers were found to approach government as a source of technical information as their first choice, similarly the farmers in Gadwal but in Mahbubnagar 40per cent of farmers preferred technical services from government agency. Farmers in general in selected districts were not satisfied with facilities available for soil testing if they are made available. The facilities that the farmers required were technical literature, field demos, farmer meetings etc in Wanaparthy district. Field demos, farmer meetings, soil testing in Mahbubnagar and Gadwal district. The constraints that the farmers encountered in farming were weather/inadequate rains/drought as lamented by all the farmers in three districts. Other constraints were non availability of labour in Wanaparthy and Gadwal and lack of technical support in Mahbubnagar. Yet other constraints were indebtedness, lower returns, and non-availability of inputs.

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