

CONSTRAINTS PERCEIVED BY THE PADDY FARMERS IN ADOPTION OF NUTRIENT MANAGEMENT PRACTICES IN NALGONDA DISTRICT OF TELANGANA STATE

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ABSTRACT

A study was conducted in Kodad, Munagal, and Chilukurmandals of Nalgonda district of Telangana state on 110 randomly selected paddy farmers to assess the constraints perceived by them in adoption of nutrient management practices. It was found that High cost of fertilizers; Lack of fertilizer subsidies; Lack of knowledge on nutrient management packages; Lack of proper fertilizer management skills; Lack of awareness on use of bio fertilizers; Lack of awareness regarding green manure crops; Non availability of farm yard manure (FYM); Non availability of fertilizers at proper time; Irregular release of canal water (NSP); Lack of technical guidance; Lack of training programs and Non availability of labor. Further, SSNM farmers perceived Lack of soil testing labs; Off time arrival of soil test results; Improper soil sampling and Improper soil test results as constraints were the most serious constraints.

KEYWORDS: Nutrient Management Practices in Nalgonda

INTRODUCTION

Telangana is one of the major paddy growing states of India. The paddy crop is cultivated in an area of 19 lakh hectares with a production of 4648 lakh tonnes at an average productivity of 3123 kg/ha. The paddy productivity is very low due to the several constraints faced by the farmers in its nutrient management. Knowledge of these constraints is essential to undertake appropriate measures which need to enhance the paddy production in the state. Mishra *et al.* pointed out that not more than 15-20 per cent of available technology has reached the Indian farmers as against 80-85 per cent in some of the developed countries.

Singh *et al.* reported that high cost of inputs, high cost of labor, non-availability of trained labor, non-availability of credit facilities, lack of subsidy for inputs, lack of support price, lack of awareness of technologies, lack of conviction, non-availability of desired technology, weak extension at village level, unawareness of supplies offered by government, insufficient training programs, lack of proper communication and lack of transport facilities were the constraints expressed by the rice farmers in Jabalpur district.

Oinam and Sudhakar concluded that non availability of required quantity of farm yard manure at the time of sowing, high cost of farm yard manure due to decreasing cattle population and non -availability of labor for application of farmyard manure were major constraints reported by the rice farmers. Ezui *et al.* concluded that poor response under certain circumstances, the cost of the fertilizer at recommended rate being beyond the reach of farmers, and farmers' lack of proper fertilizer-management skills are the major reasons for lack of adoption of full-dose fertilization. With this background, the present study was undertaken to ascertain the present status of constraints which are being faced by the

paddy farmers in Telangana with a view to suggest the appropriate extension strategy, *etc.*

MATERIAL AND METHODS

The present study was carried out in Nalgonda district of Telangana state during 2015-16. From the Nalgonda district, three mandals viz;Kodad, Munagal, and Chilukur were selected and from each mandal five villages were selected based on criteria of large extent of rice cultivation. From each village 3 State Agricultural University (SAU) respondents and 3 Farmers Practice (FP) respondents were selected randomly and soil test based Site Specific Nutrient Management (SSNM) respondents were selected based on their availability all over the district making a sample size of 110 respondents. Data was collected through a pre-structured and pre-tested personal interview schedule. The data so generated were subjected to simple statistical procedures using frequency and percentages rank computations, *etc.*

RESULTS AND DISCUSSION

Constraints perceived by the three categories (SAU, FP and SSNM) of paddyfarmers are presented in Table 1.

Table 1: Constraints in Adoption Nutrient Management Practices by Paddy Farmers

S.No	Constraints	SAU (45)		FP (45)		SSNM (20)		TOTAL (110)	
		F	%	F	%	F	%	F	%
1	High cost of fertilizers	38	84.4	35	77.8	17	85.0	90	81.8
2	Lack of fertilizer subsidies	33	73.3	30	66.7	13	65.0	76	69.1
3	Lack of knowledge on nutrient management packages	25	55.6	29	64.4	11	55.0	65	59.1
4	Lack of proper fertilizer management skills	30	66.7	25	55.6	13	65.0	68	61.8
5	Lack of awareness on use of bio fertilizers	24	53.3	15	33.3	10	50.0	49	44.5
6	Lack of awareness regarding green manure crops.	15	33.3	22	48.9	11	55.0	48	43.6
7	Non availability of farm yard manure (FYM)	37	82.2	36	80.0	14	70.0	87	79.1
8	Non availability of fertilizers at proper time	25	55.6	33	55.6	16	80.0	74	67.3
9	Irregular release of canal water (NSP)	20	44.4	26	44.4	12	60.0	58	52.7
10	Lack of technical guidance	26	57.8	25	55.6	10	50.0	61	55.5
11	Lack of training programs	25	55.6	20	44.4	13	65.0	58	52.7
12	Non availability of labor	30	66.7	23	51.1	9	45.0	62	56.4
13	Lack of soil testing labs	-	-	-	-	15	75.0	15	13.6
14	Off time arrival of soil test results	-	-	-	-	13	65.0	13	11.8
15	Improper soil sampling	-	-	-	-	7	35.0	7	6.4
16	Improper soil test results	-	-	-	-	10	50.0	10	9.1

About 81.8 per cent of the paddy farmers complained of high cost of fertilizers as a major constraint in adoption of nutrient management recommendations. The paddy farmers however should apply the fertilizers at any cost according to their recommended doses to the crop. This made all the categories i.e SAU (84.4%), FP (77.8%) and SSNM (85.0%) of farmers vulnerable to high cost of fertilizers.

The increasing cost of fertilizers (P and K) also made the farmers to express the constraint of lack of fertilizer subsidies, which was complained by about 69.1 per cent i.e SAU (73.3%), FP (66.7%) and SSNM (65.0%) of paddy farmers. Provision of fertilizers subsidies by the government will be helpful to the farmers in order to bear high cost of

fertilizers. Providing of micronutrients (Zinc, Iron etc) also on subsidies will be helpful to farmers which majorities of farmers are not applying due to their high cost. Also providing subsidy alone will not save trouble if the farmers do not derive full benefit. Subsidy at times when provided by the government, only ends in the hands of non-farmers. To avoid this, the activities of the middlemen should be checked. Hoarding and other practices should be kept under control. Also formation of farmer's cooperative societies to remove the negative impact of middlemen, who add unnecessary cost to the prices of the products, will be helpful.

Non-availability of farm yard manure (FYM) was also one of major non-manipulatable constraint expressed by 79.7 per cent of respondent's i.e SAU (82.2%), FP (80.0%) and SSNM (70.0%). In this situation, respondents better try to adopt for green manures and bio-fertilizers which are also biological sources of nutrients which can supplement better than the farm yard manure. The KVKs and DAATT centers must organize training programs on bio fertilizer preparation, application etc. The green manure crops play a major role in rejuvenating the soil fertility conditions and moreover there is scope to reduce cost on fertilizers. Hence there is need to create more awareness about green manures too. The farmers must be made known about different green manure crops, seed rates per acre, their nutrient status etc. More awareness programs on importance of bio fertilizers and green manures should be created.

Moreover state government should use various media to broadcast the market prices of fertilizers, subsidies regularly. Government should involve the farmers associations in implementing the subsidy so that the activities of the middlemen would be checked. The extension agents having close contact with the farmers would also ensure that they benefit from the subsidy. The implementation should be done at the farm level and not at the local Government Headquarters.

Often fertilizers have been arriving in the state after the planting season which was also a contributory factor in non-adoption of nutrient recommendations, complained by 67.3 per cent of paddy farmer's i.e SAU (55.6%), FP (55.6%) and SSNM (80.0%). In this context, state government should take suitable measures to make arrangements for availability of fertilizers before the planting seasons. As this constraint perceived by 80 per cent of SSNM farmers because of this constraint they were unable to adopt the recommended SSNM practice.

About 61.8 per cent i.e SAU (66.7%), FP (55.6%) and SSNM (65.0%) of paddy farmers elicited that, lack of proper fertilizer management skills also dragging them behind, in adoption of nutrient management recommendations. In this situation, creation of awareness on skillful management of fertilizers i.e application of fertilizers in split doses in-order to reduce the percolation and leaching losses, fertigation in drought conditions, application of lime in acid soils for every three years, split application of potash in heavy soils might be helpful to the respondents. So in this connection sufficient number of training programs should be organized on nutrient management. The KVK of the district as a part of their vocational on farm and off farm trainings, they should include various programs as a mandatory on nutrient management.

Knowledge plays a crucial role in adoption of nutrient management practices but 59.1 per cent i.e SAU (55.6%), FP (64.4%) and SSNM (55.0%) of paddy farmers expressed that they are lacking in knowledge regarding different nutrient management practices. Organization of fertilizer promotion workshops and campaigns will be helpful to paddy farmers.

Non-availability of labor in application of fertilizers, at peak periods was one of the constraints expressed by 56.4 per cent of paddy farmer's i.e SAU (66.7%), FP (51.1%) and SSNM (45.0%). It is the major constraint which is non manipulatable, so the respondents with their forward thinking must make arrangements for hiring of labor by perceiving

peak periods of labor requirements and the farm mechanization is another alternative to cope up the constraint.

Lack of technical guidance also limiting farmers adoption of nutrient management practices expressed by 55.5 per cent i.e SAU (57.8%), FP (55.6%) and SSNM (50.0%) of respondents. So the DOA and SAUs come forward with various programs to outreach the farmers who are also in remote areas. The government must also recruit staff for every village in the form of diploma students, B.Sc graduates who will be in reach to farmers in providing technical guidance, rather than agriculture officer who majorly restrict himself at mandal level only.

Irregular release of canal water was another constraint in the adoption of nutrient management practices, which is expressed by 52.7 per cent of paddy farmers i.e SAU (44.4%), FP (44.4%) and SSNM (60.0%). So the paddy farmers government has to take suitable measures to release the canal water throughout the year and it will also be helpful to take three crops per year. Moreover irrigation water supply significantly influences the decision on land preparation, selection of varieties with different duration, scheduling of planting/sowing and irrigation.

Lack of awareness on bio-fertilizers (44.5%) and green manure crops (43.6%) also hindering paddy farmers in adoption of nutrient management recommendations. So there is a need to create awareness on importance of bio fertilizers and green manures. However bio fertilizers preparation is somewhat cumbersome, so awareness regarding simple bio fertilizers like azolla (how to grow and how to apply) should be made known to farmers. The KVKs and DAATT centers must organize training programs on bio fertilizer preparation, application etc. The green manure crops play a major role in rejuvenating the soil fertility conditions and moreover there is scope to reduce cost on fertilizers. Hence there is need to create more awareness about green manures too. The farmers must be made known about different green manure crops, seed rates per acre, their nutrient status etc.

The major constraint as perceived by SSNM respondents was lack of soil testing labs which was expressed by 13.6 per cent of them. Opening of as many as soil test labs in order to cater the needs of farmers of the district will be helpful.

Off time arrival of soil test results after planting season, was also one of the constraint expressed by 11.8 per cent of SSNM farmers. This might be due to lack of enough staff in the soil testing lab, lack of enough soil testing labs in the district and may be other technical reasons. So the soil test results must be made available before starting of cropping season by recruiting enough staff in labs and opening of enough number of soil testing labs in district.

An improper soil test result was another constraint expressed by 9.1 per cent of SSNM respondents. The main reasons for this might be, improper analysis of soil, recommendation of results based on soil test results of previous samples of the same area, instead analyzing particular soil sample etc. In this context soil test based recommendations should be made by analyzing individual samples using modern soil testing kits.

Improper soil sampling by the respondents itself was a constraint, expressed by 6.4 per cent of SSNM respondents, this might be due to lack of knowledge and skill in collecting soil samples (collection of sample between March – April months, 10-12 samples collection from a field, sample collection from 15 cm depth, adoption of Quartering method in selecting final sample). So the KVK scientists must organize as many as method demonstrations on soil sampling procedure, because it plays a major role in determination of nutrient status of particular sample.

CONCLUSIONS

Major problems experienced by the paddy farmers in adoption of nutrient management practices in all the three mandals of Telangana state were High cost of fertilizers; Lack of fertilizer subsidies; Lack of knowledge on nutrient management packages; Lack of proper fertilizer management skills; Lack of awareness on use of bio fertilizers; Lack of awareness regarding green manure crops; Non availability of farm yard manure (FYM); Non availability of fertilizers at proper time; Irregular release of canal water (NSP); Lack of technical guidance; Lack of training programs and Non availability of labor. Further, SSNM farmers perceived Lack of soil testing labs; Offtime arrival of soil test results; Improper soil sampling and Improper soil test results as constraints.

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