

Off take of Fertilizer and Credit Needs of Farmers

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A study was taken up to investigate the offtake of fertilizer and credit needs. The enquiry revealed that the farmers growing high yielding varieties were prepared to apply the recommended dosage of fertilizers and struggled to get the fertilizers when there was short supply. Hence there is a need in the interest of high production that fertilizers should be made available in adequate quantities at the proper time. Co-operatives play a significant role in distribution of credit to farmers in the form of fertilizers at fair prices even though the quantity supplied may fall short of requirements at times due to short supply. The farmers prefer urea for top dressing of paddy while complex fertilizers are in use for basal application to paddy. In the case of sugarcane mixtures are popular and used in considerable quantities which is arranged by the factory located in the area.

The year 1973-74 witnessed an acute shortage of fertilizers not only in India but throughout the world. In the context of High yielding varieties programme and as the Indian farmers have also become fertilizer conscious and applied fertilizer for most of the irrigated crops, the demand for fertilizer has been on the increase. The future programme of agricultural production depends largely on the adequacy of fertilizers. With a view to know the off-take of fertilizers by farmers a sample study was taken up and the results are presented in this paper.

MATERIAL AND METHODS

For this investigation Natham Block representing garden lands and Alanganallur Block representing wet lands were selected. Five villages in each block were selected at random

and from each village ten farmers were chosen for enquiry. Thus, one hundred farmers were contacted and based on the data collected.

RESULTS AND DISCUSSION

The following Table gives details of area, area irrigated, area applied with fertilizer, nature of holdings etc., in the two blocks.

Regarding cropping pattern paddy was the main crop occupying 101.50 hectares in Natham and 155.3 hectare in Alanganallur Block. Sugarcane and groundnut crops were next importance. The other crops raised included millets and vegetables. In Natham cotton also occupied small area.

It is interesting to note that in both blocks farmers have applied fertilizers

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TABLE I. Area irrigated and fertilized

Area of selected holdings	Natham	Alanganallur
	In hectares	In hectares
Vet	24.17	103.46
Garden	79.42	6.43
Paddy	129.33	21.74
Total Net area	232.92	131.46
Gross cropped area	285.79	213.37
Gross cropped area irrigated	166.81	194.04
Gross cropped area applied with fertilizer	137.56	178.59
Percentage of gross cropped area irrigated	58.36	90.93
Percentage of gross cropped area applied with fertilizers	48.13	83.70
Percentage of gross irrigated area applied with fertilizer	82.46	92.04
No. of farmers having wet land	2	38
No. of farmers having garden land	41	2
No. of farmers having wet and garden land	7	10

to paddy and sugarcane crops while less importance has been given to crops like cotton and groundnut.

Table-III gives the consumption of N, P and K per hectare of cropped area and fertilised area.

TABLE III. Consumption of N, P and K

Block	per hectare					
	Cropped area quantity/hectare (Kg.)			Fertilised area quantity/acre (Kg.)		
	N	P	K	N	P	K
Natham	32	17	16	66	34	34
Alanganallur	84	33	27	98	39	34

The average quantity of N, P and K applied per hectare of cropped area was 32 Kg. of N, 17 Kg. of P and 16 Kg. of K in Natham Block and in the case of Alanganallur Block it was 84 Kg. of N, 33 Kg. of P and 27 Kg. of K respectively. The average quantity of N, P and K applied per hectare of fertilized area was also worked out since only a part of cropped area was applied with fertilizer and it worked out to 66 Kg, 34 Kg and 34 Kg of N, P and K respectively in Natham Block and 98 Kg. of N and 39 Kg. of P and 34 Kg. of K in the case of Alanganallur Block which appears to be more relevant for the study. The quantity of

TABLE II. Percentage of area received fertilizers

Name of the crop	Natham			Alanganallur		
	Area irrigated in hectares	Area recd. fertilizer (in hectares)	% of area recd. fertilizer	Area irrigated in hectares	Area recd. fertilizer (in hectares)	% of area received fertilizer
Paddy	101.50	95.43	94.20	155.31	155.31	100.00
Sugarcane	21.66	20.65	95.30	18.27	18.27	100.00
Cotton	9.21	6.38	69.20	—	—	—
Groundnut	9.88	5.28	53.20	7.15	5.00	48.20

N, P and K applied per hectare for different crops are given in Table IV.

As per the departmental recommendation, the farmers have to apply 12.35 tonnes of Farm Yard Manure/Compost or 5.68 tonnes of green leaf manure per hectare for all the crops (Green manure for wet lands only) which supply 49 Kg. N, 37 Kg. P and 37 Kg. K besides the specified quantity of N, P and K in the form of inorganic fertilizer which vary from crop to crop and variety to variety. But due to the fertilizer shortage the farmers applied more quantities of organic manures than the recommended doses to compensate the shortage of inorganic fertilizers.

In Natham block with regard to paddy percentage of deficit of N varied

from 15 per cent in the case of 'other varieties' to 33 per cent in the case of Karuna and ponni. In the case of IR.8 and IR.20 the percentage of deficit was 29 and 15 respectively. For cotton, the deficit was noticed in the case of organic manure also, since cotton was not applied with the recommended dose of F.Y.M. as it follows paddy in garden lands which is usually heavily manured with organic manures. In the case of sugarcane farmers supplied N, P, K more in the form of in-organic manures than in the form of inorganic fertilizers.

In Alanganallur block the per cent of deficit of N varied from 9 per cent for Karuna to 33 per cent for other varieties of paddy. The deficit was 17 per cent for IR.8 and 27 per cent for IR. 20. In the case of IR. 20 and other varieties

TABLE IV. Quantity of N, P and K applied per ha. for different crops

Name of the crop and variety	Quantity of N, P and K applied per ha in Kg									Percentage of deficit		
	Organic			In-organic			Total			N	P	K
	N	P	K	N	P	K	N	P	K			
Natham												
Paddy IR.8	76	53	58	90	32	39	167	92	97	29	26	22
IR.20	70	54	54	78	36	36	148	90	90	15	18	10
Karuna	62	48	48	54	27	27	116	75	75	33	24	24
Ponni	60	46	46	57	27	27	127	73	73	33	26	26
Other varieties	59	45	45	42	17	17	101	62	62	15	35	14
Sugarcane	116	87	87	95	59	53	211	146	140	35	+37	+32
Cotton	37	28	28	35	19	19	72	47	47	34	18	18
Alanganallur												
Paddy IR.8	77	58	58	119	50	38	196	108	96	17	12	22
IR.20	17	13	13	109	49	37	126	62	50	27	41	50
Karuna	61	46	46	96	38	38	157	84	84	9	34	15
Other varieties	23	18	18	56	27	24	79	45	42	33	53	41
Sugarcane	65	49	48	164	47	47	229	96	96	30	9	9

f N, P, K applied in the form ure is far less since these cultivated in the second season after IR. 8 or Karuna in the first season. The second crop of paddy is not applied with enough quantity of organic manures due to lack of time and organic manures. Besides, organic manures cannot be transported to the field due to the slushy nature of the field. For sugarcane the percentage deficit of N was 30 per cent and the deficit was only 9 per cent both in the case of P and K.

The Table V shows the quantity of N, P and K applied per hectare in Kg. by the farmers who availed the co-operative credit and farmers who have not availed the co-operative credit. The farmers who availed the co-operative credit applied more, N, P and K per hectare

TABLE V.

Block	Farmers availing Co-operative credit			Farmers not availing Co-operative credit		
	N	P	K	N	P	K
	(in Kg.)			in Kg.)		
Natham	72	38	37	61	32	32
Alanganallur	104	41	35	76	34	31

than those who have not availed, the Co-operative credit. The Co-operative societies supplied fertilizers for nearly 50% of the amount of loan and the other 50 per cent as cash

The following Table furnishes the demand and supply position of fertilizers in the two blocks. Since fertilizers were applied to irrigated crops only, the demand was worked out only for the irrigated crops.

Demand and supply of N, P and K (in tonnes)

	Natham			Alanganallur		
	N	P	K	N	P	K
N P K demand	413	211	197	1304	561	538
N P K supplied	195	86	66	489	144	122
Deficit	218	125	131	815	417	416
% of deficit	52	59	66	62	74	77

It was found that both blocks suffered from fertilizer scarcity during 1973-74.

As regards preference for different types of fertilizers the farmers preferred complex for basal dressing and urea for top dressing for paddy. For sugarcane in the Alanganallur factory area farmers preferred mixtures.