



## FACTORS INFLUENCING PREFERENCE OF FERTILIZERS IN ERODE DISTRICT

**Mrs. S. Rubadevi**

Assistant Professor of Commerce, Bharathiar University Arts and Science College, Sivagiri

**Dr. T. Palanisamy**

Principal Bharathiar University Arts and Science College, Gudalur.

**ABSTRACT**

India is predominantly an agriculture country and about 65 per cent of the total population of the country has been involved in agriculture directly or indirectly. There has been a gap between the growth rate of population and growth rate of food productivity. As a result, the food shortage is anticipated. It is essential to enhance the production of food grains. However, there have been certain limitations in increasing the production such as monsoon failure, non availability of agriculture labours, lack of technology, etc. However, the productivity of food grains could be increased by using fertilizers without affecting the soil structure and fertility of the soil. Organic and chemical fertilizers are made available for the farmers. The organic fertilizers have more advantages. However, chemical fertilizers are used to increase the productivity to a greater extent. The preference of fertilizers has been influenced various factors. The present study has aimed at examining the factors influencing preference of fertilizers.

**KEYWORDS** : Fertilizers, Farmers, Factors, Preference**INTRODUCTION**

Indian agriculture has been contributing to the Gross Domestic Product of the country to a great extent. The role of agriculture in the economic development of the country is very crucial. The majority of the industries have been involved in the agro based or allied business. The fertilizer industry has been one of the agro based industries which supports the Indian agriculture sector. In order to cater to the needs of farmers, various brands of fertilizers are available in the market. Both national and regional brands of fertilizers are preferred by the farmers according to their requirements. The farmers have been using both organic and chemical fertilizers. The advantages of using fertilizers include maintenance of soil structure, increasing the productivity and preserving the fertility of the soil. The fertilizer manufacturing companies have to understand the consumer behaviour of the farmers with reference to the fertilizers.

**STATEMENT OF THE PROBLEM**

The fertilizers are available in different varieties – organic fertilizers and chemical fertilizers. There have been varieties of brands of fertilizers available in the market at the disposal of the farmers. The fertilizers of various brands differ with each other with respect to price, quality, features, etc. Due to competition in the market, national level brands as well as regional level brands of fertilizers have been adopting various marketing strategies. However, they have to understand the basic requirements of the farmers. In this context, it is deemed necessary to undertake a study on factors influencing the preference of fertilizers by the farmers. In this regard, the following questions have been probed in this study:

1. What could be the factors influencing the farmers in the preference of fertilizers?
2. Is the preference of fertilizers affected by ownership of land, size of land and source of irrigation?

**OBJECTIVES OF THE STUDY**

The researchers have framed the following objectives for the present study:

1. To observe the demographic variables of the farmers in Erode District.
2. To examine the factors influencing the preference of fertilizers by the farmers and
3. To offer suggestions for the best preference of fertilizers

**HYPOTHESES OF THE STUDY**

The following hypotheses have been framed and tested by

performing chi square analysis:

**Null Hypotheses:**

1. There is no significant relationship between ownership of land and factors influencing preference of fertilizers
2. There is no significant association between size of cultivating land and factors influencing preference of fertilizers.
3. There is no significant relationship between source of irrigation and factors influencing preference of fertilizers

**RESEARCH METHODOLOGY**

The present study is based on the primary data obtained from the sample respondents who have been chosen from the farmers residing in Erode District. For the purpose of present study, 150 sample farmers have been selected on convenient sampling method. The researchers have prepared a structured interview schedule and conducted personal interview with the sample respondents. The responses given by the sample respondents have been recorded by coding in the interview schedule. The primary data so collected have been grouped and put through analysis.

**STATISTICAL TOOLS USED**

For the purpose of analyzing the data collected from the sample respondents, the researchers have applied percentage analysis, mean, standard deviation, and chi square test. The demographic variables of the respondents have been analyzed with the percentage analysis. The mean and standard deviation have been computed for the overall scores of factors influencing preference of fertilizers. The chi square test been used to examine the relationship between dependent variable (level of influence in preference of fertilizers) and independent variables (demographic variables, ownership of land, size of land and source of irrigation).

**LIMITATIONS OF THE STUDY**

The present study is subject to the following limitations:

1. Due to the time and economic constraints the study has been conducted with 150 farmers in Erode district only.
2. Since the study is mainly dependent upon the primary data obtained from the farmers, the preferences and tastes would vary from time to time.
3. The results of the study could be generalized to the similar districts only after considering various factors critically.

**DEMOGRAPHIC VARIABLES AND FARM RELATED VARIABLES**

The variables like age, gender, educational level marital status have been included in the purview of demographic variables. The variables related to the farm such as ownership of land, size of land

and source of irrigation have also been considered as farm related and independent variables in this study.

**TABLE 1: DEMOGRAPHIC VARIABLES**

Demographic Variables	Groups	NR	%	Mean	S.D.
Age	Below 20 years	22	14.70%	30.64	5.90
	20 to 40 years	35	23.30%	32.20	4.92
	40 to 60 years	59	39.30%	31.59	6.16
	Above 60 years	34	22.70%	29.59	5.46
	<b>Total</b>	<b>150</b>	<b>100.00%</b>	<b>31.14</b>	<b>5.72</b>
Gender	Male	108	72.00%	31.65	5.62
	Female	42	28.00%	29.83	5.83
	<b>Total</b>	<b>150</b>	<b>100.00%</b>	<b>31.14</b>	<b>5.72</b>
Educational Level	School Level	84	56.00%	31.64	5.25
	UG Level	30	20.00%	30.43	7.31
	PG Level	21	14.00%	30.52	5.15
	Others	15	10.00%	30.60	5.73
	<b>Total</b>	<b>150</b>	<b>100.00%</b>	<b>31.14</b>	<b>5.72</b>
Marital Status	Single	56	37.30%	30.95	5.83
	Married	94	62.70%	31.26	5.68
	<b>Total</b>	<b>150</b>	<b>100.00%</b>	<b>31.14</b>	<b>5.72</b>

From the Table 1, it could be understood that out of 150 sample respondents 14.70 per cent of them belonged to the age group of below 20 years while 23.30 per cent of them were pertaining to the age group of 20 to 40 years and 39.30 per cent of the total respondents belonged to the age group of 40 to 60 years. The remaining 22.70 per cent of the respondents were pertaining to the age group of above 60 years. The mean score of factors influencing preference of fertilizers of these groups were 30.64, 32.20, 31.59 and 29.59 respectively. It denotes that the mean score of factors influencing preference of fertilizers was the highest among the farmers belonged to the age group of 20 to 40 years and it was the lowest among the farmers in the age group of above 60 years.

The proportions of male and female respondents among the total respondents were found to be 72.00 per cent and 28.00 per cent respectively. The mean score of factors influencing preference of fertilizers relating to the male respondents was found to be 31.65 and that of the female respondents was ascertained to be 29.83. It indicates that the influence of factors in the preference of fertilizers was higher among the male respondents than among the female respondents.

Out of the total respondents, 56.00 per cent of them have completed their school level education and the mean score of factors influencing preference of fertilizers pertaining to these respondents was found to be 31.64 while the proportion of respondents having UG level education and their mean score of factors influencing preference of fertilizers were found to be 20.00 per cent and 30.43 respectively. The average score of factors influencing preference of fertilizers among the farmers having PG level education was ascertained to be 30.52 whose proportion to the total respondents was found to be 14.00 per cent. The farmers having other levels of education constituted 10.00 per cent of the total respondents and their average score of factors influencing preference of fertilizers was 30.60. It denotes that the mean scores was the highest among the respondents having school level education and the lowest among the respondents having UG level education.

It is observed that 37.30 per cent of the total respondents have been represented by single respondents and 62.70 per cent of them have been represented by married respondents. The mean scores of factors influencing preference of fertilizers were 30.95 and 31.26 respectively. It implies that the average score of married respondents was higher than that of single respondents.

**TABLE 2: FARM RELATED VARIABLES**

Farm related variables	Groups	NR	%	Mean	S.D.
Ownership of land	Freehold	105	70.00%	31.52	5.45
	Leasehold	45	30.00%	30.24	6.28
	<b>Total</b>	<b>150</b>	<b>100.00%</b>	<b>31.14</b>	<b>5.72</b>
Size of land	Less than 1 acre	22	14.70%	31.05	4.84
	1 to 2 acres	34	22.70%	29.65	5.37
	2 to 3 acres	69	46.00%	31.80	5.38
	More than 3 acres	25	16.60%	31.44	7.50
	<b>Total</b>	<b>150</b>	<b>100.00%</b>	<b>31.14</b>	<b>5.72</b>
Source of Irrigation	Canal	46	30.70%	31.26	5.74
	Open Well	69	46.00%	31.72	5.11
	Tube Well	16	10.70%	28.38	6.21
	Others	19	12.60%	31.05	7.04
	<b>Total</b>	<b>150</b>	<b>100.00%</b>	<b>31.14</b>	<b>5.72</b>

Table 2 depicts that 70.00 per cent of the total respondents had freehold lands and 30.00 per cent of the sample respondents had possessed leasehold lands. The average scores of factors influencing preference of fertilizers of these respondents were 31.52 and 30.24 respectively. It proclaims that the average score of freehold land respondents was higher than that of leasehold land respondents.

It could be realized that 14.70 per cent of the sample respondents has been represented by the farmers having less than 1 acre of land whereas the proportion of farmers having 1 to 2 acres of land has been found to be 22.70 per cent of the total respondents. About 46.00 per cent of the total respondents have possessed 2 to 3 acres of land and 16.60 per cent of the respondents have been found to be the holders of more than 3 acres of land. The average scores of factors influencing preference of fertilizers relating to these groups have been ascertained to be 31.05, 29.65, 31.80 and 31.44 respectively. The highest and the lowest scores have been pertaining to the holders of 2 to 3 acres of land and 1 to 2 acres of land respectively.

The source of irrigation was canal for 30.70 per cent of the total respondents while open well was the source of irrigation for 46.00 per cent of the respondents and tube well has been used as source of irrigation by 10.70 per cent of the respondents. The remaining 12.60 per cent of the total respondents were dependent on other sources of irrigation. Their average scores of factors influencing preference of fertilizers indicated that the highest score (31.72) has been secured by the farmers using open wells and the lowest score (28.38) has been secured by the farmers using tube wells.

#### FACTORS INFLUENCING PREFERENCE OF FERTILIZERS

It is observed that the following factors could influence the preference of fertilizers by the farmers. The sample respondents were asked to record their responses as Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree to the following statements relating to the preference of fertilizers. These responses have been assigned with scores 5, 4, 3, 2 and 1 respectively. Based on the total scores, the level of influence has been categorized as low level, medium level and high level. For this purpose, the scores between 10 and 23 have been considered as low level while the scores from 24 to 36 have been deemed to be medium level and the scores between 37 and 50 have been considered as high level.

1. Soil Structure is unaffected
2. Hydraulic Conductivity is maintained
3. Field Capacity is enhanced
4. Erosion is reduced
5. Non-toxic food is produced
6. On farm production is available
7. Capital Investment is low
8. Productivity is increased
9. Fertility of the soil is preserved
10. Safe Environment is ensured

**TABLE 3: FACTORS INFLUENCING PREFERENCE OF FERTILIZERS**

Variables	Chi square value	DF	p value	Result
Age	10.810	6	0.094	Not Significant
Gender	7.501	2	0.024	Significant @ 5%
Educational Level	8.506	6	0.203	Not Significant
Marital Status	2.938	2	0.230	Not Significant
Ownership of Land	6.542	2	0.038	Significant @ 5%
Size of land	9.688	6	0.138	Not Significant
Source of irrigation	8.156	6	0.227	Not Significant

According to the Table 3, there exists no significant relationship between age of the farmers and the factors influencing preference of fertilizers as indicated by the p value of 0.094 ( $p > 0.05$ ). However, the relationship between gender of the farmers and the factors influencing preference of fertilizers has been found to be significant as revealed by the p value of 0.024 ( $p < 0.05$ ). On the other hand, educational level and marital status of the farmers have no significant relationship with the factors influencing preference of fertilizers since the respective p values have been greater than 0.05. Ownership of land and factors influencing preference of fertilizers have been found to be significantly related as indicated by the p value of 0.038 ( $p < 0.05$ ). There exists no significant association between size of land occupied by the farmers and the factors influencing preference of fertilizers as the p value is greater than 0.05. Similarly, the relationship between source of irrigation and factors influencing preference of fertilizers has been observed to be insignificant as denoted by the p value of 0.227 ( $p > 0.05$ ).

#### FINDINGS OF THE STUDY

From the analysis of data relating to the factors influencing preference of fertilizers among the farmers in Erode District, the following findings have been observed:

1. It is found from the various age groups of the sample respondents that the proportion of young farmers has been less than that of the middle aged and old aged farmers.
2. The proportion of male farmers has been found to be greater than the proportion of female farmers.
3. It is observed that more than half of the farmers have completed the school level education only. It denotes that the graduates are not involved in agriculture.
4. Most of the sample respondents has been found to be married and the proportion of single respondents is less than the married respondents.
5. Agriculture has been carried out by the farmers having their own lands to a greater extent.
6. Size of land occupied by farmers for cultivation purposes of the majority of the respondents has been found to be 2 to 3 acres.
7. It is also found that the open well has been the source of irrigation for most of the respondents.
8. There has been a significant association between gender of the farmers and the factors influencing preference of fertilizers.
9. The relationship between ownership of land and the factors influencing preference of fertilizers has been found to be significant.

#### SUGGESTIONS

On the basis of the research findings, the researchers have put forth the under mentioned suggestions:

1. Young aged individuals should be encouraged to involve in the occupation of agriculture and they should be motivated to use fertilizers for increasing the productivity.
2. Subsidies shall be granted to the female farmers for the purchase of fertilizers with a view to make them actively participating in agriculture.
3. Graduates and post graduates should be induced to involve in the agriculture either directly or indirectly. They shall be given opportunities for inventing new varieties of fertilizers.
4. The agriculture cooperative societies shall provide agriculture

inputs like seeds, fertilizers, etc at cheaper prices to encourage the cooperative farming.

5. Large scale land farmers shall be given financial assistance for the purchase of fertilizers to help them utilize fertilizers.

#### CONCLUSION

It is to be noted that agriculture has been the main occupation for the majority of population in Erode District. The fertilizers are helpful for them to maintain the fertility of the soil and improve the productivity. The farmers in Erode District prefer fertilizers as the soil structure is unaffected by the fertilizers while used in the farms. Enhancing the field capacity and productivity have been the other factors influencing preference of fertilizers. The farmers consider the factor that the fertility of the soil is maintained and this could be one of the reasons for preference of fertilizers. The preference of fertilizers has been determined by the gender of the farmers and ownership of land.

#### REFERENCES:

1. Archit Kumar Nayak and Nitin Barker (2015), "Brand Promotional Strategy for Uttam Super in Rohtas, Kaimur and Aurangabad Districts of Bihar", International Journal of Scientific and Research Publications, Volume 5, Issue 11, November 2015, pp.79-87
2. Chaminda S. Herath and Rusitha Wijekoon (2013), "Study on attitudes and perceptions of organic and non-organic coconut growers towards organic coconut farming", IDESIA (Chile) Volume 31, No. 2, May-August, 2013, pp. 5-14.
3. Sivakumar V and Kaliyamoorthy S (2014), "Factors Influencing the Purchase of Agricultural Tractors: An Empirical Study", IOSR Journal of Business and Management, Volume 16, Issue 1, Ver. III (Jan. 2014), pp. 42-46.
4. Geetika Sharma, Rakhee Dewan and Santosh Bali (2014), "Factors Influencing Consumer Buying Behavior & Awareness towards Organic Food: A Study of Chandigarh & Panchkula Consumers", International Journal of Science and Research, Volume 5 Issue 2, February 2016, pp. 689-696