



Research Article

ASSESSMENT OF DISTRIBUTION CHANNELS AND BUYING BEHAVIOUR OF FARMERS TOWARDS FERTILIZERS IN BANASKANTHA DISTRICT OF NORTH GUJARAT

PATEL JATIN*, RAJGOR HITESH, THAKKAR K.A. AND JOSHI K.M.

College of Agribusiness Management, Sardarkrushinagar Dantiwada Agricultural University, Sardarkrushinagar, 385506, Gujarat

*Corresponding Author: Email-jatinpatel1743@gmail.com

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Abstract- The present investigation was under taken with the basic objectives of assessing distribution channels of fertilizers and buying behaviour of the farmers towards fertilizers. The multistage random sampling technique was employed for the study. The study was conducted in Banaskantha district of Gujarat state. Three talukas namely Deesa, Dantiwada and Tharad were selected randomly from the district. In the next stage, four villages from each taluka were selected randomly. Thus, total 12 villages were selected through random sampling technique. In the last stage, 10 farmers were selected randomly from each village for making a sample size of 120 farmers. The primary data were collected from the respondents through a pre-structured interview schedule by personal interview technique. The statistical tools such as frequency and percentage were used. Majority of the farmers (65.00%) are purchasing fertilizers from co-operative societies because of easy availability and reliable product. It was found that GSFC, GNFC, IFFCO and KRIBHCO companies have their own outlets for distribution of fertilizers in the study area. However, they sell the fertilizers only to co-operative societies. Looking to the buying behaviour of farmers, all the farmers highly considered quality while purchasing the fertilizers followed by brand image (96.70%), own experience (90.80%) and easy availability (90.00%). Farmers were most focusing on quality and good brand image rather than other factors, therefore, to sustain in the market, companies should maintain the quality and thereby, establish goodwill for positive results.

Keywords- Buying behaviour, Distribution Channels, Fertilizers

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Introduction

Just like humans and animals, plants need adequate water, sufficient food and protection from diseases and pests to be healthy. Commercially produced fertilizers give growing plants the nutrients they crave in the form they can most readily absorb and use. These nutrients are; nitrogen (N), available phosphate (P) and soluble potash (K). Elements needed in smaller amounts i.e. micronutrients include iron (Fe), zinc (Zn), copper (Cu) and boron (B). Primary nutrients are normally supplied through chemical fertilizers.

Fertilizer is generally defined as "a mined, refined or manufactured product containing one or more essential plant nutrients in available or potentially available forms and in commercially valuable amounts without carrying any harmful substance above permissible limits"[1].

Fertilizers have been considered as an essential input to Indian agriculture for meeting the food grain requirements of the growing population of the country. The fertilizer industry is one of the most energy intensive sectors in Indian economy. Being the backbone of agricultural productivity, the role of fertilizers has always remained crucial. The role of fertilizers for increased agricultural production particularly in developing countries is well established. Some argue that fertilizer is as important as seed in the Green Revolution [4].

The fertilizers industry in India consists of three major players; The Government owned public sector undertakings, cooperative societies like KRIBHCO, IFFCO and units from private sectors. There are about 33 major producers producing N, NP and NPK fertilizers in the country at present [1].

The installed capacity has reached a level of 132.58 lakh MT of nitrogen and 70.60 lakh MT of phosphatic nutrient in the year 2014-15, making India the 3rd

largest fertilizer producer in the world. India is the second largest consumer of fertilizers in the world after China

Table-1 Production of Urea, DAP and Complex fertilizers in India, 2014 (In lakh MT)

Year	2011-12	2012-13	2013-14
Urea	219.84	225.75	227.15
Complex	77.70	61.80	69.13
DAP	39.63	36.47	36.11

(Ministry of Chemicals and Fertilizers)

Methodology

In the process of achieving the objectives of the study, the ex-post-facto research design was used for the study. The sampling technique adopted was multi-stage random sampling. The present investigation was carried out in Banaskantha district of Gujarat state. The data on area under consumption of fertilizers in Gujarat indicated that Banaskantha is the leading district in consumption of fertilizers. Three talukas namely Deesa, Dantiwada and Tharad were selected randomly from the district. In the next stage, four villages from each taluka were selected randomly. Thus, total 12 villages were selected through random sampling technique. In the last stage, 10 farmers were selected randomly from each village for making a sample size of 120 farmers.

The primary data were collected from the respondents through a pre-structured interview schedule by personal interview technique. The secondary data were collected from internet, magazines, scientific papers, journals related to

agriculture, websites, company records, District Statistical Office and other related departments. The data were coded, classified, tabulated and analyzed in order to make the findings meaningful. The statistical tools such as frequency and percentage were used.

Formula of percentage:

$$\text{Percentage (\%)} = X \div Y \times 100$$

Where, X = Number of respondents

Y = Total number of respondents

Results and Discussion

Distribution channels of the fertilizers

Agencies from whom farmers purchased the fertilizers

Farmers were categorized into five groups based on agencies from where they purchased fertilizers and their classifications are presented in [Table-2]. Majority of farmers (65.00%) purchased fertilizers from co-operative societies because of easy availability and reliable product followed by retail outlets (41.70%) and private traders (41.70%). Nearly 20.00 per cent farmers used to purchase fertilizers from commission agents (19.20%) and company's depot (18.30%). It was observed that GSFC, GNFC, IFFCO, KRIBHCO had own outlets for distribution of fertilizers in the study area. However, they sell the fertilizers only to co-operative societies. These results are in conformity with the finding of Kotler et al. (2007)

Table-2 Distribution of farmers according to agencies from whom they purchased fertilizers (n=120)

Sr. No.	Particulars	Y e s		N o	
		Frequency	Percent	Frequency	Per cent
1	Co-operative societies	78	65.00	42	35.00
2	Retail outlets	50	41.70	70	58.30
3	Private traders	50	41.70	70	58.30
4	Company's depot	22	18.30	98	81.70
5	Commission agents	23	19.20	97	80.80

Buying behaviour of the farmers for fertilizers

Buying behaviour of the farmers was studied in terms of their information sources, factors they considered while purchasing fertilizers and mode of payment in purchasing fertilizers.

Information sources used by the farmers with regard to fertilizer

The data in [Table-3] reveal that large majority (98.30%) of the farmers purchased fertilizers based on their own experience. Further, 66.70 per cent and 54.20 per cent farmers sought advice of dealers and relatives before purchasing fertilizers. On the other hand, 15.00 per cent farmers contacted agricultural scientists and progressive farmers. Mass media as advisory source was mentioned by 25.00 per cent farmers. Only two farmers sought advice of marketing officer of private companies.

Table-3 Distribution of farmers according to sources they used with regard to fertilizer (n=120)

Sr. No.	Sources	Y e s		N o	
		Frequency	Percentage	Frequency	Percentage
1	Agricultural scientists	18	15.00	102	85.00
2	Marketing officer	02	1.70	118	98.30
3	Dealers	80	66.70	40	33.30
4	Mass media	30	25.00	90	75.00
5	Progressive farmers	18	15.00	102	85.00
6	Relatives	65	54.20	55	45.80
7	Own experience	118	98.30	02	1.70

Factors considered by the farmers while purchasing fertilizers

The data regarding factors considered by the farmers while purchasing fertilizers are presented in [Table-4]. It was observed that almost all the farmers highly considered the factors namely quality (100.00%), brand image (96.70%), own experience (90.80%) and easy availability (90.00%) while purchasing fertilizers. On the other hand, nearly half of the farmers moderately considered the factors viz., quantity (47.50%) and price (44.20%) in purchasing fertilizers. [Table-4] also indicates that only 9.20, 9.20 and 3.30 per cent farmers moderately considered easy availability, own experience and brand image, respectively while purchasing the fertilizers. Nearly half of the farmers less considered quantity (50.80%) followed by price (19.20%) and easy availability (0.80%) in purchasing the fertilizers. It can be thus concluded that majority of farmers highly considered quality, brand image and own experience while purchasing the fertilizers. These results are in conformity with the finding of Lohana (2011).

Table-4 Factors considered by the farmers while purchasing fertilizers (n=120)

Sr. No.	Factors	Highly considered		Moderately considered		L e s s Considered	
		Freq.	Per cent	Freq.	Per cent	Freq.	Per cent
1	Brand image	118	96.70	02	1.70	-	-
2	Quantity	118	96.70	02	1.70	61	50.80
3	Quality	120	100.00	-	-	-	-
4	Price	118	96.70	02	1.70	11	9.20
5	Easy availability	118	96.70	02	1.70	0	0.80
6	Own experience	118	96.70	02	1.70	-	-

Mode of payment made by the farmers in purchasing fertilizers

The results presented in [Table-5] indicate that majority of (70.83%) farmers had purchased the fertilizers on credit due to lack of money. Remaining 29.17 per cent farmers had purchased the fertilizers on cash payment.

Table-5 Distribution of farmers according to mode of payment in purchasing the fertilizers (n=120)

Sr. No.	Particular	Frequency	Percentage
1	By Cash	35	29.17
2	By Credit	85	70.83
	Total	120	100.00

Conclusion

Majority of the farmers (65.00%) purchased fertilizers from co-operative societies because of easy availability and reliable product. It was observed that GSFC, GNFC, IFFCO and KRIBHCO have their own outlets for distribution of fertilizers in the study area. However, they sell the fertilizers only to co-operative societies. Looking to the buying behaviour of the farmers, large majority (98.30%) of the farmers purchased fertilizers based on their own experience. It can be thus concluded from the results that farmers highly considered quality, brand image, own experience and timely availability while purchasing the fertilizers. Majority of farmers (70.83%) had purchased fertilizers on credit due to lack of money.

Suggestions

The findings of the study will help the administrators and policy makers to know the distribution channels and buying behaviour of the farmers towards fertilizers. Cent per cent farmers considered quality as an important factor while purchasing fertilizer followed by easy availability. Hence, fertilizer manufacturing companies should maintain the quality of the fertilizers and make it easily available to the farmers. Fertilizer manufacturing companies should open their fertilizer depot at village level for easy and timely availability of the fertilizer to the farmers. Farmers were most focusing on quality and good brand image rather than other factors, therefore, to sustain in the market, companies should maintain the quality and thereby, establish goodwill for positive results.

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Author Contributions

This article is based on my (Jatin Patel) final project for the award of degree of MBA (Agribusiness) but without contributions of my co-authors this is next to impossible because they helped me in finding of some information, editing and giving me a valuable suggestions to prepare this manuscript.

Conflict of Interest: None declared

Ethical approval: This article does not contain any studies with human participants or animals performed by any of the authors.

Abbreviations: DAP: Di-Ammonium Phosphate, GNFC: Gujarat Narmada Valley Fertilizers and Chemicals Limited, GSFC: Gujarat State Fertilizers and Chemicals Limited, IFFCO: Indian Farmers Fertilizer Cooperative Limited, KRIBHCO: Krishak Bharati Cooperative Limited, MT: Metric Tonne, NPK: Nitrogen, Phosphate, Potash

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