OPEN ACCESS
Quick Response Code:
Website: https://wgges.us

Manuscript ID:
IJWGAFES-2025-020110

DOI: 10.5281/zenodo.15023432

DOI Link:
https://doi.org/10.5281/zenodo.15023432

Volume: 2
Issue: 1
Month: January
Year: 2025
E-ISSN: 3066-1552

Submitted: *24-Nov-2024*
Revised: *30-Nov-2024*
Accepted: *10-Dec-2024*
Published: *31-Jan2025*

Karmaveer Bhaurao Patil Mahavidyalaya Pandharpur (Autonomous)

Address for correspondence:
Dr. Chandrakant Narhari Kale
Karmaveer Bhaurao Patil Mahavidyalaya Pandharpur (Autonomous)

How to cite this article:
Kale, C. N. (2025). The Study of Fertilizer Centers and Its Distribution in Solapur District: A Geographical Analysis. International Journal of World Geology, Geography, Agriculture, Forestry and Environment Sciences, 2(1), 47–51. https://doi.org/10.5281/zenodo.15023432

The Study of Fertilizer Centers and Its Distribution in Solapur District: A Geographical Analysis

Dr. Chandrakant Narhari Kale

Abstract

The Agriculture is backbone of Indian economy, has determined by several physical and socio-economic factors. Among that, fertilizer is vital determining socio-economic factors of agriculture has played key role in production of agricultural as well as agricultural productivity. The fertilizer has better plant nutrient which supplied to each crop and increases production of agricultural and agricultural productivity. There are different types of fertilizer like organic fertilizer and chemical fertilizers that are distributed through various fertilizer centers. In fact, fertilizer centers have storage of fertilizers and purchase centre of fertilizers, hence, it plays significant role agricultural development. Solapur district is important area of Maharashtra state have highly distribution of Agriculture, where, various fertilizer centers are also widely distributed. Those all fertilizer centers are highly significant for agriculture but, it has uneven distribution in district, hence, its study is important. The research paper study is an attempt to examine the spatial pattern of Fertilizer centers Distribution & Its problems of fertilizer consumption and to identify the regional variations to the Fertilizer centers Distribution of the region. There is given Fertilizers Distribution centers of Solapur district (2020 year) which shown with the help of GIS map. In study, the high density Fertilizer centers is observed in the tehsils of Akkakot, Pandharpur, Mohol and Malshiras as they have assured water supply from different irrigated sources. And the moderate level of density of distributional centers in the tehsils of Sangola, Madha, Barshi and Karmala. But, the region has inadequate number of distributional centers 6358 at which sometimes fertilizers are not available.

Key Words: Agriculture, Fertilizer, Agricultural productivity, Solapur District, Fertilizer consumption, Tehsils

Introduction:

Addition of plant nutrients in the form of fertilizer constitutes an essential step in agricultural production. Because of the narrow land man ratio, the only hopeful means supplying needs of agricultural produce would be by raising productivity level. One of the important inputs for achieving this objective is the fertilizer. The region has witnessed an increasing trend in consumption level of different types of fertilizers during the last 20 years 3.13 kg/hect. To 19.43 kg/hect i.e. absolutely 15.29 kg/hect. Due to the substantial development in the irrigation mainly from lift well and canal as root system of crop responses to fertilizer when water is available. Besides in this part the agro - based industries have played vital role for poroting the fertilizer consumption by promoting various schemes. So the farmers are well aware about the use of fertilizer to enhance agricultural production. In general, the region has witnessed an increasing trend in consumption level of different types of fertilizers during the last 20 years e.g. 2000-2020. The crop wise and region wise recommendations have been provided to the farmers by fertilizer development and consultation organization (FDCO) on the basis of soil testing results. During this period the price of price of Urea has gone up about 7.45 per cent due to the Government subsides give the Urea fertilizer. The mixed fertilizershows the high increase i.e. about 70 percent high increase as compared with the other fertilizers due to it is the dependency on the international market. Observed that the prices of fertilizer play important role in the rate of consumption of fertilizer. The farmers reported that they have preferred local dealers only because of the ready availability of fertilizers with them provided they have Satisfally purchasing power. Only those farmers, who want to avail of the credit fertilizers for the purchase of fertilizers reported to co-operatives. In their opinion it is very difficult to procure fertilizers through co-operatives because of their bureaucratic functioning.

Tehsilwise distribution centers have been show in which shows that there are regional variations in the distribution of fertilizer dealers.

Study Area:

Solapur district area under present investigation lies entirely in the BhimaSina-Man river basins of Krishna river system of South Maharashtra. The district is bounded by 17° 10' North and 18° 32' North latitudes and 74° 42' East and 76° 15' East longitudes. The district is fairly well defined to its west as well as its east by the inward looking scarps of Phaltan range and Osmanabad plateau respectively. The adjoining districts are Sangli to its south west, Satara to its west, Pune to its north-west, Ahmadnagar to its north, Bhir and Osmanabad to its east and Bijpur district of Karnataka state to its south. Broadly the Physiography of the district may be grouped into three parts i.e. 1) The Hills and Ghats height between (750-850) meters II) The Foot hills (650-750) meters. III) The Plains and Plateau (below 500-600) meters. The soils vary from deep medium black alluvial of the river tracts and further to poor gray soils in the east. The region is drained by Bhima River and its tributaries Nira, Man, Sina, Bhogavati etc. The Bhima River on Ujjani irrigation project is a major irrigation project in solapur district. The district has a total area of 14886 Kms^2 and population of **4317756** personsas per 2011 census which constitute purposes; the district is divided into eleven tehsils (Fig.No.1) e.g. North Solapur, BarshiAkkalkot, South Solapur, Mohol Managalwedha, Pandharpur, Sangola, Malshiras, Karmala and Madna.The Solapur district is located in Southern Maharashtra.

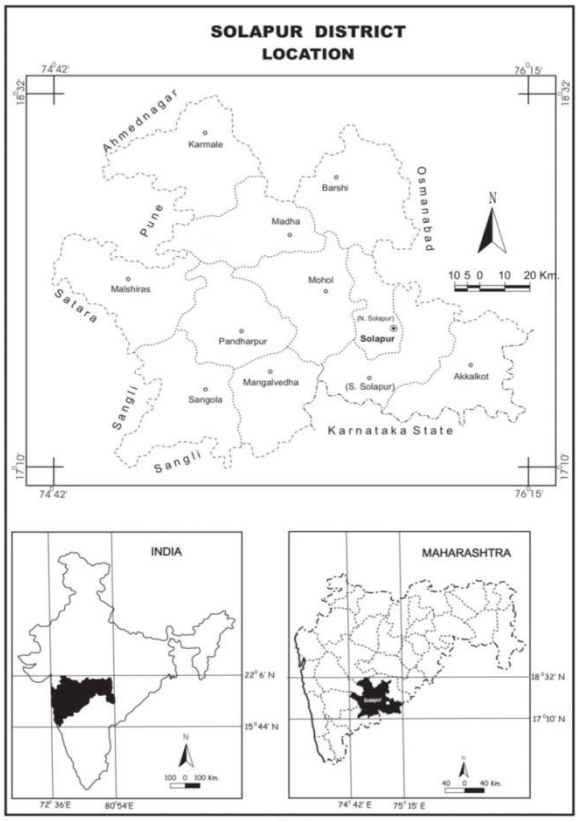

Fig. 1.1

Its latitudinal extent is from 17˚ 10′ north to 18˚ 32′North and longitudinal is 74˚ 42′ east to 76˚ 15′ east. The average annual rainfall in the district is 584.3 mm. The region has predominantly a drought prone area of South Maharashtra.

Objectives:

In the present study an attempt has been made to examine the spatial pattern of Fertilizer centers Distribution & Its problems of fertilizer consumption and to identify the regional variations to the Fertilizer centers Distribution of the region.

Database and Methodology:

The study also intends to examine the relationship between irrigation and fertilizer use crop yields. Primary as well as secondary data has been used. The primary data have been generated from sample village and farm level data have been collected from field survey through schedule method .The secondary data obtained from the records maintained by zillaParishad and Agricultural development office of Solapur district. The spatial analysis therefore has been attempted here at tehsil level for the year 2020. The data were abstracted for the present analysis, from the published records of zillaParishad of Solapur District.

Distribution centers network of Fertilizers

After 1966, the government allowed domestic producers of nitrogenous fertilizers to market their won products of through channels of their choice and in the areas of their preference only after this change in policy the manufacturers started the search for suitable channels. Readily available channels were co-operatives since reliance on a single type of channels like private centers in this way trader hitherto selling food grains. Pesticides and other related agricultural products were inducted into the fertilizer business.

Table. 1

Fertilizers Distribution centers of Solapur district 2020

Sr. No.	Tehsils	No. of Fertilizer Dealers
1	Pandharpur	763
2	Sangola	371
3	North Solapur	233
4	Karmala	416
5	Madha	364
6	Mangalwedha	235
7	Akkalkot	2179
8	Barshi	452
9	Mohol	536
10	South Solapur	226
11	Malshiras	583
	Total	6358

Source – District by Register Office of Fertilizer centers 2022.

Table 1 reveals the private dealers the most popular source of procuring fertilizers and co-operatives come next. The farmers reported that they have preferred local centers only because of the ready availability of fertilizers with them provided they have Satisfically purchasing power. Only those farmers, who want to avail of the credit fertilizers for the purchase of fertilizers reported to co-operatives. In their opinion it is very difficult to procure fertilizers through co-operatives because of their bureaucratic functioning. Tehsilwise distribution centers have been show in Fig. 1.2 which shows that there are regional variations in the distribution of fertilizer dealers

A) Zone of the High density of Fertilizer centers (above 500 Centers)

The high density is observed in the tehsils of Akkakot, Pandharpur, Mohol and Malshiras as they have assured water supply from different irrigated sources. All these have led to the satisfactory level of the fertilizer consumption requiring more number of Centers the Grape, Banana, Pomegranate, Pulses and Oilseeds cultivation is also found in this tract requiring more fertilizers

B) Zone of Moderate density of Centers (between 300 to 500 Centers)

The Moderate level of density of centers between 300-500 dealers is confined to Sangola, Madha, Barshi and Karmala as this tehsils Moderate irrigation

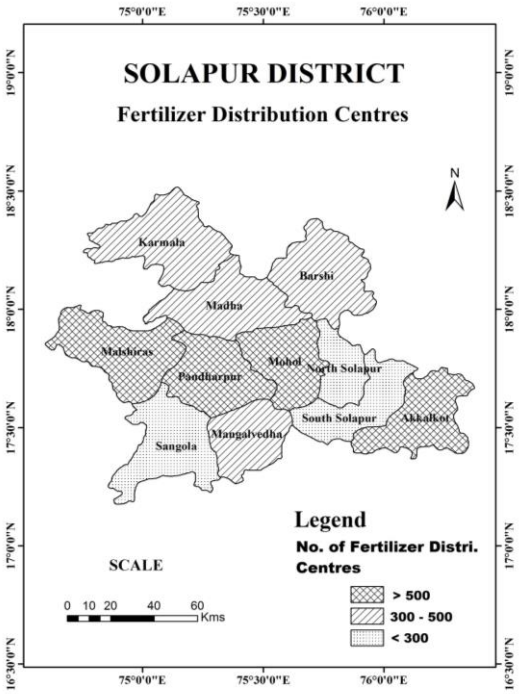

Fig. No. 1.2

Facilities having more connectivity close network of transport relatively high proportion of irrigated areas in the west. Thus as compared other parts of the district, it shows moderate density (Fig. 1.2)

C) Zone of low density of Fertilizer centers (Less than 300)

The low concentration of fertilizer centers (below300dealers) are observed in the eastern and western part of the district especially in the tehsils of North Solapur, Mangalwedha and South Solapur due to lack of irrigation fertilizer and adverse environment conditions. In such area farmers are unable to allocate more land under cash crops which can fetch them to high income levels. Consequently, this tract has recorded less number of agencies.

The above analysis indicates that there are regional imbalances in the distribution of centers which may lead to spatial variation in the availability of fertilizer. The region therefore needs an increase in the number of agencies which should be located at central places so that the farmers can procure fertilizers easily in time.

Problems of Fertilizer Consumption and Its Purchase

Based on the information collected through field work and interviews some problems regarding the purchase and consumption of fertilizers have been identified in order to enhance the rate of fertilizer consumption and to enable farmers for the purchase. Some hurdles required to be removed they are

1) Timely availability of chemical fertilizer is a must because they should be applied at specific agricultural operations (sowing period) and at certain stages of crop growth. It is resulted either from distance factor or topography of the region. In the extreme Western hilly parts of Karmala tehsil the settlements are scattered and are local in remote but difficult terrain. They are expected to be made available before the setting of monsoon. Most of the distribution centers are concentrated either at tehsil headquarters or major market places. All this affects the crop growth and final harvest.
2) The last Two decade have witnessed increase in prices of fertilizers. Owing to poor economic status. The farmers are declined to purchase these fertilizers of high value. Obviously this leads to final returns of crop. Even medium farmers use fertilizers less than the standard requirement of crop. Even medium farmers use fertilizers less than the standard requirement of crop. Thus high prices is determining factor and it is the central government which can make the fertilizers available at reasonable rates by granting subsidies.
3) The region has inadequate number of distributional centers 6358 at which sometimes fertilizers are not available. The region therefore, needs more number of centers located at central places. In the existing centers proper storage facilities are required.
4) The small as well as even large farmers usually purchase fertilizers through co-operative on credit basis and total amounts deducted from the final bills. However, the farmers do not get sufficient quantities as credit is based the size of holding on the country due to low purchasing power small farmers are unable to purchase in cash from private agencies. This needs attention of government agencies to make finance available in time through banks at low interest rates.

Conclusion (Summary)

Addition of plant nutrients in the form of fertilizer constitutes an essential step in agricultural production. Because of the narrow land man ratio, the only hopeful means supplying needs of agricultural produce would be by raising productivity level. One of the important inputs for achieving this objective is the fertilizer. The region has witnessed an increasing trend in consumption level of different types of fertilizers during the last 20 years i.e. from 3.13 kg/hect. To 19.43 kg/hect. (488.49 per cent) as the region has attained substantial development in the irrigation mainly from lifts wells, tube wells and canal.

The high density Fertilizer centers is observed in the tehsils of Akkakot, Pandharpur, Mohol and Malshiras as they have assured water supply from different irrigated sources. All these have led to the satisfactory level of the fertilizer consumption requiring more number of dealers. The Grape, Banana, Pomegranate, Pulses and Oilseeds cultivation is also found in this tract requiring more fertilizers.The moderate level of density of distributional centers (between 300-500 Centers is confined to Sangola,Madha,Barshi and Karmala as this tehsils Moderate irrigation facilities having more connectivity close network of transport relatively high proportion of irrigated areas in the west. Thus as compared other parts of the district, it shows moderate density.The low concentration of fertilizer centers (below300 centers) are observed in the eastern and western part of the district especially in the tehsils of North Solapur,Mangalwedha and South Solapur due to lack of irrigation fertilizer and adverse environment conditions.

The last Two decade have witnessed increase in prices of fertilizers. Owing to poor economic status. The farmers are declined to purchase these fertilizers of high value. Obviously this leads to final returns of crop. Even medium farmers use fertilizers less than the standard requirement of crop. Even medium farmers use fertilizers less than the standard requirement of crop. Thus high prices is determining factor and it is the central government which can make the fertilizers available at reasonable rates by granting subsidies.

The region has inadequate number of distributional centers 6358 at which sometimes fertilizers are not available. The region therefore, needs more number of centers located at central places. In the existing centers proper storage facilities are required.

Acknowledgement
Nil.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

References:

1. Gulati A and Sharma P K.., (1992), Fertilizer Pricing and Subsidy in India–An Alternative, Agricultural Input
2. Marketing ed by S.P. Seetharaman, Oxford and IBH Publishing Co.Pvt, Ltd., New Delhi, pp: 38-40.
3. Jadhav M G and Shinde S D., (1979), Spatio-Temporal Developments in Fertilizer Consumption of Sangli District, Journal of Shivaji University, Vol. 19, 45-48.
4. Tandon H L S., (1995), Fertilizer and Integrated Nutrient Recommendations for Balance and Efficiency, Fertilizer Development and Consultation Organization, New Delhi pp: 9.
5. Winfried V U and Erbard K., (1976), The Development and Fertilizer Production and Use in India, Applied Sciences and Development, Vol.7, 125-15.