

# SPATIAL PATTERN OF FERTILIZER CONSUMPTION IN JALNA DISTRICT A GEOGRAPHICAL REVIEW (M.S.)

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#### Abstract-

Fertilizers are generally defined as "any material, organic or inorganic, natural or synthetic, which supplies one or more of the chemical elements required for the plant growth." Most fertilizers that are commonly used in agriculture contain the three basic plant nutrients: nitrogen, phosphorus, and potassium. The forms, chemical as well as physical, in which nutrients are to be applied to the soil, determine not only their availability but also the use efficiency of fertilizers containing them. Some fertilizers also contain certain "micronutrients," such as zinc and other metals that are necessary for plant growth.

Key Words - Fertilizers, Consumption, Agro-Technology, Production

## Introduction-

Fertilizer, natural or artificial substance containing the chemical elements that improve growth and productiveness of plants. Fertilizers enhance the natural fertility of the soil or replace chemical elements taken from the soil by previous crops. Fertilizers can be purchased as "single ingredient" fertilizers (such as ammonium nitrate and urea for nitrogen, triple super phosphate for phosphorus, and muriate of potash for potassium). fertility of the soil is not good, natural or manufactured materials may be added to supply the needed plant nutrients. These are called fertilizers, "Combination" fertilizers such as 8-8-8 or 25-10-5 contain all three nutrients. The three numbers indicate the percentage of each nutrient in the fertilizer. For example, a 10-6-4 fertilizer contains 10 percent nitrogen, 6 percent phosphorus, and 4 percent potassium. In the present study spatial pattern of fertilizer consumption in Jalna District have calculated.







## **Study Region -**

Jalna district is situated in the central part of the Maharashtra state of republic of India and northern direction of Marathwada region. Especially district lies between 19<sup>0</sup>01' North to 21<sup>0</sup>03'North latitudes and 75<sup>0</sup>04' East to 76<sup>0</sup>04' East longitude. Jalna district erstwhile a part of Aurangabad district was formed on 1<sup>st</sup> May, 1981 by carving out Jalna district, Bhokardan, Jafrabad and Ambad tahsil of Aurangabad district and Partur tahsil of Parbhani district. The boundaries of Jalna are adjacent to Parbhani and Buldhana on east, Aurangabad on west, Jalgaon on north and Beed on south. Jalna district covers an area of 7,727 sq. km which is 2.51 percent of the total state area. It has population of 19.58 lakh as per 2011 census. Recently Jalna district is divided into eight tahsil for administrative purpose these are Jalna, Ambad, Bhokardan, Jafrabad, Badnapur, Partur, Mantha and Ghansawangi.

According to 2001 census 971 villages situated in Jalna districts. There are 806 grampanchayat and 157 group grampanchayat. Krushi Utppann Bazar Sameetee located at Jalna, Ambad, Bhokardan, Partur and Mantha tahsil. Eight panchayat samities in Jalna districts.

### Methodology -

The present analysis, from the published records of zill parishad of Jalna. The same were also collected from Agricultural Department of Jalna District. The data thus collected were calculated with the help of formula which was employed by M. G. Jadhav and S. D. Shinde (1979) to calculate concentration index values of fertilizer consumption per unit area. here as-

Ife = 
$$\left\{\frac{Rf}{Df}\right\} \times 100$$

### Where,

- Ife = Index of Fertilizer Consumption
- Rf = Per hect./Kg. Fertilizer Consumption in the tahsil.
- Df = Per hect./Kg. Fertilizer Consumption in the District.

## **Objectives** –

The research paper is based on following objectives:

- 1. To highlight on the Spatio-temporal changes in consumption of fertilizer of the tahsil
- 2. To find out and analyze total consumption of fertilizer of study region.
- 3. To understand the role of fertilizer in high yield.



Table	No.1
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## **Trends of Fertilizer Consumption in Jalna District**

Sr.No.	Tahsil	Area in Sq.K.m.	Total Consumption of Fertilizer (MT)	Per K.g. / hectare Consumption of Fertilizer	
01	Jalna	1120	27505	245.6	
02	Badnapur	800	15761	197.0	
03	Bhokardan	1093	28073	269.0	
04	Jafrabad	790	17192	217.0	
05	Ambad	1190	26967	226.0	
06	Ghansawangi	1140	25786	226.0	
07	Partur	970	17200	177.0	
08	Mantha	950	13552	142.0	
Total 8053		172036	212.45		
Sorce- Zilla Parishad Office Jalna 2020					

## A. Region of High Consumption-

High fertilizer consumption i.e. above 200 kg./hectares is found in the five tahsil of the district . The highest fertilizer consumption has been recorded in the Bhokardan tahsil which is 269 kg./hectare. Jalna 245.6 , Jafrabad 217 Ambad 226 Ghansawangi 226w this region have good quality irrigation facility as well as transport and communication connectivity. also have a dominance of sugarcane cultivation and location of sugar factories.







### B. Region of Moderate Consumption -

Moderate level represents of consumption i.e. between 150 to 200 kg./hectare. Two tahsil have found in this zone Badnapur 197, Partur -177 these tahsil have moderate level irrigation facility basically it is depend on well and tube well.

#### C. Region of Low consumption -

It includes the Northeastern parts of the district covering the Mantha tahsils -142.0. This zone has less than150 kg./hectares of fertilizer consumption. The inadequate condition of soil moisture of this zone has restricted the use of fertilizers.

#### **Conclusion** –

Above mention discussion shows that fertilizer plays vital role in agricultural production in Jalna District. In the study region central as well as southern part has adequate irrigation facility which is also beneficial for high production .In Jalna district Jalna,Bhokardan,Jafrabad ,Ambad,Ghansawngi tahsil have high consumption and Badnapur and Partur tahsil have moderate level consumption ,rest of Mantha tahsil has a low level consumption in Jalna district.

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