ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 8| Issue: 6| June 2022|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2022: 8.205 || ISI Value: 1.188

SOIL CLASSIFICATION IN DINDORI TEHSIL OF NASHIK DISTRICT, MAHARASHTRA STATE

Dr. Darade Jalindar Uttamrao
Head and Associate Professor in Department of Geography, Jamkhed Mahavidyalaya Tal. Jamkhed, Dist. Ahmednagar (India), Affiliated Under Savitribai Phule Pune University.

ABSTRACT
Soils are natural resources that do not regenerate once damaged, In short, soil does not regenerate. Therefore, natural factors are considered important for soil formation as well as organic factors are responsible for soil formation. Different constituents of soil are mixed, so its properties are different, due to these properties, different types of soil fall. Therefore, it is important to study the classification of soils in Dindori tehsil. Secondary data is used for this study, also maps have been created using GIS system. The classification of soil in Dindori tehsil is mainly of four types, namely, Clayey mixed, Clayey-skeletal mixed, Fine Montmorillonitic, Fine Montmorillonitic calcareous.
KEY WORDS: ***Montmorillonitic, Clayey, Classification of soil, Soil properties, Types of soil.***

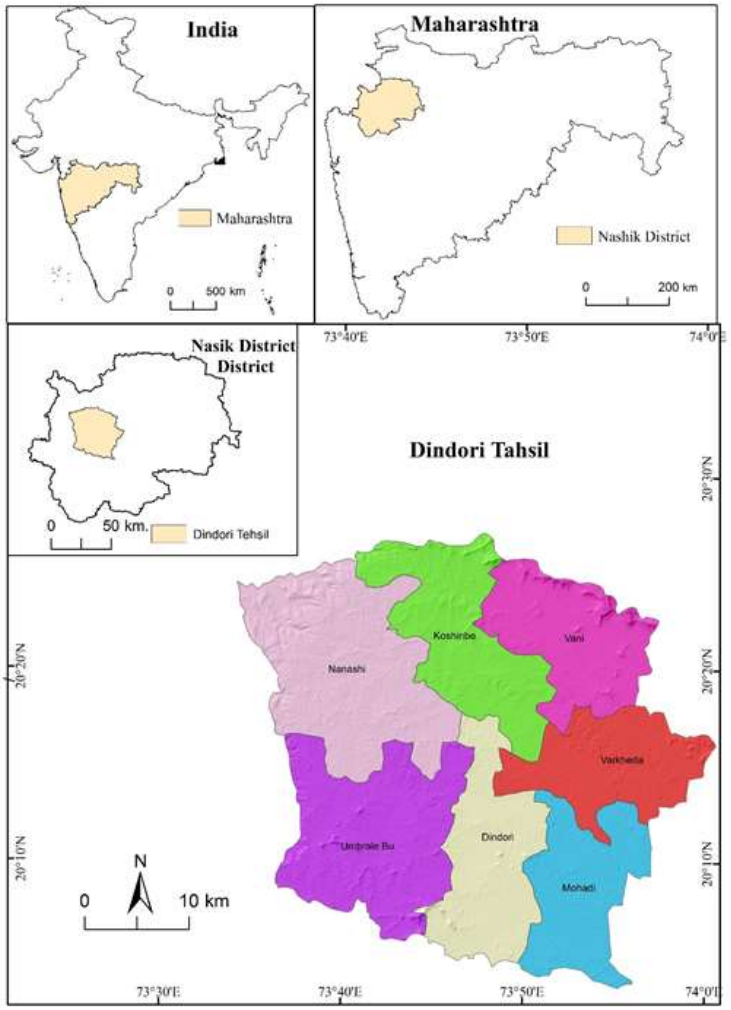
INTRODUCTION

The attraction of a region for human settlement may depend partly upon the quality of the soil. And the quality of human resources is dependent on interface between man and land and human resources development goes hand in give with the development of other resources of physical and socio-economic environment. According to some of the scholars in the field of geography soils are the product of factors such as parent material, climate, Vegetation, human activities etc. all these factors controls the soil type. Soils are natural resources that do not regenerate once damaged, In short, soil does not regenerate. Therefore, natural factors are considered important for soil formation as well as organic factors are responsible for soil formation. Different constituents of soil are mixed, so its properties are different, due to these properties, different types of soil fall. Therefore, it is important to study the classification of soils in Dindori tehsil. Secondary data is used for this study, also maps have been created using GIS system. The most important factor in the formation of amenities is the origin of the rock as well as the climate, at the same time biological factors also have an effect.

STUDY AREA

The Dindori tehsil lies in west central part of the Nashik District of Maharashtra state. Out of four administrative divisions Dindori Tehsil lie under Nashik sub division. The absolute geographical location of the tehsil can be express as 20º 03’ 25” North latitude to 20º 27’ 06” North latitude and 73º 34’ 06” East longitude to 74º 00’ 06” East longitudes.

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 8| Issue: 6| June 2022|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2022: 8.205 || ISI Value: 1.188



Amis and objective

The main objective of this research paper is to study the classification of soils in Dindori tehsil. Along with the study of soil classification in Dindori tehsil, a study has also been done on the area under which soils.

Methodology

For this research paper secondary data has been used to study the classification of soil in Dindori tehsil. Research journals have been used for this and Soil data has been taken from Nagpur soil department and converted into a map. At the same time, a soil map has been created using software from the GIS system.

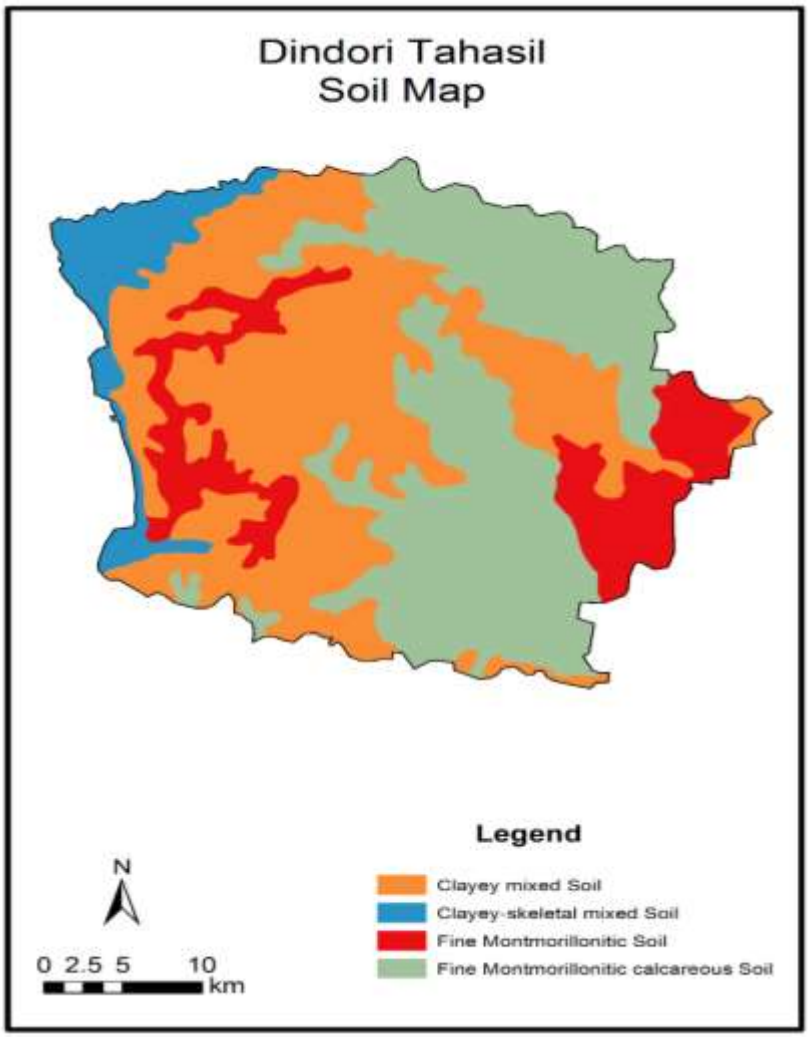
Result and Discussion

Soil is one of most important component to produce agricultural production of crops. The formation of soil there are several factors are influences but most common factors of rocks, climate, vegetation and time together. Soil is the fundamental medium for crops and it acts like bond or link of both biotic and abiotic mechanisms. Soil has definite physical, chemical and biological features in it, which determine the thickness, arrangement and productiveness of the soil. According to the needs for careful study of soil in order to make capable landuse as soil make available basic nutrients to plants for longer than chemical fertilizers. The present material all over the Nashik district as well as Dindori tehsil is Deccan Trap. The soil formation is mainly affected by the climatic condition and topography of the Tehsil. In western part soils have developed under humid environments, with some laterite soil being detected at higher elevations of the hills. The soils in the Kadva and Unanda River valleys are quite deep and fertile. The soil in the rest of the tehsil is undulating and susceptible to erosion. Light shallow soils are observed on hill slops and very coarse textured soils on still higher reliefs (Map. 1 Soil Distribution in Dindori tehsil). The soils in the heavy precipitation zone are neutral in reaction, contain higher quantity of organic matter and are low in their base standing. The soils lie between the

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 8| Issue: 6| June 2022|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2022: 8.205 || ISI Value: 1.188

transitional zones. They are to some extent alkaline in reaction and comprise moderate amounts of organic substance. Lastly the soils in the scarcity area are alkaline and are low in their content of organic matter and nitrogen. Different types of Soils are found in different villages (Table 1and graph no 1) in the study area i.e. Clayey mixed (42.89%), Clayey-skeletal mixed (7.29%), Fine Montmorillonitic (13.69 %), Fine Montmorillonitic calcareous Soil (36.13 %), there is a good deal of fertile land bordering the river banks. The western part of the study area (Hilly area), red soils derived by residual weathering of the basalts in a tropical humid climate, deeper on the slopes than on the levels. The agricultural development depends on soil types as well as the distribution of cropping pattern. The basic rock in Dindori tehsil is basalt. In the most part of the tehsil Shallow loamy soil are found. A deep fine soil is distributed in river side of eastern part in study area. And shallow loamy soil on gently slope are available in river side at southeast part. Shallow clayey soil is available in upper part river side and middle river right side and same part of south. Very small part shallow calcareous soils are distributed in the south area. Very shallow loamy soil the western part is hilly area that of distributed.

Map No 2: Soil Map in Dindori Tehsil

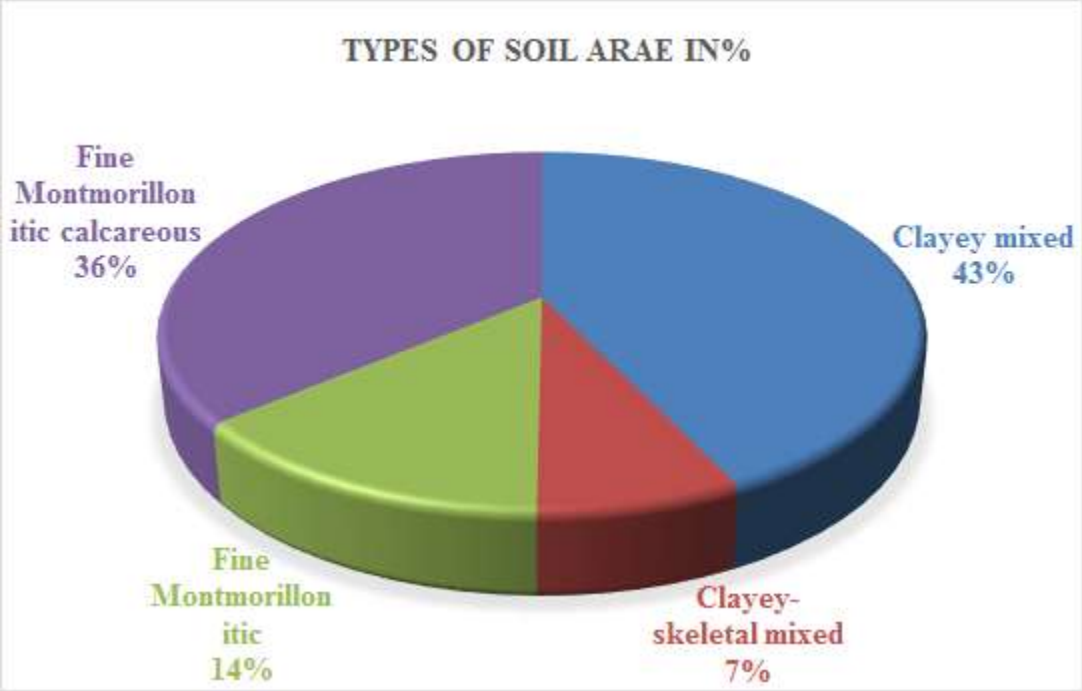


ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 8| Issue: 6| June 2022|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2022: 8.205 || ISI Value: 1.188

Table No 01: Types of soil

Soil types	Area in sq km	Area In %
Clayey mixed	575.59	42.89
Clayey-skeletal mixed	97.92	7.29
Fine Montmorillonitic	183.75	13.69
Fine Montmorillonitic calcareous	484.93	36.13
Total	1342.19	100

Graph No 1: Types of soil



CONCLUSION

The total geographical area of Dindori taluka is 1342.19 square kilometers. It is mainly reminiscent of the most convenient Clayey mixed soil. The soil covers an area of 575. 59 square kilometers out of the total geographical area. This is followed by Fine Montmorillonitic calcareous soils which covers an area of 484.93 square kilometers. The lowest area is occupied by Clayey-skeletal mixed Soil which mainly covers 7.297% of the area. From the above study it can be seen that the Topography, climate, river system in Dindori tehsil has all the effect on the soil types.

REFERENCE

1. *Borade B.L et al. (2012), Agricultural land use Pattern of Ashti Tahsil in Beed Dist. of Maharashtra, Shodhankan International Journal, pp41-45*
2. *Dilip A. Gade and Ramesh H. Gavit (2018) Agricultural Land use And Cropping Pattern In Nashik District (Ms) , Interdisciplinary International Seminar on Agriculture &Rural Development: Spatial Issues, Challenges & Approaches, Organizer:- Department of Geography, Shri Sahaji Chhatrapati Mahavidyalaya, Kolhapur , Aayushi International Interdisciplinary Research Journal Pp 700-705.*
3. *Gadekar Deepak J (2018)Level of Human Resources Development in the Akole Tahsil District- Ahmednagra Maharashtra unpublished Ph.D Thesis Savitribai Phule Pune University*
4. *Gadekar Deepak Janardhan (2016) A Hybrid Land Cover Classification of Landsat-7 & 8 (OLI) ETM+ Data for Resourceful Vegetation Mapping - Akole Thasil Dist-Ahmednagar, M.S, India, American International*
5. *Khadke N.B et.al, (2017)Soil Properties Pattern of Nashik Region In Maharashtra State, International Conference on Recent Innovation In Science, Engineering and Technology, Pp 1-6*
6. *Kudnar N. S.(2018), "Water Pollution a Major Issue in Urban Areas: A Case Study of the Wainganga River Basin". Vidyawarta International Multidisciplinary Research Journal, pp 78-84.,*

ISSN (Online): 2455-3662
EPRA International Journal of Multidisciplinary Research (IJMR) - Peer Reviewed Journal
Volume: 8| Issue: 6| June 2022|| Journal DOI: 10.36713/epra2013 || SJIF Impact Factor 2022: 8.205 || ISI Value: 1.188

7. *Kudnar, N. S., (2017) Morphometric Analysis of the Wainganga River Basin Using Traditional & GIS Technique, Ph.D. Thesis, Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur, Pp 66-250.*
8. *Kudnar, N.S., (2016) Topographic Characteristics of the Wainganga River Basins Using GIS & Remote Sensing Techniques , Multidisciplinary Research Journal, Indian Streams Research Journal, pp-11-22.*
9. *S.D Gulave (2020) Use of Landsat ETM+ Data for Delineation of Vegetation Cover Area in Akole Thasil, , International Research Journal of Engineering and Technology, Volume 7, (2)57-61.*
10. *Shejul Meena Eknath (2020) Level of Human Resources Development - A Conceptual and Review Exposition, International Journal for Research in Applied Science & Engineering Technology, 8 (03) , 687-691. doi.org/10.22214/ijraset.2020.3130*
11. *Shejul Meena Eknath (2021)Disquisition on Forest Resources in Ahmednagar District, Maharashtra, India, International Journal of Humanities and Social Sciences Review, Vol. 1, Issue 2, Pp 105-113*
12. *Shejul Meena Eknath et.al, (2020) A Geographical Study of Human Resources Development in Ahmednagar District, Maharashtra, India. EPRA International Journal of Multidisciplinary Research 6 (03) 86-93. https://doi.org/10.36713/epra4116*
13. *Sonawane V. R. et.,al.(2020), "A Geographical Study of Crop Combination in Tribal Area of Nashik District, Maharashtra, India". Studies in Indian Place Names, Vol., 40 Issue 3, pp.3915-3940.*
14. *Sonawane V. R. et.,al.(2020), "Analysis of Chemical Properties of Soil under Sugarcane Crop: A Case Study of Khandala, Shrirampur, Ahmednagar District, Maharashtra State, India". Our Heritage Vol. 68, Issue, 30, pp.6522-6547.*
15. *Soniya Sonkar (2021) Physico-Chemical Characteristics of Ground Water in Rahuri Tehsil of Ahmednagar District, M.S., India, International Journal of Scientific Research in Chemical Sciences 8(1) Pp 4-8*
16. *Tupe B.K (2010), Agricultural land use and Crop Pattern in Rahata Tahsil of Ahmadnagar District in Maharashtra State, Maharashtra Bhugolshastra Sanshodhan Patrika Vol.,27 Issue.01, pp.30-37*