

Level of Natural and Human Resources Development in the Akole Tehsil, District Ahmednagar, Maharashtra, India.

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Abstract: - The land is natural resources and man is human resources. The man-land ratio relationship with others like physiological density, agricultural density, and economic density, have a varying degree of value in different situations. Nutritional density is the ratio between the total population and the total cultivated area. It is expanding in terms of persons per sq km of cultivated land or persons per unit of cultivated land. The pressure of the population on land can thus be improved expands if the ratios are recognized between the agricultural population and total agricultural land. It is known as agricultural density. The study area has recorded in 20 years parts of the eastern side's significant increase in man-land ratio due to which good natural resources available with the used for people. It is observed from the study area, there is a greater variation in the changes Man -land ratio during the study period i.e. 1990-91 to 2010-11.

Key Words: — *Man-Land Ratio, Natural and Human Resources, Hilly and Tribal Region, Population Density.*

I. INTRODUCTION

Land is natural resources as completed various purpose of peoples. Thus to studded of man land ratio is one of the purpose and density is one of the part in human resources distribution. Thus Land and people are the two basic elements of all forms of the condition. They are the most important natural resources that are evenly interrelated and interdependent for their sustainable development. However the land is a fixed, limited, solid, and permanent resource but being degradable and moveable entity it could be sustainable only if appropriately used by the human population in which different land is in a permanent change, increasing with numerical progression. In arranging to know the population-resource relationship in several geographic regions it is very important to understand the allocation and the density of the population. Man-land ratio provides an important element in such the study and a simplest measured in Crude Density of Population. This means the number of people per square kilometer or per unit area and is most useful for small units. The economic development of any place, region, or nation depends on the natural and human resources available near. Man is clear to be the director, planner, and aspire. A simple audience of production and giving his labour mind and physical with the help recommendation permission of nature, he builds a culture to ender more useful his production and to lessees the impact of confrontation. A simple attendance of a large or small number of human populations is no similarly a large or small population of human beings may mean less economic development.

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According to Zimmerman, "the Man -land ratio takings into explanation all the peoples qualities, behavior on production and all environmental characteristics, both natural and cultural aspect the availability of resources. A high population density may point to overpopulation, but the level of a region with a low population density may be overpopulation if we believe it is man-land ratio. Man land Ratio major signifies is firstly it reveals the availability of production of land per person. Second, it is an indicator of agricultural wealth in the disturbed geographical area. Finally, if the man-land ratio is known it is very easy to find out economic conditions mainly agrarian of any given area.

II. LITERATURE REVIEW

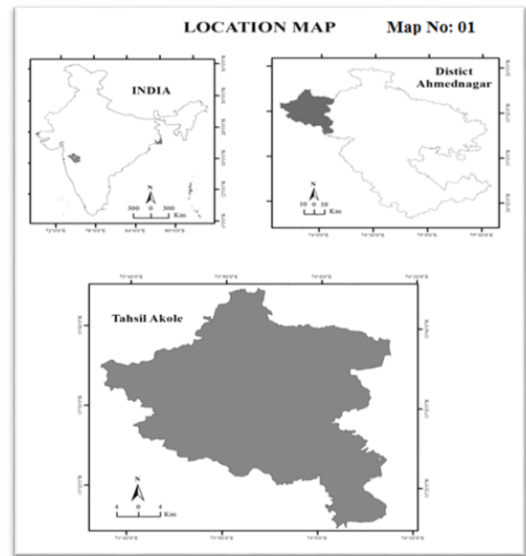
(Tripathi R.S 1986; Bhoge 2010) Development is continues process that occupies redeployment and reorientation of the whole economic and social system. The development of any region depends on the resources among them, there is a greater emphasis on human resource. (Gadekar Deepak J 2015) human resource development depends on the literacy, Population Density, Sex ratio, Population Growth rate, occupation position, Agricultural facilities and Human amenities. (Gadekar Deepak.J., 2016; Gulave S.D. 2020) The most important reason why the forest area is declining day by day is increasing population and industrialization and forest is major natural resources. (Gadekar Deepak J 2019) the importance elements of human resources are demography characteristics, occupation position and human facilities and amenities etc. Woman as resources as well as participation of women is important in any factors. Because of higher the participation of others the higher the family progress. (Gadekar Deepak J 2016) temporal human resources development in equal those used agriculture, demography, parameters according to and based on 1991 to 2011 census

years. Different elements were used to level of human developments. They are sorted accordingly and then take their level and divided it into three levels of developers. The level of development is categorized into three parts. In the first one being the most backward, moderate development and last progressive development. Simultaneously the bar graph is used for the cartographic methods and using GIS methods for mapping of level of Development. (Gadekar Deepak J 2018) he studied a level of human resources development in the akole place. The calculated level of HRD base on the Z core value, there are 19 parameters used for finding HRD level. The parameters are Population density, literacy, sex ratio, Population Growth, S.T Population, Education, Medical Facilities, Drinking Water Facility, Distance from the Market Place, Banking Facility, Types of Electrification, Accessibility, Communication, Irrigated Area, HH worker, Other Main Workers Main, Marginal workers, Marginal HH worker. Marginal workers in negative indicators in level of HRD with the S.T population. (Shejul Meena Eknath et al., 2020) they studied a geographical study of human resources development in Ahmednagar District, they used Kendall coefficient index for finding a level of HRD. The HRD level classifies in three types high, median and low, the using 13 parameters. Those parameters are Sex ratio, Literacy rate, Population Density, Population Growth rate, Main workers, HH workers, other working population, number of telephone, Medical facilities, Education, Electrification, Banking, Irrigated area. (Sonawane V. R 2020) Human resources are the most important factors contributing soil ecosystem has greatly damaged. Because of use chemical and fertilizers in agricultural sectors. Irrigation is the most influential factor for development of agriculture. (Sonawane Vijay Rajendra 2020; Musmade Arjun 2012; Saptarshi P.G 2010) they studied the socio-economic status of women in Ahmednagar district. The used six socio-economic indicators like general sex ratio, child sex ratio, literacy rate, work participation rate, workers in non-agricultural sector, proportion of urban population. The usage rules Mean -SD-SD, Mean-SD, Mean, SD, Mean +SD, Mean +SD+SD for the level of HRD. The index value used less than 4.5 and more than 9.6 is highly developed. (Roy2005; Pandey 2010) amenities are important factors for HRD level with supporting factors for HR. Thus, communication systems are important role in qualities of the population. (Gadekar Deepak J 2015, Mali 1999) HRD of peoples is depends on the demography features, occupation position, amenities and agricultural development. The HRD parameters is using population density, Sex ratio, literacy rate and male-female differences in literacy. These all parameters is supported in the level of HRD. (Tupe B.K, 2010 and Gadekar 2015) Agricultural cropping pattern is changeable because of affecting factors of human. The people's knowledge and skill is the importance of cropping pattern. (Sonawane Vijay R. et. al.2020) the cropping pattern depends on the human resources. It is people's education, skill,

knowledge effects on agricultural production, used of agricultural amenities.

III. STUDY AREA

Geographically Ahmednagar district is the largest district in the state of Maharashtra. It is divided into 14 Talukas. It is one of the Akoletaluka on western Hilly region western part of the Ahmednagar district, It is divided into 191 villages and 4 (Four) Revenue Circles namely Rajur, Akole, Samsherpur, and Kotul. There are total population of this tahsil is 2, 71,719 [2011] one of which 1, 01,966 [ST] Tribal people in this area. Well surrounded by the mountains rang of Sahyadri and the Highest Peak of Kalsubai (5427 feet or 1646 mt's) in the Sahyadris with a mean annual rainfall of about 508.9 mm. The area under forest in 41,698 hectares and agriculture land 98,712 hectares. Total Villages 191 Total population is 2, 91,950 Census 2011.literacy 1, 92,461 persons and one of which 1, 39,730 (ST) Tribal people in this area. The climate of the tahasil is hot and dry. AkoleTaluka is located in 19°15' 14" N to 19°44' 59" N latitude and 73°37' 00" to 74°07' 24" E (Location Map 01) longitudes Total Geographical area of 150508 hectares.



IV. OBJECTIVES

To study the level of Natural and Human Resources development as find out the Man- Land Ratio in the Akole Tahsil at the Village level. Comparison of 1990-91 to 2000-01 and 2000-01 to 2010-11 (20 years).

V. DATA AND METHODOLOGY

The researcher has been to use secondary data for related Man land data based 1991 to 2011 census year. The man-land ratio

calculated by ratio between efficiency of man and efficiency of land the used formula. $\text{Man-land ratio} = \frac{\text{Efficiency of Man}}{\text{Efficiency of Land}}$, this formula using for finding relation between natural and human resources. He orders to complete the objectives taken for the study. The analyzed Man Land ratio characteristics and to match the maps with the Statistical (Man Land Ratio) and Cartographic techniques have been used. Used GIS software Arc GIS 10.1, Arc View 3.32 software packages various thematic maps related to study area.

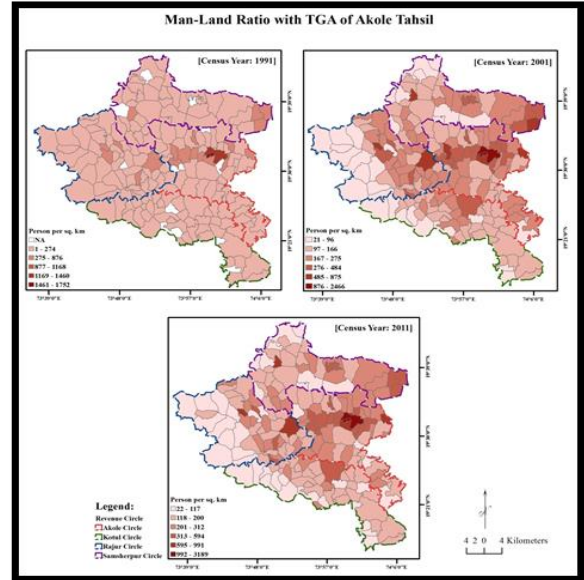
VI. RESULTS AND DISCUSSION

Population density has very little or no value as it fails to give any suggestion on person economic position agricultural projection likely standard of living etc. lightly populated areas may be under development and densely populated areas may be highly developed in all aspects. A high population density may be indicted overpopulation but even a region with a low population density may be overpopulated if measured its Man- Land Ratio.

This concept is the number of persons per unit area is mainly important in small regions. At some places production of crops is unstable, but it cannot be treated as a measure of population pressure on land, because it only spells out a simple quantitative relationship between man and land, equally of this may be widely variable quality. The man land ratio relationships have a varying degree of value in different situations like physiological density, agricultural density and economic density. The study area has recorded significant in man-land ratio in 20 years. It is observed from the study area, that there is a greater variation in the changes in man-land ratio during the study period i.e. 1990-91 to 2010-11 census periods (Map 2). In 1990-91, the man land ratio in the study area is high in Akole circle, other three circles having low man land ratio. In 2000-01, the man land ratio is increased in plains of Akole circle. At the same time, eastern part of Kotul circle and Samsherpur circle, the man land ratio has steadily increased but in western part of kotul circle, this ratio is very low, due to mountains and hilly tracts. During period of 2010-11, Akloe circle, eastern part of Rajur and North part of Kotul, eastern part of Samsherpur circle are largely concentrated population. Because this area is a plain area as well as having good agricultural condition. On the eastern side, there is a large population pressure as the area is highly developed with fertile soil and agricultural as well as plain area, thus the high population pressures in the side. Against this, the situation in the north and western side because this part is rich in a hilly region. The irrigation is very low here so the population pressure is the very low and low density of population. The western and northern part is a maximum hilly area, thus low efficiency of the population. The high population pressure is higher in the area where the man-land ratio is higher on the eastern side. Therefor geographical factors affected the man-

land relation, as well as economic, social factors, are where affected the man-land relation. It is observed above all factors affected by the Akole tahsil for population density, distribution, and man-land relation.

Map.2. Man-land Ratio (1991 to 2011 Census Periods)



VII. CONCLUSION

The geographical factors affected the man-land relation as well as economic, social factors are where affected on the man-land relation. It is observed above all factors affected by the Akole tahsil for population density, distribution, and man-land relation. The eastern part is more in population pressure because it has developed agricultural as well as the plain region. The situation against it is towards the west, the relationship is low here because it is part of the hilly area. Briefly to the west and north side, human pressure is low on land.

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