

# Importance of Wastelands in 21st Century: Changes and Challenges

<sup>1</sup>Dr. Santosh Chharang, <sup>2</sup>Dr. Ashok A Devikar, <sup>3</sup>Palagiri Srinivas

<sup>1</sup>UGC PDF Scholar, <sup>2</sup>Professor & Head, <sup>3</sup>Assistant Professor

<sup>1</sup>Department of Geography, University of Rajasthan, Jaipur, India - 302004

<sup>2</sup>Department of Geography, NDA, Khadakwasala, Pune, Maharashtra, India - 411023

<sup>3</sup>Department of Geography, NDA, Khadakwasala, Pune, Maharashtra, India - 411023

**Abstract:** Land is an important resource because it prepares a base for each and every human and economic activity. The civilizations, settlements, agriculture, industrialization etc. always require an appropriate land location. But the land resource is limited in nature and non-renewable. In the present research the authors try to discuss the actual status and condition of waste lands in Degana tehsil as a sample study. In the Degana tehsil the wasteland extends in a large area. If those wastelands will be converted into agriculture lands or productive lands, then the problem of agriculture will reduce. Through this the living standards of the rural people will be also increase. The main aim of this study is to analyse each and every aspect of wasteland in the Degana tehsil. This study also emphasis to give suggestions to increase the fertility and productivity.

**Key words:** – Resources, Waste Lands, Non-renewable, Fertility.

## I. Introduction:

In the recent times resources play an important role in the economic development of any country. That's why the 21st century is known as the resource base century. The resources are categorized as natural, human and land. For the developing countries the resources prepares a base of development. In a developing country like India, where the number of population is very high and the resources are limited, the importance of resources automatically increase. With a high growth rate, the pressure will increase on resources with the passage of time. That's why without a proper planning and management of resources we cannot convert our status from developing to a developed one.

Land is also an important resource because it prepares a base for each and every human and economic activity. The civilizations, settlements, agriculture, industrialization etc always require an appropriate land location but the land resource is limited in nature and non-renewable. In India the population growth rate is very high (17.64% decadal, 2011 Census). With the increasing population it is not possible to increase the surface area of earth. It has a diverse effect that the availability of land decreases with time. In such a condition if any country also has good amount of barren land or waste land then this condition further creates hurdles in the path of development of that particular country.

According to National Wasteland Development Board, "wasteland is a degraded land which can be brought under vegetation and the land which is under deterioration for lack of appropriate water and soil management are on account of National causes". According to the American Soil Science Society, "Wasteland is a piece of land not capable of producing material or services of value".

Barren Lands have various types of characteristic. That is why these barren lands divided into two sub groups. These are:-

**a) Cultivable wastelands:** - These types of barren lands have vegetation productivity potential. But due to some causes these lands are now not in usable condition. These types of barren lands are like deserts, shifting agriculture areas, uneven or highland, alkaline, swampy and mining waste land areas.

**b) Non cultivable wastelands:** - These types of barren lands are permanent barren lands in nature. In such types of barren lands there is no scope of vegetation and any other type of economy activity. These types of barren lands are like rocky, steep slope and ice covered lands.

In the present paper the authors try to discuss the actual status and condition of barren lands in Degana tehsil as a sample study. In India, the Rajasthan state also has a lot of barren land related problems. According to the land uses report approximately 1/3<sup>rd</sup> land comes under wasteland. In Rajasthan state approximately 93689.47 sq. km area out of 342239 sq. km is covered by waste land. In the Nagaur district alone approximately 11.68% area is covered by wasteland but in the study area of Degana tehsil the percentage of wasteland is very high. In Degana tehsil 32.60 % of its area comes under as wasteland. Wastelands are not positive indicator for socio-economic development. For the development to take place it is required to reduce the area of wasteland area.

## Introduction of Study Area

The Degana tehsil which lies in the southern part of Nagaur district, is a part of the great Indian "Thar Desert" (fig no.1). As a geographical unit Degana is known as 'Banghar' covered by a thick layer of sand dunes. These sand dunes are locally known as dhoras and tibbas. The extension of the Degana tehsil is 26°27' to 27°06' north latitudes and 73°51' to 74°31' east longitudes. The total area of the tehsil is 1907 sq. kms with a total population of 306,103 persons (2011 census) out of the total population 5.4% people live in the urban areas while 94.6% live in the rural areas. As compared to Rajasthan state (200/km<sup>2</sup>) and Nagaur district (187/km<sup>2</sup>) the population density of the Degana tehsil is low (161/km<sup>2</sup>, 2011census). The Contribution of males and

females in total population are respectively 155,555 (50.81%) and 150,548 (49.19%) (Census 2011). That is why the average sex ratio of district is 968 females per 1000 males. Out of the total population 5.4% population lives in the urban areas while 94.6% lives in the rural areas. The literacy rate of the Degana tehsil is 59.07% (male literacy rate 63.35% and female literacy rate is 37.29%)

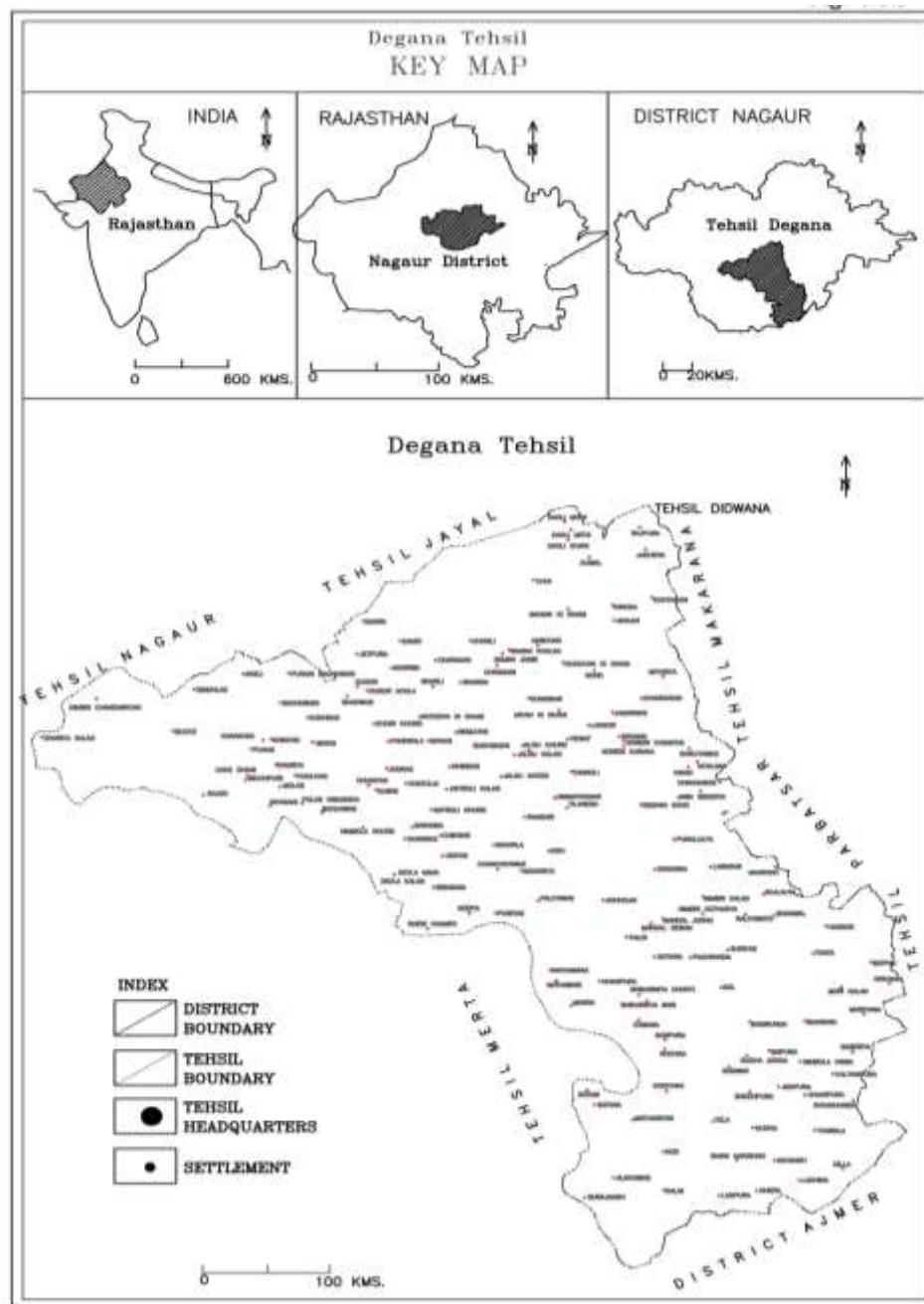


Fig. 1 Degana Tehsil Map

### Selection of Study Area

In this research paper we are mainly focusing on those problems which are related with the increasing population. The Overlap of population is the origin of all problems. Due to a high population growth rate, the production of agriculture must be increased. In the Degana tehsil the wasteland extends in a large area. If that wasteland will be converted into agriculture lands, then the problem of agriculture will reduce. Through this the living standards of the rural people will be increase.

### Importance of Research

With the increasing population and high demand of food, the government started to give its concern towards the barren lands. The main motive of the government behind this concern is to fulfil the scarcity of food among the population. That's why before a few decades the study of wasteland management and development was introduced. For this the Indian Government established the National Land Development Board in 1985. The main objectives of this board are as follows: -

- a) To increase the green area in wasteland areas.
- b) To protect the fertile lands from converting into waste lands.
- c) To encourage the people towards the plantation agriculture.
- d) To provide food and fodder to the local people.

## II. Objectives of Study

The main aim of this study is to analyse each and every aspect of wasteland in the Degana tehsil. This study also emphasis to give suggestions to increase the fertility. In this study we have focused on some main aspects and these are as follows: -

- a) To analyse the actual condition of wastelands.
- b) To know the productivity of wastelands.
- c) To identify the main reasons behind the origin of wastelands.
- d) To give suggestions to improve wastelands.

### The Physical classification of the Degana tehsil

On the basis of the relief features, slope, geological composition, vegetation, soil and human settlements the Degana tehsil is divided into four parts (Fig 2). The Data are based on 2011 census of the Rajasthan state.

Table 1: The physical classification of Degana Tehsil

S.No	Name of Physical Division	Area sq.km.	% of total area sq.km.	Population Thousand	% of total population	Waste land in hectare	% of total waste land in hectare
1	Sandy Region	8378.48	47.57	120483	45.24	11983.5	35.84
2	Magra Region	8329.23	47.01	132185	49.64	16959.86	52.44
3	Upland Region	783.13	4.42	10790	4.05	2720.99	8.54
4	Hilly Region	209.07	1.18	2800	1.05	1023.02	3.18

With the help of table 1 and the Figure 2, we can easily identify that a large area of the Degana tehsil comes under wasteland. These wastelands don't have any type of economic and social importance. If these wastelands be converted into fertile lands then they can fulfil a lot of demands. For the development of the wastelands the central or state governments introduced many projects and these plans operate on the national and state level. For the development of wastelands areas "Wasteland Development Programme" was introduced on the National level in 1985.

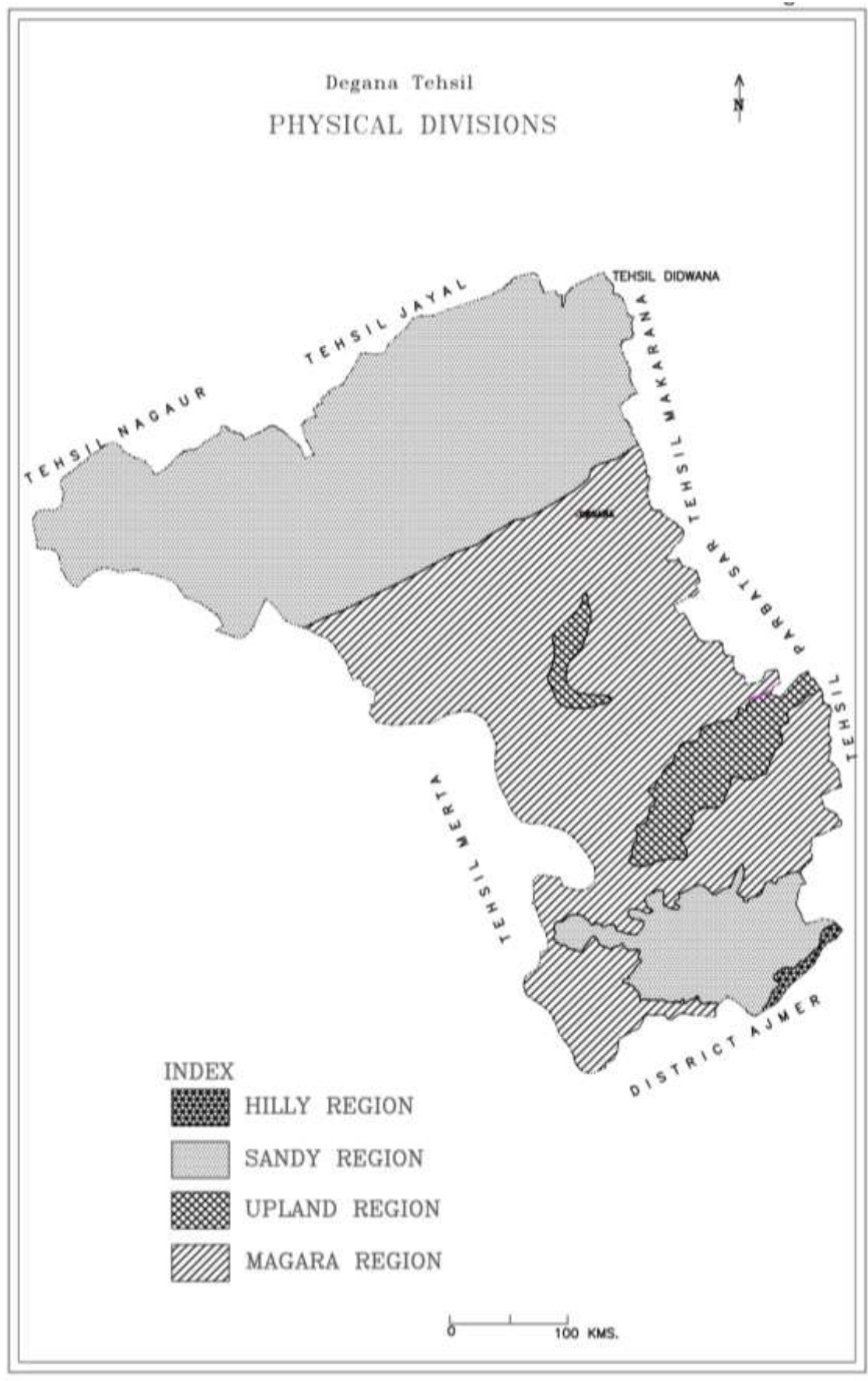


Fig. 2 Degana Tehsil Physical Divisions

### Conclusions

The Degana Tehsil is mainly a part of semi desert area and it is located in the central part of the Rajasthan state. Most of the population 65% approximately directly depends on agriculture for their livelihood. That is why the importance of agriculture is very high in the Degana tehsil. On the other hand approximately 32.60% of land comes under wasteland and it is not a good sign for the agriculture activity. For the Degana tehsil, the wasteland is not the only problem, low quality underground water also has a diverse impact on the agriculture activity. A large number of electrified wells and exhaustive use of the underground water are mainly responsible for the expansion of the wastelands.

The Degana tehsil also has very uneven relief features. Most of the area is covered by sand dunes, rocks and an arid plateau. Very few parts are covered by river basins. These features provide a very limited land area for agriculture activity. All the wastelands are not permanent in nature. Some of these are favourable for cultivation after some modifications. Some wastelands are not in the favourable condition for cultivation.

To restrict the expansion of wastelands we should know the causes behind the extension of wastelands. The Central and the state governments have introduced a number of programmes like the areal sowing project, the integrated fallow land programme, the integrated water resource management project and the land and water conservation project. The extension of wastelands are also responsible for the different types of problems in study area like the biological problems, decrease in irrigation water quality, scarcity of water for irrigation and high demand of food, fodder and fuel.

### Suggestions

- 1) The knowledge of land use pattern is most important thing for the development and to identify the main problems of any particular area. The land use pattern helps to prepare a scientific and regional planning for the development of any particular area. The land use pattern designs always depend on the capacity and fertility of that particular area.
- 2) For wasteland effected areas, drip and sprinkler irrigation pattern are most suitable. Fertilizers and pesticides must be used in a scientific manner. Plantations and afforestation are also helpful to protect the ecosystem and soil erosion. It must be made compulsory that 33% of the geographical area is covered by forests.
- 3) Other important resources must be used in a proper manner or we can say that a sustainable development approach must be used. The awareness must be increased among the people about the wastelands. It is not only the government's responsibility to develop wastelands but the local farmers, communities, and the NGO's are also equally responsible.

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