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## **Environmental Awareness & Socio-economic development in Rural Area: Issues, Problems and Remedies**

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## Supply of Drinking Water to Barshi City: A Geographical Perspective

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### Introduction

Water is an important natural resource. Existence of human being is depended upon water, air and food. These are the main basic needs for survival. In above needs, water plays a vital role in the nature. Generally, maximum use of water is for drinking, cleaning, irrigation, cooling and other various purposes.

In India, increasing of urbanization is very rapid. Increase in urbanization and population created more problems in basic needs like health, education, transportation, houses, electricity, food and fresh drinking water. In this research paper, the focus is on how to supply drinking water to Barshi city by the Barshi Nagar Municipal Council.

### Study Area

Barshi city is a sub district of Solapur district of Maharashtra state. This city is a second largest city in Solapur district. Which is located on 18° 14' 3" N latitude and 75° 41' 42" E longitudes. This city consists 40 wards and total area occupied by the Barshi city is 48 sq/km. which is population is as per (2018) upto 2 lakhs. The whole city is taken into consideration for this research paper.

### Objectives

The present study has been certain specific objectives. These are as follows:

1. To get the information about purification, storage structure, water distribution system etc.
2. To get the information about the ratio of total population and supply of drinking water in this city.

### Data Base And Methodology

The present research paper is based on secondary data. This data has been obtained from Barshi Municipal Council's monthly and annual reports of water supply department. Some data has been obtained from interview of water supply engineer.

### Collection Of Machanism

There are three major sources of drinking water supply to Barshi city.

#### 1. PATHARI LAKE

Pathari lake is situated towards North East direction of Barshi and 22 km away from the city. The project was completed in 1918 by British government. Due to gravity there is no need of pumping station between lake and city. Water is carried by siphon process which is specialty of this project. The 10" steel casting pipeline was used for the water supply purpose. This pipeline is in damaged condition due to formation of railway track. The pipeline also not having the purification system.

#### 2. CHANDANI LAKE

This is a second drinking water supply project to Barshi city. This Lake is situated 16 km away from the Barshi city towards North West direction. Since some year ago, this project supply insufficient drinking water due to some technical problems and unavailability of water, so new pipeline process work is in final stage.

#### 3. UJANI DAM

This is third main water supply project to the Barshi city. This water supply project was completed in 1997 and it is situated towards the West side of Barshi city. Dam is placed 52 kms away from Barshi. The pumping station is situated at Kandar at the backwater of Ujani Dam near Karmala. To supply water there are two electric motor having 450 hp capacity are installed on this project.

### WATER TREATMENT PLANTS

There are two major water treatment plants in Barshi city for the supply of drinking water.

#### 1. CHANDANI WATER PURIFIER PLANT

This plant is completed in 1972 which is 8 kms away from Barshi city. This plant is on the Barshi-Paranda highway. The capacity of water purification of this plant is 8.5 million liter per day. In this plant, Alum, bleaching powder and chlorine gas is used for the purification of drinking water.

#### 2. UJANI WATER PURIFIER PLANT

This is a major and advanced water purifier plant in Barshi city. This plant is completed in 1997 which is located at Barshi-Gadegaon road, Mahedavi Nagar in Barshi city. The capacity of water purification of this plant is 19 million liter per day.

### WELLS AND BOARWELL PUMPS

Apart from these major water sources other local water sources are created in Barshi city. These are as follows:

#### 1. WELL

In summer season and at the time of water crises, the supply of water is done by the wells which are located in various sub urban areas in the Barshi city. These wells are Ghode Galli well, Court well, Bhagvant well, Uttareshwar well, Yedai well, Javahar well, Bedrai well, Lakshmi Teerth well etc. These wells are well-equipped for the supply of drinking water and gardening to the Barshi city.



## 2. BOARWELL –

In Barshi city for the supply of water almost 40 boarwells are in working and each boarwell has water tank. So, in this way, the water gets supplied in various parts of the Barshi city.

## 3. HAND PUMP –

In Barshi city almost 400 hand pumps are being used for supply of water.

## WATER STORAGE STRUCTURE :-

Population of Barshi city is upto 2 lakhs. So necessity of drinking water is increasing very rapidly. According to increasing population and its necessity taking into consideration, 15 water storage tanks are built in various sub urban areas in Barshi city.

Sr.No.	AREA	Water Capacity(In Ltr.)
1.	Subhash Nagar	1400000
2.	Subhash Nagar	1200000
3.	Subhash Nagar (old tank)	3500000
4.	Shivaji Nagar	1400000
5.	Shivaji Nagar	2,25,000
6.	Paranda Road	1400000
7.	Paranda Road	1200000
8.	Gadegaon Road	650000
9.	Agalgaon Road	1000000
10.	1690 Subhash Nagar	400000
11.	Ghodke plot	400000
12.	Market Yard	400000
13.	Tuljapur Road	250000
14.	Chormule plot	400000
15.	Bhim Nagar	400000

Above table shows that 15 water tanks are working in Barshi city for the supply of drinking water. The total storage capacity of water in water tank is above 1 crore and 42 lakh liter per day.

## WATER DISTRIBUTION SYSTEM

For the drinking water supply in Barshi city is various pipelines i.e. main pipeline, sub pipelines are being used. The following table shows the total connections of the tap in different period.

Sr.No.	Size of Tap Connection ( in inch)	No. of Connections and Duration					
		2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
1.	0.5	405	746	1657	569	519	342
2.	0.75	Nil	01	04	08	Nil	02
3.	1	Nil	Nil	Nil	01	Nil	Nil
4.	1.5	01	Nil	Nil	Nil	Nil	Nil
5.	2	Nil	Nil	Nil	Nil	Nil	Nil
6.	3	Nil	Nil	Nil	Nil	Nil	Nil

## CONCLUSION

After considering the increase in population in Barshi city, the above mentioned sources of drinking water can be insufficient in future. As per the rule, 135 liter of drinking water should be provided to each family per day and this requirement cannot be fulfilled with these resources. So it is needed to increase the sources. The provided of number of 0.5 inch water tap connections are more than any other connections for domestic purpose.

In this purview, the care should be taken that the supply water pipeline should not be damaged, the spare electric pumps should be made available for supply of water, the campaign should be run to fix problems of open tap connections, the campaign should be run to create awareness among people regarding wastage of drinking water.

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