IJIREEICE ISSN (O) 2321-2004, ISSN (P) 2321-5526

International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering

Impact Factor 7.047 ⁜ Vol. 10, Issue 4, April 2022

DOI: 10.17148/IJIREEICE.2022.10425

Water Distribution in Undulating Terrain At Pangarbari

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Abstract: Water is the most important to sustaining life and developing region. Hilly areas, having predominantly rural economic and high dependence of rainfed agriculture. The project is on "WATER DISTRIBUTION IN UNDULATING TERRAIN AT PANGARBARI.". Under the defined understanding of drinking water governance, the thesis analyzes the international, national and local institutional structures, condition as well as stakeholders regarding the drinking water management in Pangarbari. Aim of a project is to solve problems of drinking and house-hold water needs and irrigation in the region. Water distribution system in hilly area is always divided into several zones due to the undulating terrain.

Keywords: Water distribution, drinking water, terrain, sustaining life, water needs.

I. INTRODUCTION

Pangarbari village is located in Dharampur taluka of Valsad district in Gujarat, India. It is situated 23KM away from sub-district headquarter Dharampur and 55km away from district headquarter Valsad. Wilson hill is nearest hill station to Pangarbari which is approximately 2km away. As per 2011 stats, Pangarbari village is itself a gram panchayat. The total topography area of village is 870.7hectares. There are about 338 houses in Pangarbari village. Pangarbari has a total population of 1,738 peoples of which 857 are male while 881 are female as per population census 2011.

II. DESCRIPTION

DISTRIBUTION SYSTEM

A distribution system consists of pipe lines of various sizes for carrying water through the streets, valves for controlling the flow, hydrants for providing water during fire, distribution or service reservoirs for storing the treated water to be fed in the distribution pipe.

Type of Distribution System

The distribution system are three types:

- Gravity System
- Pumping System
- Combined gravity and pumping system.

III. METHODOLOGY

All paragraphs must be indented. All paragraphs must be justified, i.e. both left-justified and right-justified.

A. DECADAL POPULATION

Sr.No.	Census	Population
1	1981	587
2	1991	933
3	2001	1248
4	2011	1738

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B. AVERAGE POPULATION IN THE YEAR AFTER SUCESSIVE DECADE

SR NO.	METHOD	2011	2021	2031	2041
1.	Arithmetic progressive method	1738	2659	3580	4501
2.	Geometrical increase method	1738	2486	3604	5789
3.	Incremental increase method	1738	2731	3796	4933

C. TOTAL WATER DEMAND POPULATION IN THE YEAR AFTER SUCESSIVE DECADE

YEAR	2011	2021	2031	2041
Population	1738	2731	3796	4933
Water demand(MLD)	0.36	0.57	0.79	1.03

D. Water demand
Average demand = population × rate of supply (135)
Total water requirement = peak factor (1.5) × average demand.

E. RATE OF WATER SUPPLY
135 LPCD FOR PANGARBARI VILLAGE.

Fig. 1 Village profile of Pangarbari

IV. CONCLUSION

India has fourth largest economic in the world however, one factor which is drag on its development is the lack of world class infrastructure. India needs urgently bridge the infrastructure gaps that industries people face every day. World class infrastructure holds the key for India to become sustained development of entire country. Entire project of "WATER DISTRIBUTION SYSTEM IN UNDULATING TERRAIN AT PANGARBARI" is an attempt to improve existing water supply system of Pangarbari village looking to following points.

1. Due to increase in population of village and out skirt Hilly area development surrounding the village. Water demand in increased and will also increase in future.
2. 0.36 MLD (2011) water is required to allotted for pangarbari village against ultimate demand of 1.03 MLD (2041).

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On the basis of past records FUTURE POPULATION for year 2021, 2031, 2041 has been worked out and water demand has been calculated on the basis of future population. ined.

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