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Tahsilwise Distribution of Households by Source of Drinking Water in Drought – Prone Tahsils of Jalgaon District Maharashtra, India – A Decadal Changes (2001- 2011)

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Abstract

The existence of source of drinking water in rural area is one of the most important indicators of Development that reflect the economic prosperity of a village. Rural water supply is a state subject the state government have been implementing the rural Water supply programme under the state sector minimum needs programme. The percentage of household depending on "Tap" as the principal source of drinking water has increase in rural area.

This paper has been attempt analyse status and trend of drinking water availability. At the time of independence, the per capita availability of water in India was 6008 cubic meters a year. It came down to 5,177 cubic meters in 1951 to 1,820 cubic meters a year in 2001. Drinking water, in adequate quantity and quality is a basic requirement for life and a determinant of standard of life. Rural water supply is the major challenges that has been addressed by the government and attempts made towards tackling the crisis in providing safe and adequate quantity of water to the rural people. Maharashtra state has made progress in the supply of adequate and safe drinking water to its people, but gross disparity is exists in coverage of all the drought - prone tahsils of Jalgaon district, Maharashtra. This paper is mainly spread on the light about the drought – prone tahsil wise decadal (2001-2011) changes of drinking water supply system in rural areas of study region.

The study region experience server water scarcity especially in summer months, and water must be broughter in by tankers. In rural areas, only 55% of the villages have a supply of more than 40 litters' per-capita per-day (lpcd). The Well water is the main source of drinking water (32.3 %) in region whereas tap (29.6%), hand pump (24.9 percent) and tube well (6.0%) are other sources of drinking water.

Key words: Drinking water supply, Adequate, Disparity and decadal changes.

Introduction

Water is the basic necessity of human life. But as a matter of fact only an insignificant portion (2 %) of the entire water mass available in the hydrosphere is potable. This being one of the basic necessities of life. Government has come out with various programmes of supply of drinking water to rural areas of the study area. The supply and demand factors increase with the natural and human factors like increase of population and decrease of sources of available of drinking water. Decline in groundwater table and availability of surface water, has put large number of people in risk for drinking water particularly in rural areas in summer season. The National Water Policy 2002 reflects the significance attached to drinking water by stating that, "adequate safe drinking water facilities should be provided to the entire population of the society". Through the implementation of number of programmes and plans like Mini water supply scheme (MWSS), Jal-Nirmal Project, Piped Water Supply (PWS), Tube well with Hand pump (TWHP) etc, the supply of safe drinking water has increased from 2001 to 2011, but with the increasing of population and decreasing of ground water level, Central and State governments are not succeed with 100 percent to supply of adequate amount of safe drinking water to all the people of the study area. Maharashtra was the first state in India to come out with a white paper on Drinking water supply. The govt. of Maharashtra has implemented various schemes for improving the water supply. Apart from government agencies, World Bank and other NGOs are actively involved in implementing water supply scheme in rural area in Maharashtra. In Maharashtra state major portion of land comes under drought prone area and the Jalgaon is one of the

districts of drought prone area of Maharashtra. The average rainfall is not more than 680 mm per year. Because of high temperature throughout the every year the district suffers from lack of availability of water for drinking as well as agriculture purpose. Drinking water availability and access to safe potable water have been an area of deep concern mainly due to the multifarious challenge these pose in managing and ensuring a sustainable supply for the fast growing population. In many part of rural area Availability of potable water has a direct relationship with health indicators.

Objectives: Following are the main objectives of this paper.

1. To examine the status of rural drinking water availability in the study region.
2. To know the sources of tahsil wise rural water supply.
3. To find out decadal changes of tahsil wise rural drinking water supply in study region.

Hypothesis

1. The drinking water availability is inadequate in rural area of drought – prone tahsils in Jalgaon district.

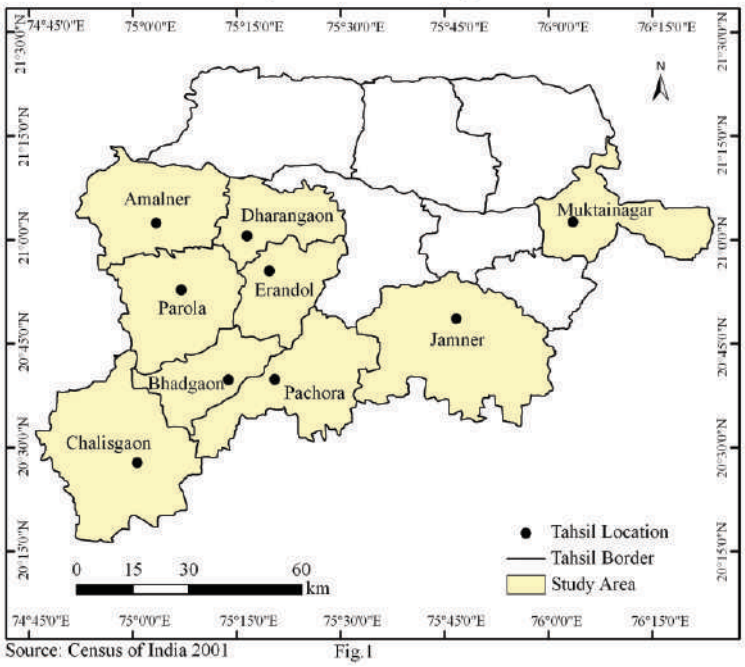
Scope of the Study:

Scope of study is limited to Maharashtra rural area to find drinking water availability in the rural area.

The Study area:

The region selected for the study is drought – prone 9 tahsils located in south of the Tapi river in Jalgaon district of Maharashtra State, India. Jalgaon district is located in north of the Maharashtra state. Out of the 15 tahsils in Jalgaon district 9 tahsils are drought – prone tahsils includes like Amalner, Dharangaon, Erandol, Parola, Chalisgaon, Bhadgaon, and Jamner & Muktainagar. Which are selected for the present study. The location map indicates the study area in Jalgaon district of Maharashtra in India. The image reveal the location of the study area. The study area is indicated in yellow colour. It lies between 20011' to 21030' North latitudes & 74046' to 76024' East longitudes (Fig.1).

Study Area: Location Map



Source: Census of India 2001 Fig.1

Data base and methodology

This study is mainly conducted to find drinking water availability of rural area in Maharashtra also the analysis of the nature of drinking water. Water availability it has been secondary data has been used. Secondary data collected from Ground Water Statistics, Government of Maharashtra Water Resources Department, and Maharashtra at a Glance and internet. Data has been analysed with the help of statistical diagrams.

Result and Discussion

The study region comes under drought prone area. The average rainfall is not more than 682 mm per year. Because of high temperature throughout the every year, region suffers from lack of availability of water for drinking as well as agriculture purpose. The govt. of Maharashtra has implemented various schemes for improving the water supply scheme in rural area in the present study. Drinking water availability and access to safe potable water have been an area of deep concern mainly due to the multifarious challenge these pose in managing and ensuring a sustainable supply for the fast growing population. In many part of rural area Availability of potable water has a direct relationship with health indicators.

Table 1. Sources of rural water supply

			Sources of Drinking Water (%)					
Sources	Tp	Hp	Tw	W	T/P/L	R/C	Ss	O
2001	29.7	24.9	6.0	32.3	3.0	4.0	0.0	0.0
2011	28.0	20.6	7.7	26.5	4.2	11.9	0.7	0.4

Reference: Tp - Tap, Hp - Hand pump, Tw - Tube well, W - Well,
T/P/L - Tank, Pond,Lake; R/C - River, canal, Ss - Spring, O - Any other.
Source: Census Handbook of Jalgaon District, 2001-2011

The study region water coverage is better than most of the other region, service levels in most areas are grossly inadequate. Some areas experience server water scarcity especially in summer months, and water must be broughter in by tankers. In rural areas, only 55% of the villages have a supply of more than 40 litres per-capita per-day (lpcd). The state government has implemented various schemes for improving the water supply coverage over a period of time. The percentage of household depending on "Tap" as the principal source of drinking water has increase in rural area. There are many sources of drinking water in the region, like tap, hand pump, tube well, river/canal, tank/pond/lake, spring and other. Out of these Well water is the main source of drinking water in rural area followed by the tap and hand pump. The Well 32.4%, tap occupied 29.7%, hand pump 24.9%, and tube well 6.3%, tank/pond/lake 3.0% during 2001. In 2011 proportion of 28.0%, hand pump 20.6%, well 26.5%, river/canal 11.9%, tube well 7.7% in the study region.

The proportion of Tap, hand pump and well sources are 87.0 % decreased down from in 2001 to 75.1% in 2011%. It is because of increased demand from growing population and depleted ground water level. Whereas the proportion of tube well, river/canal and tank/pond/lake sources are increased from 13.0% in 2001 to 23.8 % in 2011. Girna River link projects located in the surrounding tahsils of study region provide available water to rural area in the study region.

Table 2. Decadal changes of sources of drinking water supply in rural drought - prone tahsils of Jalgaon District: Distribution of Households by sources of Drinking Water 2001 - 2011 (%)

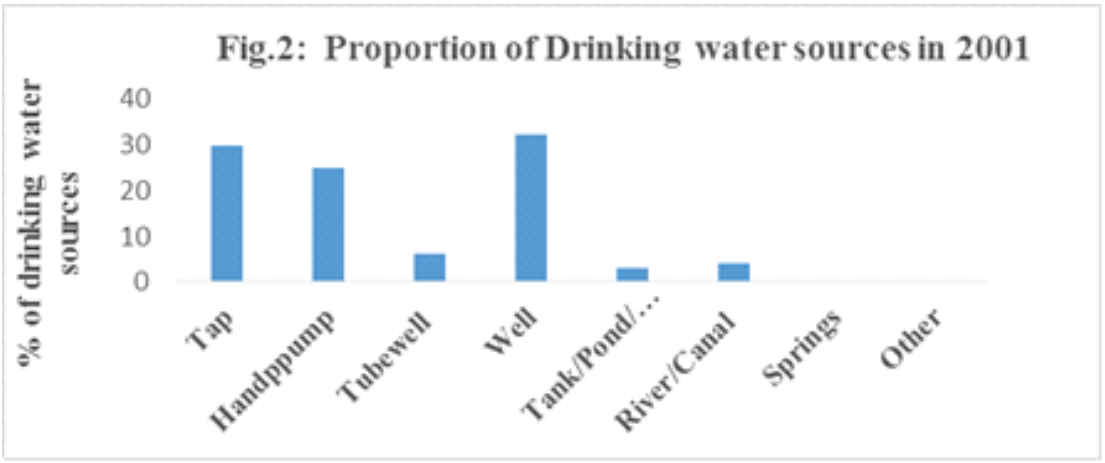
					2001									2011				
Sr.	Tahsil	House-			Sources of Drinking Water (%)						House-		Sources of Drinking Water (%)					
No		hold	Tp	Hp	Tw	W	T/P/L	R/C	Ss	O	hold	Tp	Hp	Tw	W	T/P/L	R/C	Ss	O
1	Muktainagar	28377	29.5	20.7	11.1	35.0	0.0	2.5	0.0	0.0	36842	31.5	20.3	12.0	30.3	1.6	4.4	0.0	0.0
2	Erandol	23406	32.6	22.1	3.3	33.0	3.3	5.5	0.0	0.0	28992	31.6	17.9	6.1	26.0	4.1	12.8	0.5	1.0
3	Dharangaon	26320	27.6	16.5	9.6	33.5	6.9	4.8	0.0	0.0	30092	24.5	21.4	18.3	23.4	0.8	11.3	0.0	0.3
4	Amalner	35013	26.9	24.6	15.3	28.5	0.0	4.5	0.0	0.0	40997	28.1	22.0	11.3	25.1	2.6	10.9	0.0	0.0
5	Parola	26668	27.8	30.9	0.9	33.0	3.7	2.0	0.0	0.0	32832	27.9	25.2	4.6	27.6	4.9	7.9	1.6	0.3
6	Bhadgaon	28441	34.7	29.5	0.0	30.0	0.0	4.4	0.0	0.0	27209	27.3	25.0	3.2	25.9	3.7	14.8	0.0	0.0
7	Chalisgaon	52104	31.5	27.6	1.3	30.0	3.9	5.0	0.0	0.0	64096	26.0	19.9	4.2	26.8	7.1	14.7	0.6	0.8
8	Pachora	41240	33.0	23.0	3.1	33.0	0.6	6.0	0.0	0.0	49372	28.9	13.3	2.2	28.0	7.0	17.6	2.2	1.0
9	Jamner	54963	23.6	29.4	5.8	35.0	3.6	1.5	0.0	0.0	62411	25.8	20.4	7.5	25.6	6.1	12.4	1.7	0.5
	Region	316532	29.7	24.9	6.0	32.3	3.0	4.0	0.0	0.0	372843	28.0	20.6	7.7	26.5	4.2	11.9	0.7	0.4

Reference: Tp - Tap, Hp - Hand pump, Tw - Tube well, W - Well, T/P/L - Tank, Pond,Lake; R/C - River, canal,
Ss - Spring, O - Any other. Source: Census Handbook of Jalgaon District, 2001-2011

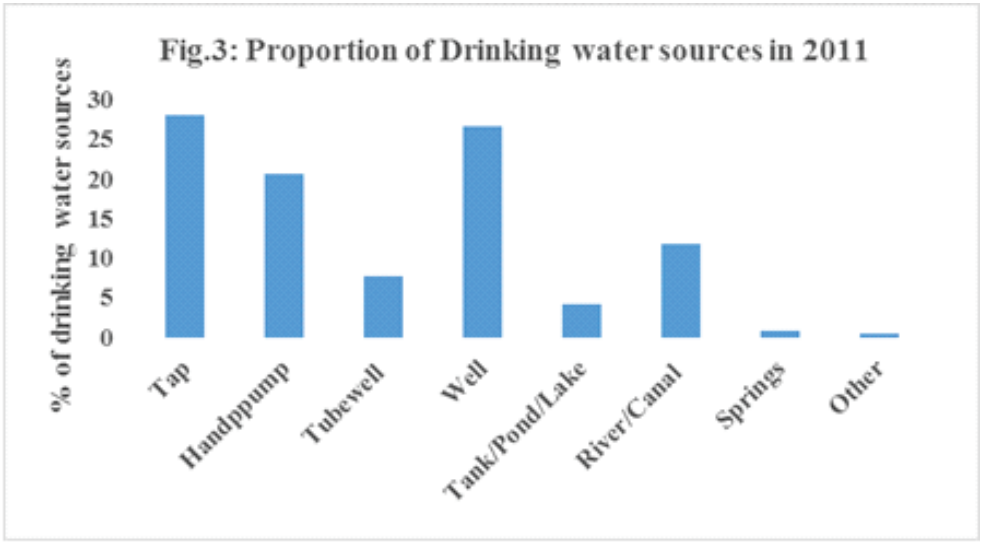
The Well water is the main source of drinking water (32.3 %) in region whereas tap (29.6%), hand pump (24.9 percent) and tube well (6.0%) are other sources of drinking water. Tube well with Hand pump (TWHP) etc, the supply of safe drinking water has increased from 2001 to 2011, but with the increasing of population and decreasing of ground water level. The supply and demand factors increase with the natural and human factors like increase of population and decrease of sources of available of drinking water. Decline in groundwater table and availability of surface water, has put large number of people in risk for drinking water particularly in rural areas in summer season.

Sources of rural water supply

In study region, the proportion of rural households covered by the public water supply sources such as taps (Under Mini Water Supply-MWS), hand pump and Wells decreased from 87 % in 2001 to 75.1 % in 2011 (Table 2). Due to decreasing of underground water level; the State government is given more importance to provide safe drinking water by taps and Tube wells to rural people of the study area. The supply of drinking water from Tube well, river/canal and tank/pond/lake has increased from 13% in 2001 to 23.8 % in 2011, due to Girna river link projects on Girna tributaries located in surrounding tahsil of study region provide available water to the rural area in the study region. (Table 1). Table 2 reveals the distribution of households by sources of drinking water in 2001 and 2011 of the study area. The average supply of well Water is 32.3 %. The well water supply has major in all tahsils rages from 28.5 to 35.0% percent in 2001. In 2011 average well water supply is 26.5 % and ranges between 23.4 to 30.3% in nine tahsils. Among all the tahsils 9 tahsils are covered by study region it is because of Girna river link projects located in the region and provides available water to the rural area.



Tap water supply of more than 55 lpcd (Drinking water supply norms for rural areas). Bhadgaon followed by Pachora and Erandol rank top of tap water source in region during 2001. Amalner and Jamner tahsils have second rank of tap water source in region during 2011. In 2011 river/ canal, tank/lake/pond, and tube well drinking water sources increased in



Decadal changes: Table 2 indicates that hand pump, well and tap sources are decreased down -4.3, -5.8 and -1.7 % respectively during 2001-2011. Whereas tube well, river/canal and other sources increased 1.7, 7.9, and 1.2 % respectively in the region during above period (Fig.2 and Fig.3).

Findings

This study is revealed the following;

1. Both in 2001 and 2011 the households of the study areas are mainly covered by Tap Water supply.

2. Tap Water supply is increased by 26.8 % to 36.5 % from 2001 to 2011.
3. The tahsils like, Muktainagar, Pachora and Dharangaon are depends on well for drinking water.
4. Dry areas like Muktainagar and Amalner tahsils are getting water from tube well for drinking purpose.
5. In the study area the households are getting very least percentage of drinking water from Tank, Pond, Lake Canals, springs and other sources.

Conclusion:

The status of water supply in the study region can be considered as satisfactory in terms of coverage at the habitations and in terms of service at the households. Maharashtra state has made progress in the supply of adequate and safe drinking water in the study region to its people, but gross disparity is exists in coverage of all the drought - prone tahsils of Jalgaon district, Maharashtra. The Maharashtra State which adopted the reform processes ahead of many other States in the country, has been steadily implementing various steps to improve water and sanitation services in rural areas. However, it can be argued that there is tremendous scope for improvement.

References

1. Economic Survey of Maharashtra 2010 -11
2. Gorishankar Ghosh: Water Supply in Rural India, Policy and Programme.
3. Rajsekhar, D. Growing Rural- Urban Disparity in Karnataka National Institute of Rural Development.
4. Ministry of drinking water and sanitation (2011) (Rajiv Gandhi National drinking water mission)" Bharat Niramn: Rural Drinking Water. P.2 | 3) Project notes: Indo-Us financial institutions reform and expansion project: debt Market component FIRE (O) Note No. 27. September 2001. P.01-04
5. Seem Kulkarni, Sara Ahmed and other "Water rights as Women's Rights? Assisting the scope for women's empowerment, through decentralized water governance in Maharashtra and Gujarat." Soppecom Utthan: TISS: October 2008.
6. Economic survey of Maharashtra. 2010-11-director of Economic and statistics planning department Govt. of Maharashtra, Mumbai, 22 March 2011.

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