

Changing Drinking Water Accessibility in Himachal Pradesh: A Geographical Study

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Abstract

Present research paper is an attempt to analyze the change in availability of drinking water in Himachal Pradesh from 2001-2011. To analyze the change district-level data on household water supply has been used in the study. Change in drinking water supply at rural and urban household level has been analyzed in the study. The results of the study reveal that tap water is the most reliable drinking water source in the state. An increase in the coverage of tap water supply at the household level has been observed in the state between the census 2001 and 2011. The study reveals that only about 30 percent of households were covered under tap water supply within their premises in 2001, which has increased to about 52 percent in the year 2011.

Keywords: Drinking Water, Availability, Rural Water Supply, Urban Water Supply, Himachal Pradesh.

Introduction

Water is an essential resource of life on earth. The pressure on water resources is continuously increasing with increased population, however per capita water availability is continuously decreasing due to the increasing population. The per capita availability of water varies from 8.5 liters per day in the Asian continent to 587 liters per capita per day in the United States of America. The main reason for this uneven availability of water is population growth. Problem of drinking water is serious in developing countries where population growth is high and industrial development is taking place and ultimately water bodies are polluting on a large scale. The dry and arid regions of the world always suffer from water shortages and people devote their major time for collecting water. Providing clean and safe drinking water to all is the main objective of government in Himachal Pradesh. The state is continuously trying to increase the number of population which has piped water supply under the programs like Accelerated Rural Water Supply Programme, National Rural Drinking Programme etc. Himachal Pradesh is a hilly state with uneven distribution of water resources, therefore the supply of drinking water also varies in all regions. Irrigation and Public Health Department is the key agency which provide drinking water in the state but the traditional water sources are also important. The present study is an attempt to analyze the change in coverage of drinking water supply at the household level from 2001 to 2011.

Study Area

Himachal Pradesh is a north-western Himalayan state of India with a total area of 55673 km square. The name 'Himachal' was coined from Sanskrit language, where 'him' means snow and 'achal' means mountain. Himachal Pradesh comprises of mountains from a low altitude of 350 meters to 6975 meters above mean sea

level. The latitudinal and longitudinal extend of state varies from 30° 22' north to 33° 12' north and 75° 47' east to 79° 04' east respectively. As per census 2011, the population of Himachal Pradesh is 68.56 lakh with a population density of 123 persons per Km square. On an Average, state receives 1800-3000 mm annual rainfall, however water scarcity still exists in this state.

Map 01: Study Area



Source: Earth Explorer

Objectives

To analyze the changes in drinking water supply from 2001-2011 in Himachal Pradesh.

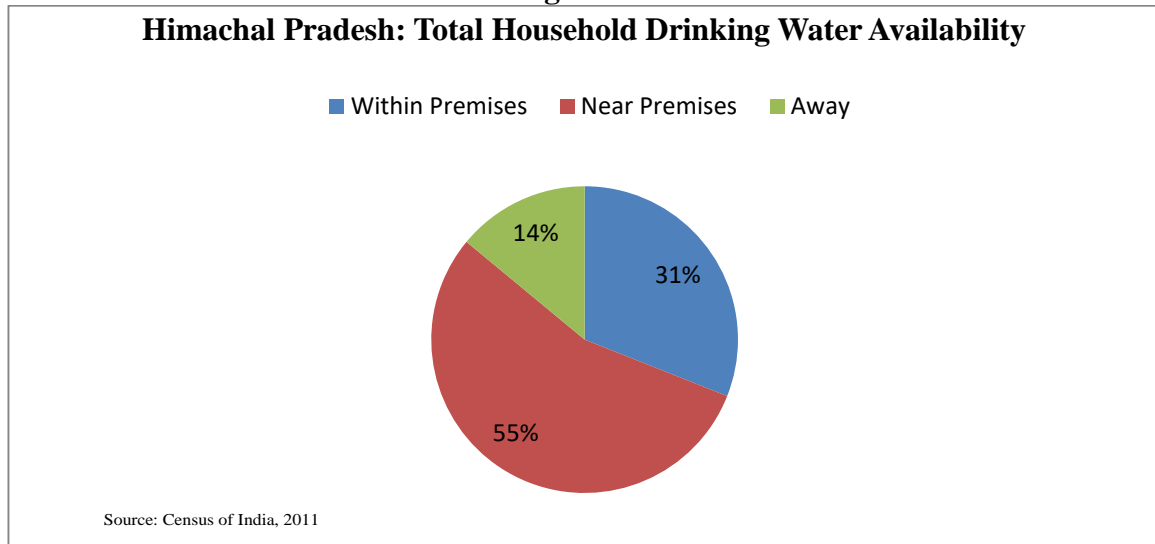
Data Sources and Methodology

The present study is based on secondary data, which has been collected from the District Census Handbook (DCHB), 2001 and 2011. Data on the availability of drinking water coverage of rural household level is collected from DCHB for the year 2001 and 2011. Availability of water has been analyzed in three categories such as the source of water in living places, near 500 m. from the house, and beyond 500 m. from the house. The comparison of 2001 and 2011 has been made to observe the change in coverage of piped water supply. Appropriate diagrams, charts and maps have been used to show the results of the study more clearly.

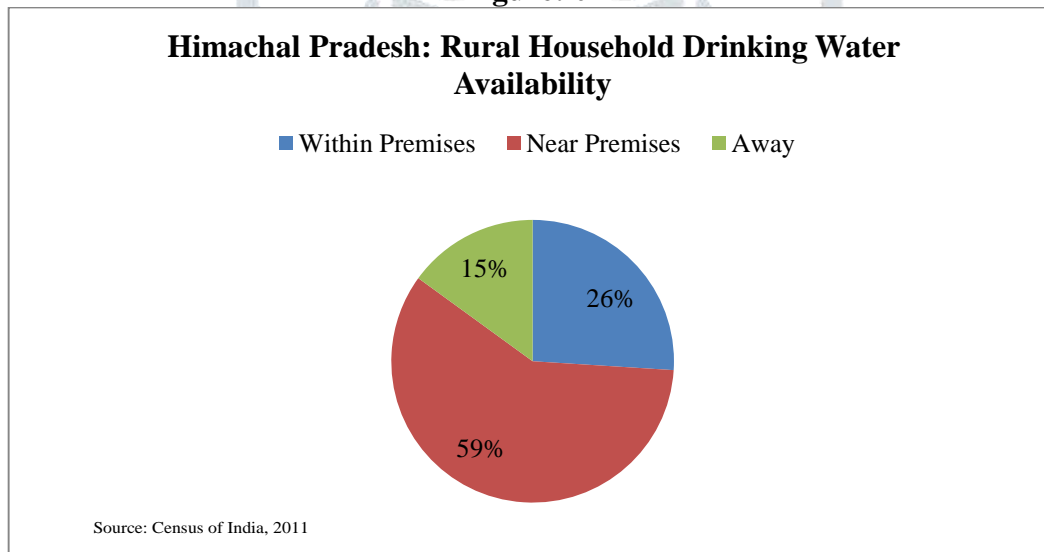
Results and Discussion

Availability of Drinking Water in 2001

Drinking water availability at household level in the state was not satisfactory in 2001. As only 31 percent households were accessed with tap water supply within their houses. Whereas more than half of the households (about 55 percent) were accessed with drinking water supply at a distance of 500 meters in rural areas and 100 meters in urban areas. In the remaining 14 percent of the households tap water supply was beyond 500 meters in rural areas and 100 meters in urban areas. The results reveal that in 2001 very little number of households (14 percent) had tap water supply beyond 500 meters in the state. (figure 01).

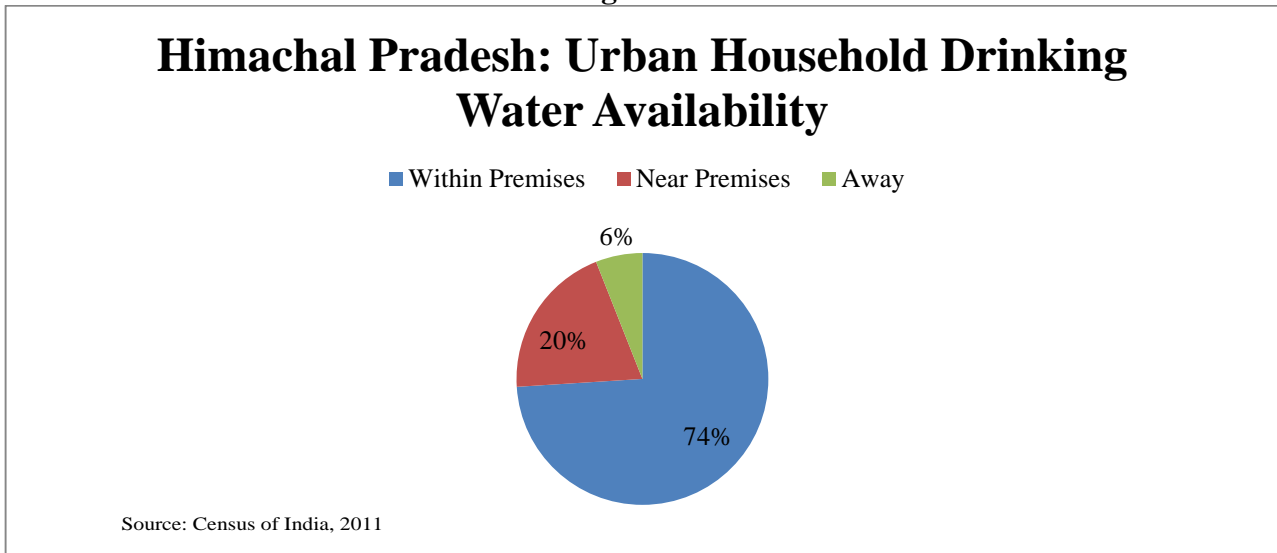
Figure: 01

Out of total rural households only 26 percent of households had drinking water supply in their houses. However 59 percent households had drinking water supply from the tap near to their premises and remaining 14 percent of households had no other option then to fetch water from tap furnished beyond their house (500 meters) (Figure 02).

Figure: 02

In the year 2001 drinking water facility was far better in urban households as compare to rural households in the state. Approximately 74 percent of urban households were equipped with tap water connections within their premises. However 20 percent of remaining households were fetching water from the tap near to their premises and about 6 percent of households had to fetch water from 100 meters beyond their premises (Figure 03).

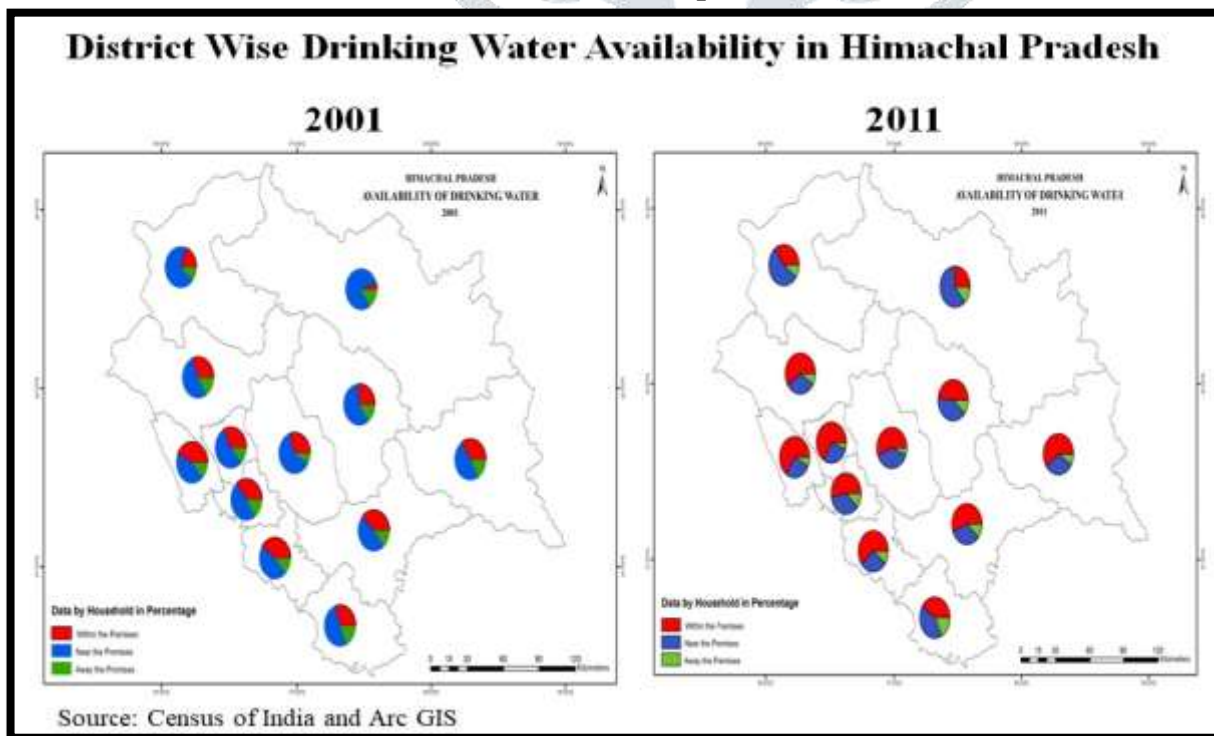
Figure: 03



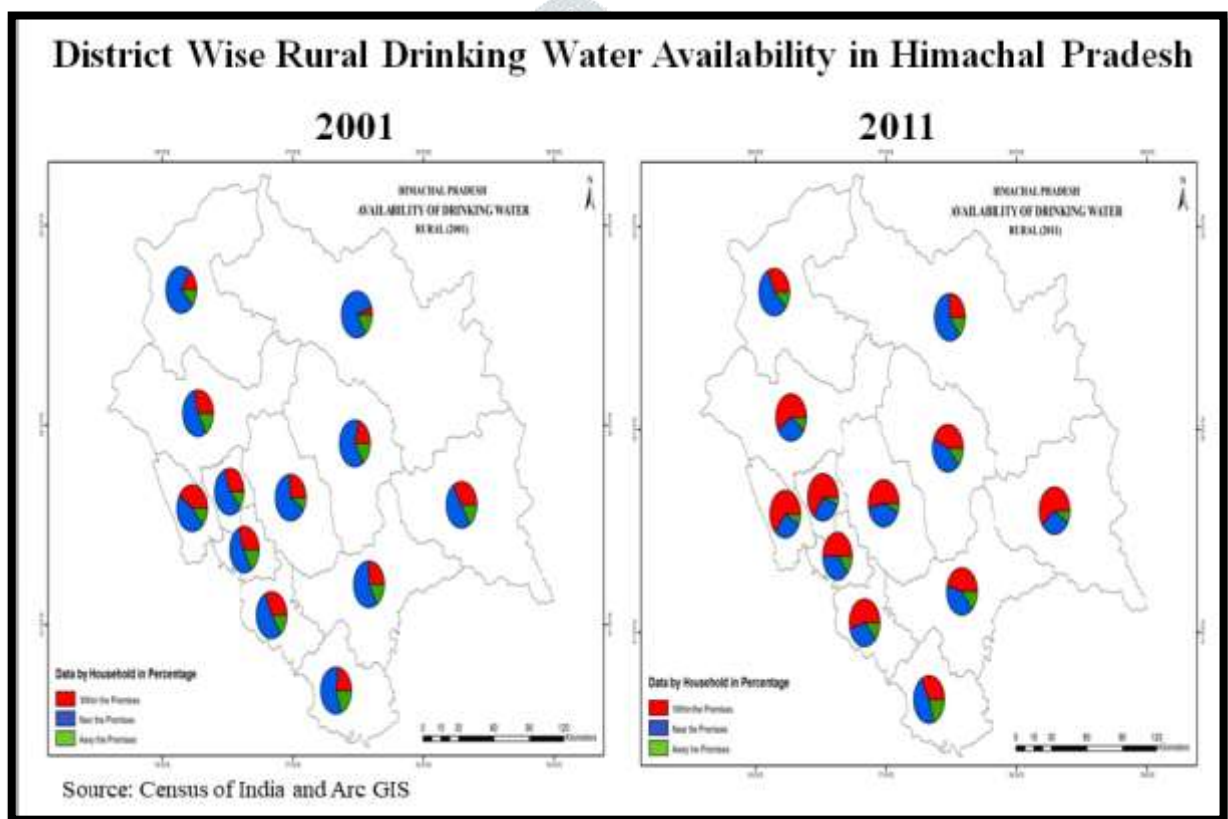
Availability of drinking water in Himachal Pradesh varies from district to district due to variation in topography. In the year 2001 very little number of households was availing facility of drinking water supply within their premises. Districts which fall in the Shiwalik Hill region had higher number of households with furnished with tap water within their premises in comparison to districts in high or middle Himalayan region. Maximum households were dependent on tap water supply in the state in 2001.

However a different scenario of drinking water availability has been observed in 2011, as there is an improvement in the supply of drinking water at household level. The number of households with tap water connections within their premises increased in all the districts of Himachal Pradesh. Simultaneously the number of households with tap water near and away from their premises has been reduced (Map 02).

Map: 02



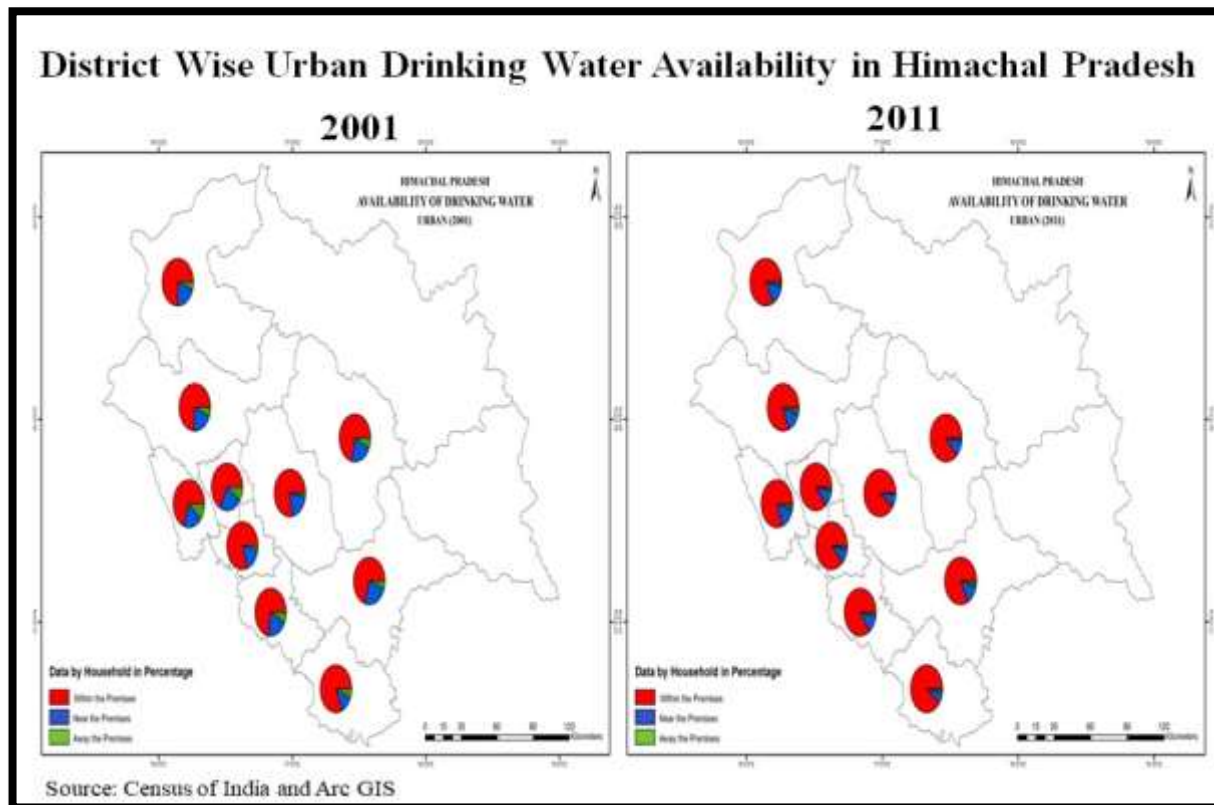
Rural drinking water supply was not satisfactory in the state in 2001, as less than 50 percent households in all districts were equipped with tap water connections within their premises. Whereas maximum rural households were fetching drinking water from tap located near to their premises (within 500 meters). Furthermore, a large proportion of total households in the state were compelled to organize water from a distance of 500 meters from their premises. As state government is committed to provide safe drinking water to all households, a provision of tap water connections within household premises has been made. However the number of households with water accessibility in near and away to their premises has been reduced in 2011 (Map 03).



Map: 03

In 2001 urban drinking water supply in the state was more satisfying in comparison to rural water supply. Maximum urban households were equipped with tap water within their premises whereas households with near and away tap water connections were comparatively fewer in the state. In the year 2011 percentage of urban households with tap water supply within their premises has improved to more than 80 percent in each district from about 70 percent in 2001. Presently only 5 percent urban households are collecting drinking water from distant sources (Map 04).

Map: 04



Conclusion

Government has successfully improved the drinking water accessibility at household level in the state however a large proportion of rural and urban households needs to be covered under tap water supply within their premises. Continuous increase in the number of population is the most important factor which affects the consumption level of water in any area. The population of the state in 2001 was 60, 77,900 which has increased to 68, 64,602 in 2011 with a growth rate of 12.94 percent. This population growth in near future will pressurize the water resources tremendously. Hence, there is a need to conserve and manage water resources with the combined efforts of state government and local communities.

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