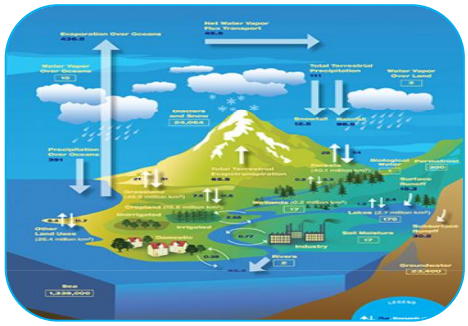
REVIEW OF RESEARCH
ISSN: 2249-894X
IMPACT FACTOR : 5.7631(UIF)
UGC APPROVED JOURNAL NO. 48514
VOLUME - 8 | ISSUE - 9 | JUNE - 2019

SWOT ANALYSIS OF WATER RESOURCES MANAGEMENT IN THE AHMEDNAGAR DISTRICT, MAHARASHTRA

Rajendra S. Pawar
Department of Geography , Padmashri Vikhe Patil College of Arts, Science and Commerce, Pravaranagar, A/P Loni Kd, Tal. Rahata, Dist. Ahmednagar (MS).

ABSTRACT

Water plays an important role in the economic development of the region. Thus, managing this resource in drought prone areas is of utmost importance. With this background, the present paper attempts to analyze Strength, Weaknesses, Opportunities and Threats to the water resources of Ahmednagar district. The paper gives the suggestions for enhancement of the water use efficiency in the district.



KEY WORDS: - *Water, Resource, Management, SWOT*

INTRODUCTION:

Water has always played, and continues to play, a central role in human societies. It is an input, to a greater or lesser extent, to almost all products (in agriculture, industry, energy, transport, by healthy people in healthy ecosystems). It is also a force for destruction (catastrophically through drought, flood, landslips and epidemic, as well as progressively through erosion, inundation, desertification, pollution and disease). Water is quite literally a source of life and prosperity and a cause of death and devastation. Since the origins of human society, there has been a constant struggle to reduce the destructive impacts of water and increase its productive impacts. Many of the earliest civilizations, and particularly those on the floodplains of the world's great rivers, succeeded by harnessing and managing water, thereby increasing production and reducing the risk of destruction. So then as today, water resources development and management of water quantity and quality remain at the heart of the struggle for sustainable development, growth and poverty reduction. This has been the case in all industrial countries, most of which invested early and heavily in both water infrastructure and institutions1, and it is the case in all developing countries, most of which have not invested sufficiently in water infrastructure and institutions. In some developing countries the unmet challenge of managing their water legacy is almost without precedent, yet, without doing so, we believe that sustainable growth and poverty eradication cannot be achieved (World Bank, 2015). The strong and sustained economic growth in many developing or middle-income countries with large populations (such as Brazil, China and India) has itself contributed to increased pressure on water resources (UNESCO, 2009). The proper management of water resources in an area, particularly in the drought prone area is of great

significance in the economic development. SWOT Analysis is a useful technique available for managing resources by understanding the Strengths, Weaknesses, Opportunities and Threats. With this background an attempt has been made in this paper to carry out the SWOT analysis for managing the water resources of Ahmednagar district in Maharashtra.

STUDY AREA:

Extended from18^0 19$'$ N to 19^0 59$'$ N latitude and from 73^0 37$'$ E to 75^0 32$'$ E longitude, the district of Ahmednagar is located in the midwestern part of Maharashtra. The geographical area of it is 17,114 Sq. Km. And is divided into 14 tahsils (Fig. 1.). The annual average rainfall of the district is 565 mm. Being situated in rain shadow area of the Western Ghats; the district frequently experiences frequent drought condition. Hilly, Ghats, foothill and plateau sections are the photographic divisions of the district. The northern part of the district lies in the Godavari basin while, its southern part belongs to the Bhima basin. Soils of the district are derived from basaltic rock and are classified into shallow, medium and deep black types.

LOCATION, SITUATION AND SITE MAP OF STUDY AREA

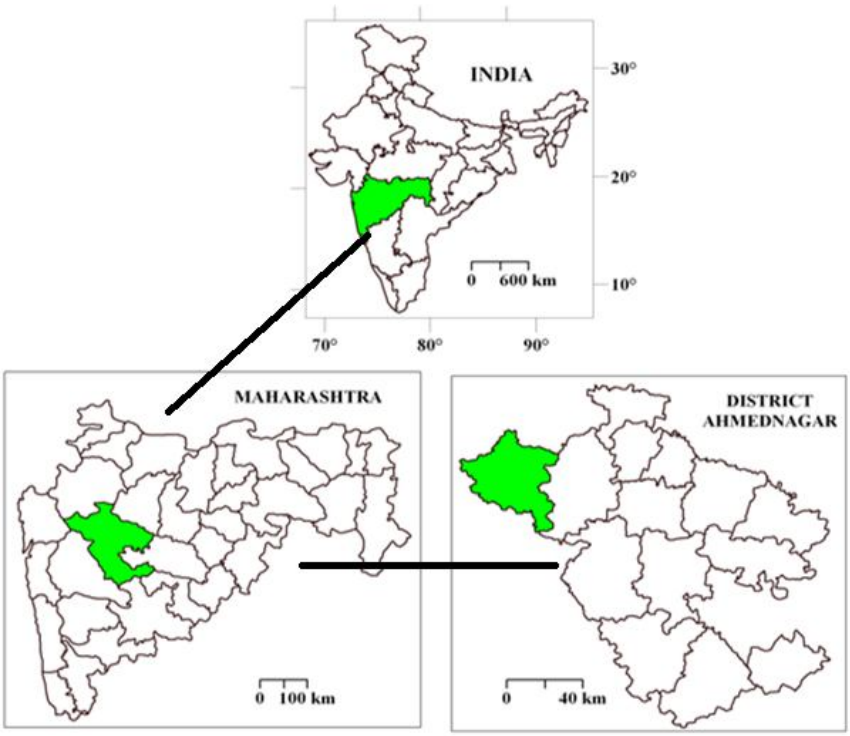


Fig.1. Tahsils in Ahmednagar District

OBJECTIVES:

1. To analyze the Strengths, Weaknesses, Opportunities and Threats to the water resources in Ahmednagar district.
2. To suggest the measures based on SWOT analysis for enhancing water use efficiency.

DATABASE AND METHODOLOGY:

The Present study utilizes the empirical data and information obtained through the questionnaires. Discussions were held with the residents, social workers and government officers. SWOT analysis, one of the most commonly used techniques in strategic management of natural resources is employed to build an overall development strategy. SWOT is an acronym, standing for Strength, Weaknesses, Opportunities and Threats.

SWOT Analysis:

A. Strength of water Resources in Ahmednagar District

1. Low risk of Flooding- Ahmednagar district is low rainfall receiving district of Maharashtra. Most of the water bodies in the district are seasonal. Dams constructed upstream, e.g. Wilson dam at Bhandardara and Dnyaneshwar Sagar at Rahuri are useful to control the flow of water thereby decreasing the risk of flood.
2. Large irrigated area- Each of the talukas in the district is having more than 50% of its agricultural area under irrigation.
3. Priority to use water for drinking- As per the water use policy of the State government, the use of water for drinking has given the first priority followed by irrigation and industries.
4. Good quality of dam water – Rain water stored in different dams and small reservoirs in the district is of good quality. It is generally free from pollution and hardness.
5. Water conservation practices- The local, regional and national governments are having their own water conservation policies.
6. Developed water network- Most of the population in the district is well connected with a water distribution network.

B. Weaknesses of water Resources in Ahmednagar District

1. Low Rainfall- As most of the parts of the district is under the influence of the rain shadow effect of Western Ghats, the average annual rainfall of the district is low i.e. 565 mm.
2. Strong seasonality in the distribution of rainfall- More than 70% rainfall in the district is concentrated in the period of the South West monsoon season (June to September), while summer (February to May) is the dry season. This seasonal variation of rainfall distribution is responsible for the uncertainty of water availability.
3. Hard basaltic rock- It is because of the Geographical location of the district on Deccan Traps, characterized by hard basalt, the rate of water percolation into the ground is very low.
4. High rate of Evaporation- The tropical location of the district leads to the high rate of surface water evaporation.
5. Lack of wastewater treatment- It is because of the negligence, paucity of funds and low infrastructural facilities, the rural, urban and industrial areas in the district is lacking in waste water treatment.
6. Loss of aquatic biodiversity- The district receives its most of the rainfall in South-West monsoon season. Thus, the nature of rainfall in the district is seasonal, reflecting in the seasonality of rivers and water bodies responsible for the loss of aquatic biodiversity.
7. Less use of waste water- The direct and indirect use of wastewater for different purposes in the district is very less.
8. Ground water pollution- Sugar factories, distilleries, Paper mills and many other factories are located in the district particularly in the northern part. The industrial effluent and sewage water released get percolated into the ground and pollutes it. Hardness of ground water is alarming at

many places, particularly in the tahsils of Rahata, Rahuri and Shrirampur, where there is a problem of over irrigation.

9. Poor water transport infrastructure- After wells, canal irrigation is the second largest means of irrigation in the district. Most of the canals are not in proper condition. There are leakages in canals at some places. Water can be supplied through pipelines to the villages in remote parts of the district. The poor water transportation system is responsible for the low water use efficiency in the study area.
10. Use of large amounts of water for irrigation- As agriculture is the main economic activity being practiced in the district; most of the water is being used for irrigation.
11. Limited use of water saving technology- The use of advanced water saving techniques of irrigation like drip and sprinkler is not yet fully popularized leading to lower water use efficiency.

C. Opportunities for water Resources in Ahmednagar District

1. Availing more water from the Western Ghats**-** Every year, a large amount of rain water gets drained into the Arabian Sea from the Western Ghats. This water may be transported to the different parts of the district.
2. Preparing a legislative framework**-** In view of enhancing the water use efficiency and for judicious allocation of water, an appropriate legislative framework may be prepared.
3. Adaptation of advanced agricultural policy- In view of strengthening the agricultural water use efficiency, the specific measures like, recovery of local varieties with low water consumption, improving irrigation efficiency, ensuring compliance with the water frame work directives and bringing the maximum land under agriculture should be adapted.
4. Implementation of Integrated Water Resource Management (IWRM) - Implementation of IWRM, a process of promoting coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

D. Threats to water Resources in Ahmednagar District

1. Shortage of water availability- Ahmednagar district is low (565 mm) rainfall receiving district of the state. The water available through large reservoirs like Wilson dam and Dnyaneshwar Sagar is low as compare to the vast agricultural land of the district.
2. Rising water demand- Population of Ahmednagar district is continually growing. Educational institutions and tourist places like Shirdi and Shingnapur attract huge population from various parts of the country. The rising standard of living, expansion of area under irrigation and growing number of industries has exerted high pressure on the water resources.
3. Lack of investment- Most of the population in the district is a rural population with meager income leading to lack of investment in the construction of private water storages.
4. High water demanding crops- High water demanding crops like sugarcane puts a large pressure on water resources of the district.
5. The rise in water temperature- The surface water temperature is continuously rising as an effect of global warming.

RESULT AND DISCUSSION:

It is clear from the SWOT analysis that, the water resources in the study area are inadequate; they are unevenly distributed and are of poor quality at certain places. The situation of water availability further worsens due to the high evaporation and less percolation of water in the ground.

CONCLUSION:

It can be concluded from the study, that, in general, the distribution of water resources in the district is uneven. Its availability is not adequate and the water quality is not good at some places, particularly in the surrounding areas of sugar factories. A large amount of water available in Western

Ghat during the rainy season can be used in the study area. Water saving techniques may be adapted in view of increasing the water use efficiency.

SUGGESTIONS:

The SWOT matrix offers wide-ranging suggestions that can be used in the management of water resources of the study area. Among these, the following general suggestions are important:

1. Identification and use of water saving measures in industrial, domestic and agricultural field.
2. Improvement of the efficiency related to the infrastructure used for water transportation.
3. The establishment of measures to reduce the loss of water due to over irrigation.
4. To increase the reuse of wastewater, particularly in the agricultural sector.
5. Enhancement of the cost recovery associated with the use of water made by the consumer.
6. Define measures for control of damage caused by wastage of water.
7. Define priorities for investments in infrastructure associated with water conservation.
8. There should be an active participation of the general public in the process of water management.

ACKNOWLEDGEMENT:

Author is thankful to the concerned social workers and water users in the study area for discussing about the current status of water resources.

REFERENCES:

The World Bank, 2005, Water Resources, Growth and Development, A Working Paper for Discussion, prepared by the World Bank for the Panel of Finance Ministers the U.N. Commission on Sustainable Development, Pp.1.

UNESCO, 2009, The United Nations World Water Assessment Program, Dialogue Paper, Integrated Water Resources Management (IWRM) in Action, Pp.1.