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A STUDY ON PROBLEMS AND CHALLENGES OF WATER MANAGEMENT OF SELECTED VILLAGES IN MAN TALUKA

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ABSTRACT

India is an agricultural country. In agrarian and developing nations like India, water management is very important. Water is life. In the current situation, water management has become the need of the hour. Without water there is no sanitation and without sanitation there is no health. If a person's health is good, a person can live for many years. So every living thing needs water. Man and water have a very close relationship. Man cannot survive without water and since water which is essential for survival is in short supply in India, efforts should be made to save the massive degradation of environment in India. The eastern part of Satara district of western Maharashtra is known as a waterless drought area. In particular, Man Taluka of Satara district is known as the least rainfall taluka in entire Maharashtra.



KEYWORDS: Water Management, Problems and Challenges, drought prone area, awareness, dams etc.

INTRODUCTION

Man Taluka is also known as Drought prone Taluka. Maswad in Satara district is the least rainy place in Maharashtra. The researcher has selected 3% of the 105 villages of Man taluka to carry out this research. It includes three villages namely Valai, Panvan and Gangoti. The main reason for choosing these three villages out of 105 villages is that Valai is located at the base of a hill and has mountains on both sides. The rain falling on the top of the mountain and on the side of the hill goes to the village Panvan through a stream in Valai village and water from the Panvan goes through a stream to the lake in Gangoti village. These three villages can be seen going from east to west. Panvan is a village on Valai to Gangoti route. As it is a part of Utra from time to Gangoti, the water flows into the Gangoti lake and gets stored. Gango takes about eight to 10 days to fill the lake as its lake is large in size. Due to the lack of a big lake system in the two villages of Wale and Panvan compared to the Ganguti lake, the rainwater from these two villages is carried by the stream and gets stored in the Ganguti lake. It is necessary for the three villages of Valai, Panvan and Gangoti to work together to manage water. If the two villages of Panvan and Valai build large lakes compared to Gangoti Lake, there will be no problem of water coming during monsoon. Due to the lack of awareness in these two villages about water management, most of the agriculture in these two villages is lying fallow. Many people from these two villages travel 100 to 200 kilometers during the sugarcane cutting season to cut sugarcane. Since water management is an important issue in the drought-stricken areas of Man taluka, it is necessary for the government to focus on this and create many reservoirs for water management with the help of villagers. Taluka district and

village level selection Committees of various kinds have been formed regarding water management but in reality no strong stance and appropriate program for water harvesting has been formed in the current situation. It is important from the point of view of the government to implement sustainable water management system in certain villages of Man taluka but due to lack of awareness among the people of Man taluka the government is neglecting it. If water is managed properly, the sugarcane cutters of Man taluka will stay in their villages and farm and the best farmers will become from Man taluka. As agriculture in Man taluka is mostly fallow, it is necessary to manage water and create awareness among the people about water management. Many people in these three villages selected by the researcher go to cut sugarcane because due to lack of water availability, farming is impossible and there is a big doubt in their mind that the only source of livelihood is sugarcane cutting due to non-farming.

PROBLEMS OF THE STUDY:

Water management is essential in developing and agrarian democratic nations like India. The people of Man taluka will not be economically empowered unless the water problem is solved. Due to water problem in Man taluka, agriculture is on a large scale. As the water problem is permanent in Man taluka, they have no place for any kind of economic empowerment. Due to water problem in Man taluka, many people have to go long distances to quench the thirst of their animals. There is a major problem of water management in Man taluka, especially in three villages; the water problem is most severe. The three villages of Wale Panwar and Ganguti receive a large amount of rainwater, but due to low capacity ponds for water storage, water problems arise in summer and people and animals face these problems. Agriculture is the main occupation and animal husbandry is considered as a secondary occupation but many sugarcane cutters in Man taluk are willing to do animal husbandry but due to lack of water and animal fodder they are unable to maintain the animals. Many people in Man taluka have to wander for drinking water and also have to go to a distance of two to three kilometers to provide drinking water for animals to solve their drinking water problem.

OBJECTIVES OF THE STUDY:

The main topic of the research is to study the water management problems and challenges faced by selected villages of Man taluka and some specific objectives are given below.

1. To Study the problems of water management.
2. To Study the challenges of water management.
3. To suggest the proper remedies.

SIGNIFICANCE OF THE STUDY:

It is very important to study the water management of the economically weaker sections of the drought prone areas of Man Taluka. Since the management of monsoon rains in Man taluka is done in a very wrong way, they said research paper is very important from the point of view of government institutions, research institutes etc. The subject is very important from the point of view of all the elements such as researchers, students, research institutes, universities, colleges, government, water management committee etc. The study of water management in Man taluka is very important because most of the people of Man taluka go for their livelihood from a distance of one hundred to two hundred kilometers for their livelihood because even though their own village has abundant land, they have to cut sugarcane to survive due to lack of water system. As Man Taluka is a drought prone area, the environment has been deteriorating on a large scale in this Taluka. Also, since the last many years, due to the non-abundance of water storage in the land, most of the people in the taluka have to do all kinds of work in the unorganized sector to sustain themselves and their families. Due to lack of drinking water system many bore wells have to transport water from long distance from the source. Therefore, the subject of this research is very important from the point of view of constructing a farm pond near the village.

SCOPE OF THE STUDY:

There are a lot of problems related to water management all over the world but the researcher has studied 3 villages in one Man taluka of Satara district of Maharashtra state in India to write the said research paper. Although water management is a topic related to the whole world, the researcher has studied some selected villages of Man taluka related to water management. Man taluka is the scope of this research and three villages are selected for water management.

PERIOD OF THE STUDY:

Researchers have chosen the period from 1st July, 2021 to 31st June, 2022 to write the said research paper.

LIMITATION OF THE STUDY:

Although the issue of water management is a worldwide problem, the researcher has selected only 3% of the 105 villages in Man Taluka and Man Taluka of Satara District in Western Maharashtra, India. Although the issue of water management is a worldwide problem, the researcher has selected only 3% of the 105 villages in Man Taluka and Man Taluka of Satara District in Western Maharashtra, India. Although the entire Mann taluka is the subject of research, the researcher has selected only three villages to write the said research paper in a scientific manner.

RESEARCH METHODOLOGY:

The researcher has used secondary as well as primary sources to write the said research paper. In this, the primary instruments are questionnaires, direct interviews and observation, while secondary researches use secondary sources like reference books, serial books, research papers, articles, journals, managing websites, annual reports, government reports, etc. In this, the researcher has studied the water management problems and challenges in Mann taluk using simple random sampling method.

Data Collection:

The primary and secondary resources used by the researcher to write the said research paper have been analyzed in detail as follows.

Primary Data:

While writing the said research paper, the researcher has collected information through questionnaires, direct interviews and observation.

Secondary Data:

The researcher has also used secondary resources to write the said research paper, in which secondary resources like reference books, serial books, annual reports, government reports, journals, articles, websites, magazines, news papers, internet etc. have been used.

Research Method:

The researcher has used simple random sampling method while writing the said paper.

Sample Selection:**Table No. 1
Sample Selection:**

Total Villages	% of Sample	Sample Selection	Name of Villages	Research Method	Respondent	Reason of Sample Selection
105	3%	3	Valai, Panvan, Gangoti	Simple Random Sampling Method	30 respondent	Constraints in water storage and management

RESULTS AND DISCUSSION:

The researcher has used secondary as well as primary sources to write the said research paper. In this research the researcher has also used the tools like; graphs, charts. Tables, percentage, tools and techniques etc while doing the research. Maharashtra state is in tropical climate region breaks The Arabian Sea to the west of Maharashtra, Latitudinal extension of Maharashtra, southwest and northeast seasons. The result of all these factors are the winds and the eastern plateau region Happens on the climate of Maharashtra. Highest in Maharashtra 85% of rainfall is from the southwest monsoon from June to September Gets to the end. The departure of monsoon in September Monsoon begins and extends from all parts till October There is an exit. Therefore, October is called 'contagious It is called time. From October to January Rain falls from the north-east monsoon winds, known as 'Patri It is called rain. Annual average rainfall of the state although about 1360 mm, the state varies however, the amount of rainfall in the region is different.

Water management problems in 3 villages selected by the researchers:

In this, the researcher has selected three villages out of 105 villages in Mann taluka as 3% and in these 3 villages problems in water management are seen to a large extent. As the village of Valai is near two mountains, the rain falling from the mountain level flows to the entire Panvan village in a stream. There are 2 pounds in Panwan village, after the two ponds are full in three to four days, the water flows from the stream from Panman and gets stored in the big Gangoti pond. Gangoti takes four to five days to fill her lake. Gangoti and surrounding villages draw a large amount of water from Gangoti and surrounding villages, though Gangoti lake is larger in size and storage than Wale and Panwa lakes. Therefore, water problem is experienced in three selected villages of Man taluka during summer. Next to Ganguti, there is another lake at a distance of one kilometer. The water from that lake is piped to the villages of Jambhulani and used for agriculture, so the lake in Ganguti is heavily drained. Due to the lack of awareness in these three villages about water management, water scarcity is really felt by all types of farmers in summer. Due to scarcity of water, the industrial sector has not gained momentum in Mann taluka.

**Table No. 2
Awareness about Water Management**

Response	Respondent	Percentage (%)
Yes	28	93 %
No	2	7 %
Total	30	100

Table No. 2 categorizes people in drought-prone areas according to their awareness of water management. In this almost 93 % people have no awareness about water management and only 7% people know about water management. According to the researcher, it is very necessary to create

public awareness about the rainfall that falls every year and the methods of rain harvesting in Man taluka. It is also important to know the importance of water management.

Table No. 3
Problems of Water Management

Problems	Respondent	Percentage (%)
Drinking water problem	9	30 %
Consumption water problem	5	17 %
Water problem for animals	7	23 %
Water problem for agriculture	7	23 %
Water issues for small scale industries	2	7 %
Total	30	100

Table No. 3 categorizes the water management problems experienced by people in drought prone areas. In this, many people in drought-prone areas face many types of problems such as drinking water problems, water problems for daily use, drinking water problems for animals, water problems for agriculture, and water problems for people with small and medium industries. In this, 30 % people experience drinking water problem while 17 % people experience consumption water problem. 23 % of people feel problems each for their livestock and agriculture, while 7% feel problems for people with small and medium enterprises. According to the researcher, it is very important to get information about water management at the government level and village level to solve all kinds of problems and work together from that point of view.

Table No. 4
Classification Based on Dams

Villages	Number of dams in use	Number of embankments required
Valai	4	12
Panvan	14	26
Gangoti	6	10
Total	24	48

Table No. 4 has been classified according to existing embankments and embankments required in future. In this, Wale village currently has 4 dams and 12 dams are required and in Panvan village, total 14 dams are arranged for water management but actually 26 dams are required as the area of horticulture is increasing. There is a big lake in Gangoti village but the number of small dams is 6 and the current situation requires 10 dams in Gangoti village because during the corona period all the people of this village stayed at home and almost 40% of the farm has been irrigated so it is very necessary to have water system in large quantity.

CHALLENGES BEFORE WATER MANAGEMENT:

The geographical area of Maharashtra is approx 9.37 % of India's total water resources approx 14.59% of water is available for Maharashtra, though There is a water crisis in the state and frequent droughts is created In short, naturally to Maharashtra Adequate despite availability of abundant water resources Due to lack of planning and management in the state The water problem is getting worse in the state The drought condition is very frightening in Marathwada. So nearly 38.63% villages are declared as drought affected happen Moreover, the crops in the drought areas were burnt Being,

desolate orchards, for drinking water Along with humans, animals are afforded The picture of the camps will now appear as soon as the monsoon stops takes Some of the major reasons for this are as follows.

1. Although the irrigation sector is in good shape at present, it faces many challenges in the future. There are major challenges in water scarcity, increasing use of water in various sectors, water pollution, over-abstraction of groundwater, increasing wetlands and saline water belts along with weakening problems.
 2. The economy and private sector participation will worsen the situation. Another reason for the weakening of the irrigation sector is the increasing subsidy (Rdililvu) which is about 25% to 50 % of the public investment.
 3. Due to the lack of proper utilization of water and thereby economic development by increasing agricultural production, the government and other investors are not interested in making financial investments in the agricultural sector.
 4. Rather than investing in new projects, increasing the efficiency of existing projects through efficient use of water.
 5. Integrated water use and sustainable irrigated agriculture should be given top priority in the state.
 6. By doubling production capacity, a 4 % increase in vision is possible. There is a need for a second revolution in agriculture on the lines of the Green Revolution. For that latest and advanced agricultural technology should be used everywhere.
 7. Overcoming challenges related to economic and technical aspects in a comprehensive approach.
- Challenges before Water Management



Drought Relief:

People migrate due to drought conditions in large areas in many states. There is no long-term strategy to overcome this and planners still think of fetching water from distant sources rather than conserving water at the local level. In states like Maharashtra, Gujarat, Andhra Pradesh and Rajasthan, it has been proven that drought conditions can be overcome by implementing water conservation measures through people's participation. Sustainability of resources cannot be maintained by self-regulation alone. Because farmers do not want to deprive themselves of certain types of crops due to the changing demand for agricultural produce in the market. However, due to proper water planning and complementary services in the agricultural sector, the sustainability of limited resources can be maintained. If low-cost small water conservation and groundwater recharge schemes are implemented at the national level through private organizations, voluntary organizations, self-help groups and small groups of farmers, the desired changes will be seen quickly.

Improper and Excessive Use of Water:

In some villages in drought affected areas of Maharashtra People should pray for drinking water takes in some cities in severe drought areas weekly, fortnightly and sometimes monthly once water comes to the tap. On the contrary, some in the state About 250 liters of water per capita per day in the city/region it is used a lot. Population growth in the city and in water bodies due to excessive use of water the reservation of water use for cities is increasing and rural the problem of agriculture and drinking water in the area is becoming serious is Still farmers in horticultural areas like sugarcane Crops are abundantly watered by open/free method. Due to this, water is wasted at the same time Excess accumulation of salts in the upper layer of the soil Lands become saline, infertile. The result is Crop production decreases.

Remedies:

By eliminating the water crisis in the state, agriculture, industry and Adequate water availability for urban settlements. It is necessary to try to do it. Water conservation, groundwater recharge, treatment of polluted water By purifying it, drip, frost and fine for crops Adoption of irrigation systems, full utilization of irrigation potential, Measures like water audit, water literacy etc. In a broad way to enhance public participation. It is necessary to create public awareness

CONCLUSION:

Water reserves on earth are limited. According to the United Nations report, by 2025, half of the world's population, i.e. 400 million people, will not have access to drinking water. For that, it is very important for everyone to plan and manage water. For water management, it is necessary to increase water storage by using rainwater and to utilize it in a planned manner. A family of five needs about 15 liters of water every day for drinking and cooking. That means about five hundred liters of water is required every month. That means the annual requirement is six thousand liters. Out of four months of monsoon rain water should be directly used for this work and for the remaining eight months each family will have to store about four thousand liters of water. In some parts of the country, even when there is a lot of rain, the citizens have to wander in different directions for water. Water scarcity is felt due to increasing population, domestic and industrialization, misuse of water for industry and construction, increasing soil erosion due to environmental degradation, insufficient and irregular rainfall, and heavy abstraction of water.

The foregoing analysis suggests that some policy considerations should be considered. Financial assistance is not a problem. Because when the benefits come into view, not only the government, private organizations but also the consumers will be willing to invest. More challenging than this is the change in perspective, commitment and responsibility. The preceding analysis suggests that some policy considerations should be considered. Financial assistance is not a problem. Because when the benefits come into view, not only the government, private organizations but also the consumers will be willing to invest. More challenging than this is the change in perspective, commitment and responsibility.

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