Maharashtra's Water Scarcity and the Jalyukt Shivar Abhiyan

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Introduction :-

Maharashtra's economy is primarily agricultural, with agriculture being the backbone of the state's economy. In Maharashtra 54.78% people live in rural areas. According to the data from 2005, 55.3% of the population was engaged in agriculture and related activities, contributing 11.9% to the state's total income. Despite this, agriculture in Maharashtra is not sustainable due to persistent drought and water scarcity issues. Maharashtra has faced droughts during the years 2012-13, 2014-15, 2015-16, and 2018-19. The intensity of the drought was particularly severe in Marathwada and some talukas of Western Maharashtra. Due to continuous droughts, agricultural yields are poor, leading to an increase in farmer suicides. To address the drought situation and reduce farmer suicides, the BJP-Shiv Sena government announced the Jalyukt Shivar A on December 5, 2014, which was officially implemented on January 26, 2015. The Abhiyan aims to provide sustainable water resources for agriculture and drinking purposes through an integrated approach. The goal was to make Maharashtra drought-free by 2019. This research paper reviews the causes of water scarcity in Maharashtra and the impact of the Jalyukt Shivar campaign.

Research Objectives:-

1. To study the causes and impacts of water scarcity in Maharashtra.
2. To assess the impact of the Jalyukt Shivar Abhiyan on water conservation and sustainable agricultural development.

Research Hypotheses:-

1. Water scarcity in Maharashtra has become a severe problem.
2. The Jalyukt Shivar Abhiyan has had a positive impact on groundwater levels and sustainable agricultural development.

Research Methodology:-

This research paper uses secondary data.

Discussion of the Topic:-

Water Scarcity in Maharashtra :-

Water scarcity in Maharashtra is a serious and concerning issue. Climate change and failures in water management have led to water scarcity problems. Rainfall distribution is uneven across the state. While Konkan receives abundant rainfall, Vidarbha and Marathwada experience significantly less rain, leading to water scarcity in these regions.

Causes of Water Scarcity:

1. **Irregular Rainfall:**
   Maharashtra receives rainfall from the southwest monsoon, which is often irregular, causing water scarcity issues.
2. **Low Rainfall:-**
   Rainfall varies across the state, with Marathwada and Vidarbha receiving very little rain. This results in lower water levels in water sources, and inadequate replenishment leads to severe water scarcity in summer.
3. **Wasteful Use of Water Resources:-**
   Large-scale use of water for various purposes and its wastefulness lead to reduced water levels in rivers, lakes, and reservoirs, exacerbating water scarcity.
4. **Climate Change:-**
   Climate change is a significant factor contributing to water scarcity. Increased heatwaves lead to higher evaporation rates, and irregular rainfall patterns—either excessive in some areas or insufficient in others—result in water scarcity.
5. **Agriculture:**
   Agriculture requires water, and traditional farming methods use outdated irrigation techniques that excessively deplete groundwater, leading to water scarcity.
6. **Industries:-**
   Industries also consume large quantities of water, contributing to water scarcity.
7. **Urbanization:-**
   Rapid urbanization prevents rainwater from infiltrating the groundwater, as it runs off into drains. Urban areas also use significant amounts of groundwater, leading to water scarcity.
8. **Borewells:-**
   Large-scale use of borewells for agriculture and industry depletes groundwater levels, resulting in water scarcity during summer.

Water scarcity leads to reduced agricultural productivity, food shortages, increased prices, and the spread of waterborne diseases. Social conflicts and tensions also arise from water scarcity. Therefore, rainwater harvesting and the replenishment of water sources are essential measures. Long-term solutions like water conservation and effective water management can mitigate water scarcity.

Jalyukt Shivar Abhiyan :-

The Fadnavis government launched the Jalyukt Shivar Abhiyan on December 5, 2014. This initiative includes deepening and simplifying riverbeds, digging and connecting drains to rivers, constructing reservoirs and lakes for water storage and groundwater replenishment, and removing silt from rivers and lakes through community participation.

The main Objective of Jalyukt Shivar Abhiyan:

1. To block the maximum amount of rainwater within the outskirts of the village.
2. Increase in groundwater levels.
3. To increase the irrigation area of the state as well as to increase the efficiency of water use and conservation of water for agriculture.
4. Ensuring adequate supply of water to all in the state. To increase water supply by reviving defunct water supply schemes in rural areas.
5. Implementation of Groundwater Act.
6. Creation of decentralized water storage capacity.
7. Undertake new works to create water storage capacity.
8. To Increase the water storage capacity of existing and defunct aquifers.(Dam/ Village ponds/seepage ponds/ cement dams).
9. To increase water storage of water bodies by removing silt from existing water bodies through public participation .

10. Planting trees by encouraging tree planting.
11. To create awareness / awareness among public about water balance.
12. Encouraging people/ enhancing public participation in water logging / harvesting.

To achieve the above objective, various types of work are done under this Jalyukta Shivar Abhiyan. As watershed development works are done by surveying the watershed area of the village. Recharging of water sources such as Tali Wells, Borewells etc. is done. Flat dams, Koti-dams and gabion structures are used to protect the soil to stop soil erosion. Arrangements are made to store rainwater. Awareness is created among the villagers by mobilizing them to implement water conservation through public participation. This scheme is implemented in coordination with various government and non-government organizations.

Outcomes of the Jalyukt Shivar Abhiyan:

Various measures such as check dams, drainage dams, gabion dams, etc. have been used to increase water storage due to Jalyukta Shivar Abhiyaan. So let's know the result of this plan in brief.

1. **Increased Water Storage:-**
   The Abhiyan has led to the creation of significant water storage through deepening riverbeds and removing silt, increasing water reserves in riverbeds.
2. **Soil Erosion Prevention:-**
   Due to Jalyukta shivar Abhiyan, Soil erosion has been stopped.
3. **Mitigation of Water Scarcity:-**
   The abhiyan has alleviated drinking water scarcity in drought-affected areas.
4. **Increased Irrigation Availability:-**
   With improved water availability, irrigation areas have expanded, leading to increased agricultural productivity and farmer income.
5. **Crop Variety:-** Farmers now have the opportunity to grow diverse crops due to improved water availability, boosting their income.
6. **Replenishment of Water Sources:-**
   Water sources have been replenished, increasing groundwater levels and water reserves, even in areas with low rainfall.
7. **Increased Groundwater Levels:-**
   Groundwater levels have risen, providing water for wells and borewells.
8. **Improved Farmer Economic Status:-**
   Various works of water conservation have been done due to Jalyukt Shiwar Abhiyan, thus water availability for agriculture has increased and water resources in water sources have increased. The ground water level has increased as a result of which farmers' crops are running smoothly. So that water is available for agriculture from time to time as per their requirement. Therefore, the economic condition of farmers is improving and their income is increasing. They are getting more profit.
9. **Soil Quality Improvement:-**
   Increased awareness about water conservation has improved soil quality and fertility.
10. **Community Participation:-**
    Increased involvement of villagers and NGOs has enhanced the effectiveness of water conservation measures.
11. **Environmental Improvement:-**
    The Jalyukta shivar abhiyan has positively impacted the environment.
12. **Public Awareness:-**
    Active participation of the local people in this scheme has led to successful implementation of the scheme. Due to Jalyukta Shivar Abhiyaan, works like removal of silt, dredging were done through public participation, so many works of this scheme are being done everywhere through public participation. Therefore, this Abhiyan seems to have

taken the form of a movement. Therefore, this scheme has become very important for public awareness about water conservation to create environmental awareness among people.

13. **Drought Alleviation:-**

Due to this scheme, the water storage in the drought-affected areas has increased. But this plan was unable to permanently alleviate the drought. Due to this scheme, water storage could not be made available so that the situation of water shortage will not arise during drought.

Yet this Abhiyan has taken an effective step to overcome the water crisis in Maharashtra and has had a positive impact on the lives of farmers and rural development.

Recommendations:-

To effectively implement the Jalyukt Shivar abhiyan and improve its impact, the following measures are suggested:

1. Regular Monitoring:- Regular inspection and monitoring of water conservation activities are necessary.
2. Training for People:- Provide training on water conservation technologies.
3. Adequate Funding:- Ensure sufficient and continuous funding for the campaign.
4. Use of New Technology:- Implement modern technology for water conservation.
5. Environmental Conservation:- Integrate soil and forest conservation efforts with water conservation.
6. Program Evaluation: Regularly evaluate the program's outcomes and make necessary adjustments.

Conclusion :-

Water scarcity is a pressing issue in Maharashtra, caused by irregular rainfall, uneven distribution of rain, climate change, drought, excessive water use, and large-scale water consumption for agriculture. To address this problem, the Maharashtra government's "Jalyukt Shivar Abhiyan" has been a significant initiative for managing water resources and promoting sustainable agricultural development. This Abhiyan has led to an increase in agricultural production, improved water storage capacity, and enhanced groundwater availability, which has positively impacted farmers' economic conditions.

However, by 2019, the initiative did not succeed in permanently eradicating drought conditions in the state. Despite this, the abhiyan has played a crucial role in reducing the impacts of drought. Through water conservation measures, the capacity of water sources has increased, leading to a rise in water storage. The groundwater level has also improved, providing farmers with more water for irrigation, thus boosting agricultural output. Additionally, the abhiyan's focus on community participation has raised public awareness.

Therefore, the "Jalyukt Shivar Abhiyan" remains a significant boon for managing water resources and sustainable agriculture in the state. To enhance the effectiveness and success of this abhiyan, regular monitoring, adequate funding, and an integrated approach to environmental conservation are essential.

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