A RESEARCH PAPER "TO STUDY AND IMPLEMENTATION OF JALYUKTA SHIVAR"

Lakhan M. Niradhar, Madhvi B. Satpute, Yashodip R. Shinde, Vishwajit S. Karad

Guide: Asst.Prof. Y.V.TANDALE

BE civil engineering

Universal Collage Of Engineering & Research Pune ,Sasewadi

ABSTRACT

JYS is the Government of Maharashtra's program to provide water for all and make villages scarcity-free. Maharashtra has been witnessing increasing agricultural and drinking water stress in recent years. JYS promotes an integration and coordination between various government agencies and program during planning and implementation levels and stresses on people's participation as one of the key objectives. The program aims to make 5000 villages free of water scarcity every year. The scheme aimed at solving water woes of draught-prone regions is already a hit with farmers as many villages are inching towards becoming water-sufficient. With unique initiative like Jalyukta Shivar, water scarcity will surely be a thing of the past!

Key Words jalyukta shivar

INTRODUCTION :

WATER SCARCITY

Water scarcity can be defined as lack of sufficient available water resources to meet the demands of water usage within a region. The effect can be seen in every continent and around 2.8 billion people all over the world face the problem of water scarcity at least one month out of every year. More than 1.2 billion people lack access to clean drinking water.

Water scarcity involves water stress, water shortage or and water crisis. the concept of water stress is new, it is the difficulty of obtaining sources of fresh water for use during a period of time and may result in further depletion and deterioration of available water resources.

The cause of water shortage is due to many reasons they are climate change, altered weather patterns including droughts or floods, increased pollution, and increased human demand and overuse of water. A water crisis is a situation where the available potable, unpolluted water within a region is less than that region's demand.

two converging phenomena give boost to water scarcity problem:

1. growing freshwater use

2. depletion of usable freshwater resources.

Water scarcity result in two mechanisms:

- physical water scarcity results in to inadequate natural water resources to supply to meet a regional demand.

- Economic water scarcity results to poor management of the sufficient available water resources.

According to the United Nations Development Programme, the latter is found more often to be the cause of countries or regions experiencing water scarcity, as most countries or regions have enough water to meet household, industrial, agricultural, and environmental needs, but lack the means to provide it in an accessible manner.

With temperatures soaring, the rate of evapotranspiration is rising from the land, vegetation, and oceans. More evaporation result in speedy drying of water on the land. In warmer atmosphere higher amount of moisture retention happen and result in the warmer more precipitation. warmer climate results in more rainfall and less snow. if amount of rainfall is high it led to increase in the risk of flooding.

snow is a form of natural water storage, it is lost in the process, further contributing to climate change. When the extra warm and moist air cools down, it results in rainfall or snow. Thus, with a warmer world, we can expect to receive a higher intensity and frequency of rain and snowstorms. Unfortunately, some areas may bear the brunt of climate change in India and experience less precipitation. With the rain seasons becoming shorter, there is a higher chance of longer periods of severe drought. As a result, the need for irrigation will increase and further increasing water demands. This will trigger a vicious cycle of water scarcity.

METHODOLOGY

Canal construction programme and various other water & land conservation campaign has been implemented in the date. Similarly, water harvesting activities like sludge extraction on all district & well refining also have been successfully conducted. To permanently overcome drought situation, Jalyukt Gao (water full village) camping was in implemented in five districts from pune division in year 2012, 2013.

Under this action plan was prepared for water harvesting and increasing ground water level by implementing various schemes collectively throw coordinate for all department. Activities taken under

this campaign were water shed project in the division through water conservation, cement chai canal construction repair and renovation of old existing cement canal dams.

KT weir, sludge extraction from water source, well refiling efficient utilization of available water canal joining work. Through all this project decentralizing water storage of 8.40 TMC capacities had been created. Because of this, ground water level is increase by 1 to 3 metre & provision for drinking water & protected irrigation for farming is made.

This has helped to permanently drought situation situation. Considering result of all this project, the government is thinking of preparing organized action plan to make 'water for all drought free Maharashtra & to permanently overcome drought situation & implementing' Jalyukt shivar (water full surrounding) campaign to increase water ability. After witnessing the big work planned & carried out in drought affected villages, people work to encourage to participate, & within seven months 99,154 works were completed in 9,202 villages.

The scheme helps villages realised what they had lost over the years. To create further awareness among people water possession were organized in various villages. In the backdrop of the celebratory modes set by this process, the villages keenly looked at the subject, & awareness was created, small group took the lead & achieved participation of the other villages.

NECESSITY TO IMPLEMENT THE IN 2015-2016 PROGRAME OF JYS

- Nearly 82% area of the state falls in rainfall sector and 52% area is draught prone, uncertain insufficient and irregular rainfall pattern. adversely affects agriculture.
- Decreases in the ground water by almost 2 meter and above in 188 talukas in 2014-2015.
- The scarcity was declared in23811villages in the year 2014-2015 and in 15747 villages in 2015-2016.
- Availability of water -Major challenges.
- There is a need to recharge ground water and create decentralized water bodies to overcome the water scarcity problem in rain fed area of the schema.

- Jalyukt shivar abhiyan is integration and convergence the various schema implemented by various department and pulling the fund from all resources like central and state fund MREGS/ MLA/MP/district planning committee /NGOS / CRS/ people participation etc.
- Government resources containing details instruction issued on 5th December

Aim- TO STUDY AND IMPLEMENTATION OF JALYUKTA SHIVAR

OBJECTIVES-

- To arrest maximum runoff in the village area.
- To create Decentralized Water Bodies.
- To increase the Groundwater Level in Drought areas.
- To create new structures of water conservations
- Rejuvenation of the water storage capacity of various existing structures like Village, Percolation Tank CNB through repairs and renovations
- To increase storage capacity of water bodies by removing silt through People's Participations.
- To sensitize the concept of Water Budgeting

REMEDIES TO INCREASE GROUND WATER TABLE

1) A check dams is a small, sometimes temporary, dam constructed across a swale, drainage ditch, or waterway to counteract erosion by reducing water flow velocity

Reduced runoff velocity reduces erosion and gullying in the channel and allows sediments to settle out. A check dam may be built from stone, sandbags filled with pea gravel, or logs.

2) Percolation tank is an artificially created surface water body, submerging in its reservoir a highly permeable land so that surface runoff is made to percolate and recharge the ground water storage. ... The percolation tanks are mostly earthen dams with masonry structure only for spillway.

3) River widening & removal of sedimental deposits

AREA SELECTED FOR STUDY

MAHARASHTRA,

PUNE DISTRICT

BHOR TALUKA,

SASEWADI AND KHOPI VILLAGE.

TOPOGRAPHY OF PUNE DISTRICT

- Coordinates - 18.45820 73.47700 18.4982 73.51700
- Minimum elevation - 591m
- Maximum elevation - 1193m
- Average elevation - 778m
- High rainfall region in pune.
- Hilly and undulating topography and less fertile soil.
- It has highest percentage of area under paddy cultivation as compare to another taluka.

ADVANTAGES: -

- Design of in Bandhara/barrage structure will be more simplified because in case of small spans up up to 100m, single span rubber dams can be provided, which will simplify the design of the structure.
- Provision of overflow spillway will not be needed as the rubber dam can itself act as spillway and pass the discharge above its crest.
- A light upper structure and uniform load of rubber dam body minimized uneven foundation settlement.
- Rubber dam requires light foundation leading to considerable saving in time and cost.

- Provision of gates is eliminated thereby eliminating their design, erection, hoisting, arrangement and operation.

The rubber dam can be deflated and inflated automatically with respect to water level in the upstream with a provision for manual

RESULT

 Increase in Water Storage Capacity

 Recharge of Ground Water Level

 Increase under protective Irrigation Area

 Increase in Cropping intensity

 Increase in the Horticulture Area

 Increase in the Agriculture Produce and productivity

 Increase in Fodder Production

 Increase in area under Soil Moisture Security

 Improvement of Environment through Tree Plantation

 Improving Productivity and Socio-economic Condition of farmers

Table No. 1 village analysis

Latitude	18^0 35| 24||
Altitude	72^0 43| 12||

Total geographical area	676.55 hectors
Number of wells	26 wells
Plantation on Nande	450.29 hector
Forestation	131.84 hector
Structure in JYS	• 2 Bhat bandh durusti • Shet tale • Mati nala bandh
Agriculture	415.29 hector
Population	2578
Per capita demand	270 lit
Agriculture water requirement	40% water availability of water
Rabbi crops	• Jwar
Kharip crops	Wheat

Average rainfall	TILL 280 mm
Well before JYS	24
Wells after JYS	26

Bore well before JYS	65
Bore well after JYS	76

Table No. 1 village analysis

CONCLUSION

The various water maintaining scheme has come under one belt through Jalyukt shivar abhiyan.

The study area generates its own water potential under JSA which is very beneficial for agriculture.

After this program farmers enter into vital farming this scheme is helpful for controlling water scarcity and drought condition.

In this study area it observe that there is a change in the crop cultivation pattern.

JSA result increasing ground water table therefore no. of wells and dug well is increasing

REFERENCE

1. Knowledge of beneficiary farmers about Jalyukt shivar campaign Pranali N. Thakre, vs. Tekale and Prajakta S. Telange department of extension education.
2. Real time assessment of Jalyukt shivar campaign for drought problem in anpatwadi (koregao taluka). Nikita Nanaware, Warudkar Abhijit.
3. Assessment on Jalyukt shivar- a case study @ ranzani village tal- pandharpur Ms nikita nanaware, dr.N.V.Khadake PG student associate professor department of civil engineering.
4. Impact aseesment of Jalyukt shivar abhiyan water conservation scheme in karjat tehsil of Ahmednagar district, Maharashtra -using GIS technique.
5. Impact assessment of Jalyukt shivar abjiyan for padaligao village taluka- karad, district satara kiran jadhav, Deepali Kulkarni.
6. Pilot study of Jalyukt shivar abhiyan Prashant awsarmal civil engineering department Maharashtra institute of technology, Aurangabad, India.
7. A research paper on Jalyukt shivar abhiyan assessment [sonavade] and design of water- efficient villages [save] prof. V.M. sanade, Sandesh S. dongare, vijay D. hande, Sainath D. patil, siddheshwar D . dhavan, prajacta S. lokhande.