



**RAINWATER HARVESTING: - WAYS OF AGRICULTURAL WATER  
MANAGEMENT IN KONKAN.**

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**(1) Preface: -**

In the Konkan region of the state of Maharashtra, nature has made available abundant natural resources. But due to lack of scientific management of this natural resource by the local people and the government, the people of Konkan have to face various problems like water for drinking and agriculture every year.

The Konkan region receives an average of 3000 to 4000 mm of rainfall every year. Ground and ground water reserves are available in this area for many days after the monsoon. But then the period from before the onset of the monsoon from January to June is marked by water scarcity. During this period, streams, springs, nallas in Konkan dry up and the water level in the wells decreases.

Some things are responsible for this problem in Konkan. For example, all the places in Konkan have topography, steep slopes, high and low slopes. Therefore, the rain water falling in the Konkan reaches the sea through rivers and nallas in one and a half to one and a half hours. Porous jumbo rocks are found everywhere, and there is a lack of organic matter in the jambha surface soil. Due to this, the water holding capacity of the soil is also low. Similarly, the joints and degradation of the rocks in the Konkan, their structure also causes the rivers and nallas to remain in parallel condition. May be available.

**(2) Current Status: -**

The Konkan receives an average of 2283 to 4490 mm of rainfall in the month of July, but this rain water reaches the Arabian Sea through rivers and nallas due to the steep descent from the east to the west. As a result, water is available for drinking and farming for 6 to 8 months on such high ridges and severe water scarcity occurs in summer. Water scarcity is also felt in the sea and low lying areas near the creek in the 6 months after the rains. This is because the natural and man-made reservoirs in the area are over-drained, making them saline in summer. Considering all this, it is difficult and costly to supply water to the high and low lying villages, it is also difficult to provide wells and coupon pipes. Therefore, water is a real problem in Konkan and the solution is to use abundant rain water in a scientific way Management needs to be based on.

**(3) Limitations on traditional methods of water conservation: -**

Some measures and schemes have been implemented by the government as well as many experts for the conservation of rain water. These include watershed development programs, small, medium and ambitious dam projects, Kolhapur style dams, forest dams, cement dams, seepage ponds, farm collective wells, bore wells, etc. However, depending on the topography of the Konkan and the composition of the rocks, all of the above measures have their limitations. Water from small and large dams and dams seeps through porous rocks, as well as due to the steep topography. The water level in public, private, or bore wells is also sufficient for a limited period of time, as the subsoil has low retention capacity. The Konkan has natural springs in the lowlands at the foot of the hills, but their size is small-large, and the green cover on the surface is rapidly declining due to deforestation in the Konkan. As a result, due to the high level of soil erosion, rain water seeps into the soil in small quantities, as a result of which natural springs in the Konkan flow immediately after the monsoon.

**(4) Effective measures - Rainwater harvesting: -**

An effective solution to the problem of water scarcity in the Konkan is to store rainwater in different tanks according to different needs and use it during times of water scarcity. Abundant land is available on the sand in the Konkan region. There is abundant rainfall every year. Rural skills and labor resources are available. If all these things are combined with science-technology, ingenuity, rainwater harvesting can be the best solution. The main question when constructing tanks of different sizes for rainwater harvesting is money and cost. Because at present traditional Syntex tanks are available in the market at the rate of Rs. 5.5 per liter. Cement tanks are priced at Rs. 8 to 10 per liter. This requires cheap technology to store surface water and this need can be met through further storage of water through storage tanks.

The average rainfall in the Konkan region is 4000 mm. (4 mtrs). Out of such a huge amount of available water, where necessary and possible, water can be stored in the following quantities and methods.

**1) Ferrocement tank (storage of drinking water): -**

Considering the need of five members of a family for five liters of water per day, drinking water can be provided by constructing a 10,000 liter capacity ferrocement tank for the whole year. Water falling on the roof of the house The total cost for this tank is Rs. 35,000 / -. This type of tank can be built rectangular under the ground. A tank with a capacity of 10,000 liters costs about Rs. 30,000 / -. A tank with a capacity of 1000 liters using a skeleton costs about Rs. 2500 / -. A tank with a capacity of 1000 liters without a skeleton costs about Rs. 2500 / - .

**2. Water storage for cultivation of fruit trees on fallow land: -**

**A. Konkan Reservoir** - Water storage capacity 4000 liters - Approximate cost 3000 / - Rs.

**B. Bunker Reservoir** - Water storage capacity 2000 liters - Approximate cost Rs. 1500 / -.

**A.tank made from coconut husk** - WaterWater storage capacity 10000 liters  
- Approximate cost 25000 / - Rs.

**E.tank made using banana thread** - WaterWater storage capacity 10,000 liters -  
Approximate cost Rs. 25,000 / -.

**Etc.tank made using hemp thread** - Water storage capacity 10000 liters  
- - Approximate cost Rs. 250,000 / -.

**E.tank made using jute thread** Water- Water storage capacity 2000 liters -  
- Approximate cost Rs. 4000 / -.

**F. Geobrain Pond** - Water storage capacity 15000 liters - Approximate cost Rs. 15000 / -.

The construction cost of all the above tanks is approximately Rs. 0.75 to Rs. 3.00 per liter and the use of organic threads has been done in the tanks to prevent plaster or wetting. Also, in order to prevent evaporation of water from the above tanks, they can be covered with the help of bamboo, paddy straw, kasheli, kathya mat etc. available in Konkan. They do not go and the reservoirs are safe.

## **5. SELECTION OF WATER TANKS AS PER REQUIREMENT: -**

**1. Water for Wadi people** - Geobrene ponds can be constructed keeping in view the daily water consumption of the total households in each Wadi in Konkan and the need for drinking water after the monsoon. Due to the rapid infiltration of water in the Konkan, lining has to be done on all four sides of the pond.

**2. Water for- In paddy cultivation** Konkan, after the onset of rains, seedlings are planted, or after planting of paddy, sometimes the rains suddenly stop. This affects the growth of paddy crops due to lack of water. Sowing will not be reversed.

**3. For Mango Horticulture -growers have to bear the** Mangocost of various sprays. E.g., means of transportation, water cistern tank, laborers to carry water from the foothills to the head, etc. Instead, erecting ferro cement tanks or water tanks at different places in the mango orchard will save cost.

**4. Facilitate Drip Irrigation for Coconut / Poppy** - Drip Irrigation is a modern method of irrigation and water saving. Most of the time, after the monsoons, flood or well water is supplied to the coconut groves. In the month of May, there is a limit on these water sources.

**5. For Vegetable Products** - Leafy vegetables are grown in the Konkan region. For this, if vegetables are planted on at least 2 gunthas of land, 45000 liters of water is required through drip irrigation for a period of one and a half months. The above technology can also be useful for this.

## **6. Benefits-**

1. The skills required to build all the above tanks are in the hands of the bricklayers and other artisans in the village. For this reason, we can provide employment opportunities to such people in the village itself.

2. All the materials required for these tanks are available in rural areas so that they can be used properly without wasting local natural resources.

3. If all the above works are done by the farmers themselves then all the expenses are reduced by Rs. 2.5 to 3.5 per liter.

4. The cost incurred for all this is never wasted, as the Konkan region receives heavy rainfall from June to September every year.

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