

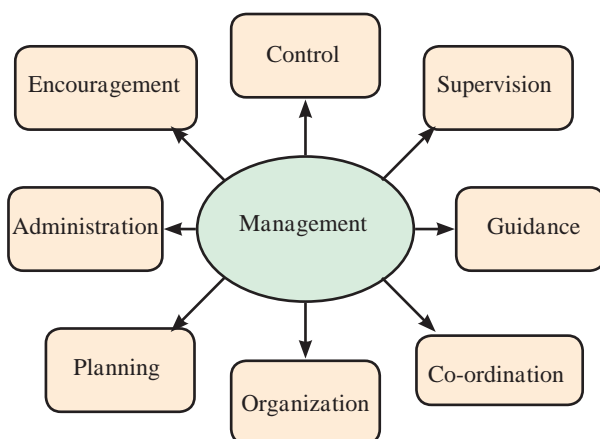
# Unit 3 : Water Management

## Chapter 4: What is water management?

### What is management?

Take an example of a small family. While running a family, tasks need to be shared according to the needs, income, arrangements and strengths of each member. Now, just as it is possible for a big or small family, to live in an environment where the needs and incomes are more or less dependent on the environment, it is necessary to make arrangements accordingly. The key to ensuring a happy family life is the habit of keeping the needs to a minimum, a disciplined effort for a sufficient income, adequate education to carry out one's role properly and then honest work on it. But if family members have no idea about the total household income, will they limit their needs? Won't all planning go wrong? If the management is required, good, then the habit of keeping inward and outward accounts is important.

Management is important in everyone's life. Management is the condition available to complete the task, action, planned use of the convenience, human and material resources etc. Water use is an integral part of daily life. So everyone needs to know about water management and its importance.



3.4.1 Management a mechanism

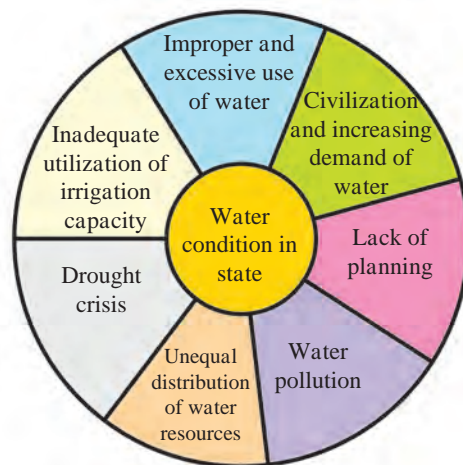
### Observe and discuss.

Consider the concept of management and note the highlights of your day-to-day dealings.

### The need of water management

Considering this element of water from ancient times till now, many changes have taken place in its use. Man in the early days was using water for drinking and to fulfill his own needs. After the discovery of agriculture, he started using water for agriculture. After the Industrial Revolution the use of water for industry and other ancillary businesses increased. The policy of storing water from small and big dams on the river has been adopted, which has resulted in the availability of some amount of water. But with the increasing appetite for human development in the modern era, these natural resources have been greatly depleted and now the condition of water supply in the world as a whole is becoming more and more worrisome.

The coming period will be difficult considering the overall situation of population growth, living standards and agricultural practices. The water problem is one of the



3.4.2 Challenges facing Maharashtra

biggest problems facing the world. Unfortunately, this issue is still not taken seriously. Water management is the policy of allocating water on the principle of equal justice for all, taking into account all the problems in the three areas of drinking water for a certain population, water for agriculture and water for industry.

### How will be the water management ?

For this, it is necessary to calculate the total need of your water use, the exact availability of water and the actual use of water. If this calculation goes wrong, there will be a problem of equitable water distribution due to lack of planning despite water availability. The situation in the state is getting more serious day by day and further measures are needed to reduce the severity of the problem.



### 3.4.3 Water management in ancient period

1. **Water Conservation :** It is considered as a permanent solution to the drought situation. Water conservation through water can solve the water problem permanently. Every drop of rain can be used if water conservation works are carried out in different parts of the state. If the policy of recharging of wells, deepening and widening of runnels (nallas), diversion of water using small dams in some places is implemented, the problem of water can be solved permanently.



### 3.4.4 Water conservation

2. **Groundwater Recharge:** Groundwater recharge not only increases the ground water level but also allows proper use of rainwater. The government, NGOs and all of us need to take the initiative to recharge the wells and tube wells to effectively increase the groundwater level.



### 3.4.5 Recharge of tube well

3. **To stop water pollution :** Citizens should not perform rituals in rivers, streams, springs, wells, tube wells etc. or in the flow of drinking water and should not immerse the objects obtained through it. Water should be used sparingly. Disposal of substances like waste discharged from factories, hazardous chemicals, hazardous liquids, sewage etc. should be done in such a way that it does not harm the environment. Polluted water should be treated and reused.



### 3.4.6 Water pollution

#### 4. Economical use of water in agriculture:

Drip irrigation, sprinkler irrigation, micro irrigation methods should be adopted to avoid wastage of water in agriculture. For this, along with orchards, government subsidy of 75% to 100 % of the cost should be provided to the farmers for drip irrigation, sprinkler irrigation and micro irrigation as per the requirement of all types of crops. Use vegetative or polythene cover around the fruit trees to prevent wastage of water through evaporation. Also, in times of scarcity, the number of branches and leaves of the tree should be limited so that orchards will be able to withstand less water as evaporation decreases.



### 3.4.7 Sprinkler irrigation and drip irrigation

**5. Enhancing Public Participation:** Due to lack of public participation, despite spending thousands of crores of rupees on irrigation, there has not been much progress in irrigation resources and irrigation sector in the state. It is essential to increase public participation in all these projects by emphasizing and raising awareness about the importance of water conservation,



### 3.4.8 Public participation for water management

benefit area development, groundwater recharge, farms, puddles/ponds seepage ponds, etc. Only then will water be used properly, economically and in a planned manner. For this, it is necessary to create awareness on a large scale through newspapers, radio and television. Along with this, there is a need to launch a campaign like Tanker Mukti (freedom from tankers ) and Jalsamridh Gram (water rich villages) on the lines of Sant Gadgebaba Gram Swachhta (cleaning villages) and Hagandari Mukta (Free of open defecation ) Abhiyan .

**6. Sewage Recycling :** Sewage can be recycled by processing it in the same way as paper, plastic, metal. About 21% (13.7 TMC) of the water available in Israel comes from wastewater and wastewater recycling. This water is used for agriculture. In the same way, it is possible to recycle water from the state, urban areas as well as from industrial use, but for this, the



### 3.4.9 Sewage purification project

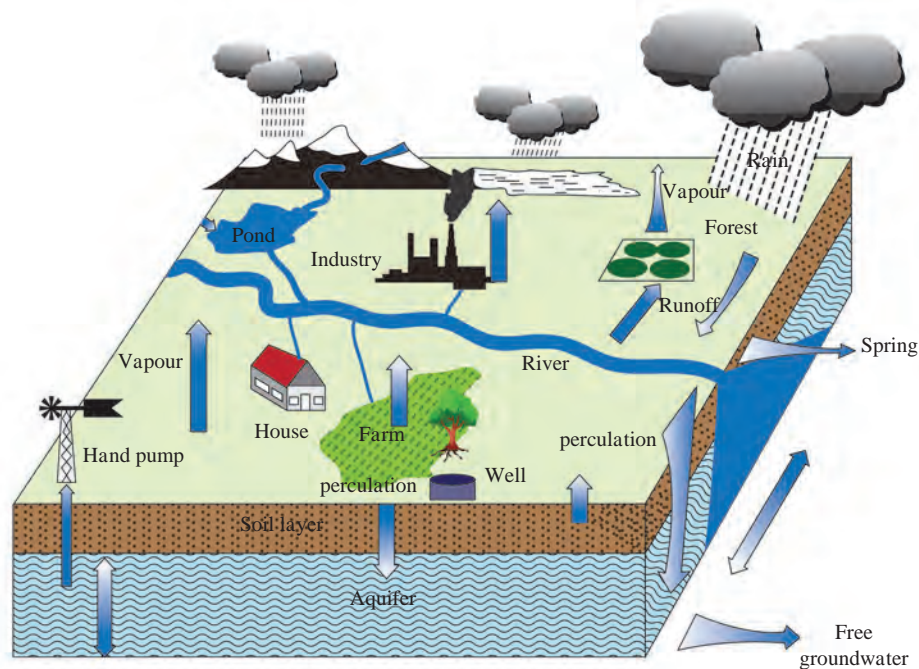
government and local self-governing bodies need to set up a competent system.

**7. Full utilization of irrigation capacity:** In order to make full use of the constructed capacity of all the developed projects in the storage capacity of the state, it is necessary to reduce the gap between the constructed irrigation capacity and the actual irrigated area by giving priority to the incomplete works of canals and distribution. Apart from this, if the obligation to complete the irrigation project within the stipulated time is imposed on the contractors, the concerned contractor should be fined and his license should be revoked if necessary. Apart from this, instead of discharging water from reservoirs into river basins on rainy days, it should be stored in canals through ponds, percolation tanks / ponds, small and medium irrigation projects for water scarcity. Water is released from the dam into the main canal. At that time, thousands of liters of water from the main canal flows into the soil on both sides and from the bottom. The main canals and sub-canals need to be well cemented to prevent water infiltration. Timely maintenance of canals and sub-canals can prevent wastage of water. If cement pipe or iron pipe is used

instead of canals and sub-canals, large wastage of water due to stagnation is stopped. Automatic gates should be installed to prevent wastage of water at the time of opening and closing of gates of canals and sub-canals, thus saving water.

**8. Water audit:** In order to use water carefully, tap water meters should be installed in urban areas and water bills should be charged according to meters so that people can use water carefully like electricity. Also, higher water users should be taxed at a higher rate and wastewater treatment systems should be set up from the available funds. Apart from this, water audit should be made mandatory for all irrigation projects and water supply agencies should be provided with cubic meter measuring devices, so that water can be used carefully.

**9. Water literacy:** Considering the availability and need of water, the knowledge and actual action to use the water available in the area carefully and properly can be called water literacy. Now this needs to be a mentality in the society that, saving water is the greatest asset. Because only a water literate society can take a leap towards development in the



**3.4.10 Water plan (source, uses, etc)**

future. But for that, along with the government, NGOs, media, various organizations and associations need to take steps towards water literacy.

**10. At the domestic level:** Water saving needs to be done collectively as well as at individual level. It needs to be done from your own home. By saving the water in our daily work, we can help to reduce the water scarcity crisis in the country / states. Now days adopting some easy ways to save water at home is needed. Take a small amount of drinking water in a glass / as per need, it save water. Water the garden or field before sunrise and after sunset to reduce water evaporation and save water. Sewage water should be used for garden plants. When washing, vegetables, fruits take water in a bucket and do not wash them under the tap, it save water. In the morning, while washing your face avoid wastage of water. While shaving, using a mug instead of running tap water saves a lot of water. Take a bath with a bucket of water. Do not use a shower or running tap. When washing utensils, take water in a bucket and wash it. Don't wash utensils under the faucet. The tiles and stairs in the

house, bikes, cars should not be washed with water, wipe them with a damp cloth. The water tank in the house often overflows, an automatic switch off mechanism must be fitted there. Use water carefully and encourage others to do the same.

#### Try this:

1. List the ways in which we can save water in the home and the society.
2. Make rules to save water and put it in the front of the home and society.
3. If you see a leaking pipe or a broken pipeline in a public place, immediately bring it to the notice of elders and try to fix it.

#### Observe

1. Write briefly few incidents of water wastage in your area ?
2. What are the habits to be adopted to avoid wastage of water in the house?
3. How water can save in society/ residential colony?

#### Exercise

1. What is management explain with an example.
2. Explain the need for water management.
3. What are the problems encountered in water management?
4. What are the important activities for water management?
5. How to save water in rural and urban areas?