



WATER RESOURCE MANAGEMENT

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ABSTRACT:

Every body of water (e.g., rivers, lakes, ponds, streams, and estuaries) has a watershed. The watershed is the area of land that drains or sheds water into a specific receiving water body, such as a lake or a river. As rainwater or melted snow runs downhill in the watershed, it collects and transports sediment and other materials and deposits them into the receiving water body.

The primary cause for poverty and marginalization in rainfed rural areas is low crop and livestock productivity coupled with deterioration in the quality of land and other natural resources. Therefore, any attempt aimed at rural development and poverty alleviation has to address the issues related to conservation and management of natural resources and improving the productivity of land through different land management practices. This requires multidimensional, inter-sectoral and comprehensive efforts in an integrated approach. Watershed is a geo-hydrological unit draining to a common point by a system of drains. Watershed development refers to the conservation; regeneration and the judicious use of all the natural resources particularly land, water, vegetation and animals and human development within the watershed. All land-based productive activities are dependent on the topography of the area, soil type, available biomass and water and call for adopting an integrated management approach, which can be better evolved within a natural domain such as the watershed. This is because a watershed is an intricate, dynamic and natural functional unit established by physical relationships and social communication and actions. Thus, watershed as a unit enables planners and implementing agency to consider all inputs, processes and expected outputs systematically which are essential for a holistic development approach.

In a country like India, where the majority of the population is engaged in livelihoods largely dependent on the natural resource such as agriculture, factors like quality, availability and access to natural resources occupy a crucial role in influencing incomes earned by households. In a situation like this, watershed development and management practices play a dual role of natural resource conservation as well as livelihood enhancement. For instance, improved soil quality and water availability facilitate higher crop productivity and more fodder for livestock, which in turn augments income earned by the people engaged in such occupation.

Key Words: Multidimensional, Conservation, Enhancement, Productivity. etc.

INTRODUCTION:

A watershed is an area from which runoff, resulting from precipitation, flows past a single point into a large stream, a river, lake or an ocean. The terms watershed, catchment area or drainage basin are used in the same sense. A watershed may be only a few hectares as in case of small ponds or hundreds of square kilometers as in case of rivers. All watersheds can be divided into smaller sub-watersheds. As each watershed or sub-watershed is an independent hydrological unit, any modification of the land use in the watershed or sub-watershed will reflect on the water as well as sediment yield of the watershed.

OBJECTIVES OF THE STUDY:

1. To study the concept of watershed management.
2. To study the different ways of watershed management.
3. To study the need of water shed management.
4. To study the importance of watershed management.
5. To conduct educational program for creating awareness of watershed management. .

CONCEPT OF WATERSHED MANAGEMENT:

Watershed management is a term used to describe the process of implementing land use practices and water management practices to protect and

improve the quality of the water and other natural resources within a watershed by managing the use of those land and water resources in a comprehensive manner.

WAYS TO SAVE WATER:

Some of the ways to save water are as follows:

I. Water Harvesting: The technique to save water is called water harvesting. In summers water level of rivers goes below, people do not have sufficient amount of water to drink like in Rajasthan. Hence it is important to save water. It can be done by two major processes:

i. Rainwater harvesting: It is a method of collection and storage of rainwater into natural reservoirs or tanks or the infiltration of surface water into subsurface aquifers.

ii. Groundwater harvesting: Groundwater harvesting is a method to save water placed under the ground to control the groundwater flow in an aquifer and to raise the water table.

II. Drip Irrigation: Drip irrigation is a type of irrigation which that saves water and fertilizer by dripping water slowly to the roots of various crops, either onto the soil surface or directly onto the root zone, through a network of valves, pipes, tubing, and emitters. This saves more water than the traditional watering method.

III. Rainwater Harvesting: Rainwater harvesting is the accumulation and deposition of rainwater for reuse on-site, rather than allowing it to run off. Here, rainwater is stored for further use.

IV. Water-wise Habits: There are various wise habits to conserve water. Like during washing clothes we can utilize wise techniques to save water. Fixing leaky taps. Keeping the tap closed while brushing, taking a quick shower instead of long baths are a few examples of saving water.

Runoff from rainwater or snowmelt can contribute significant amounts of pollution into the lake or river. Watershed management helps to control pollution of the water and other natural resources in the watershed by identifying the different kinds of pollution present in the watershed and how

those pollutants are transported, and recommending ways to reduce or eliminate those pollution sources.

All activities that occur within a watershed will somehow affect that watershed's natural resources and water quality. New land development, runoff from already-developed areas, agricultural activities, and household activities such as gardening/lawn care, septic system use/maintenance, water diversion and car maintenance all can affect the quality of the resources within a watershed. Watershed management planning comprehensively identifies those activities that affect the health of the watershed and makes recommendations to properly address them so that adverse impacts from pollution are reduced.

IMPORTANCE OF WATERSHED MANAGEMENT:

Watershed management is also important because the planning process results in a partnership among all affected parties in the watershed. That partnership is essential to the successful management of the land and water resources in the watershed since all partners have a stake in the health of the watershed. It is also an efficient way to prioritize the implementation of watershed management plans in times when resources may be limited.

Because watershed boundaries do not coincide with political boundaries, the actions of adjacent municipalities upstream can have as much of an impact on the downstream municipality's land and water resources as those actions carried out locally. Impacts from upstream sources can sometimes undermine the efforts of downstream municipalities to control pollution. Comprehensive planning for the resources within the entire watershed, with participation and commitment from all municipalities in the watershed, is critical to protecting the health of the watershed's resources.

CONDUCT EDUCATIONAL PROGRAMS:

The degree of public education and participation in the planning process can greatly influence the success of watershed management. There are many ways to involve and educate the public in watershed management. The formation of citizen review groups and advisory committees can gain public support from

the watershed and are an essential component to a successful, community-based, and locally led effort. These community-based groups and committees can also provide the means to keep the project going once the plan has been finalized to make sure that recommended actions are taken. It might also be helpful to identify a watershed coordinator to help in this effort.

- Outreach and education efforts can include:
- Periodic informational meetings;
- Stream walk assessments;
- Organized storm drain stenciling projects;
- Watershed clean-up days and riparian planting/habitat restoration days;
- Coordination with school systems within the watershed;
- Information kiosks and websites;
- Videos; and
- Newsletters and other printed materials to provide status and progress reports.

CONCLUSION:

Water management is the activity of planning, developing, distributing and managing the optimum use of water resources. Water is a basic necessity. No living creature can live without water. There's a scarcity of water. To avoid this scarcity, water is saved and managed efficiently.

REFERENCES:

1. <https://www.toppr.com/guides/science/water-a-precious-resource/water-management/>
2. <https://portal.ct.gov/DEEP/Water/Watershed-Management/Watershed-Management---Overview>