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WATER RESOURCES MANAGEMENT AND ECONOMIC DEVELOPMENT

Introduction

Water is a chemical compound and may occur in liquid form and other water is a combination of two atoms contains two hydrogen atom and one oxygen atom. H₂O being the chemical formula for water. No life can exist without water. Since water is as essential for life as air it. It has been estimated that two third of human body is constituted of water. Water is absolutely essentials not only for survival of human beings, but also for animals, plants and all other living beings. The availability of sufficient quantity of good quality water it becomes imperatives in a modern society only help in supplying to the people of water for drinking, cooking, bathing, washing etc. So as the to keep the diseases away and promoting better health. Consequently water is the most important resource of a society. Water also helping in maintaining better sanitation and beautification of reducing environmental pollution with the industrialization, modernization and mechanization of our society, the importance of water resources is increasing by leaps and bounds, reducing unemployment and ensuring better living standards. With the advancement of science and technology and the human desire to control nature, it has become necessary to have a control on our water resources. Hydrology is the science which deals the depletion and replenishment of water resources. It understanding with the surface water as well as the groundwater. It helps in determining the occurrence and availability of water. Most of the earth's water sources, such as rivers, lakes, oceans and underground sources etc. get their supplies from the rains. The total water available on earth about 97% is contained in oceans and only 3% is available as fresh water in the from of glaciers, snow and under ground water.

Sources of water

Water is constantly evaporated from the earth and precipitated back on the earth in the from of rains, snow etc. The various sources of water available on the earth can be classified into two categories: 1. Surfaces sources, such as ponds, lakes, streams and rivers, storage Reservoirs. 2. Under ground sources, such as, springs, wells, tube wells and infiltration Galleries. Surface sources of water in which the water flows over the surface of the earth and directly available for water supplies, the rainfall that percolates below the ground surfaces passes through the voids of the rocks and joins the water table. The water storage capacity of the ground water is dependent upon porosity and permeability of rocks and infiltration. The quality of water in a lake is generally good and quantity is very small. The quality of water in stream is small and they may sometimes go dry. Rivers are the most important sources of water for public water. The quality of water obtained from rivers, properly analyzed and well treated for using public. The ground water can get stored in the under ground rocks if, they are sufficiently porous.

water Resources Management

India is tropical country and its precipitation varies considerably in frequency intensity on well as in direction. The precipitation occurs either as rain or snow. The largest amount of precipitation falls as rain during the monsoons, whereas moderate amount of snow falls during winter season. The flow of water in a lake is the flow in a stream channel. The under ground water through some spring collected and forming ponds and lakes. The water of lakes and ponds, the algae, weed and vegetable growth take place freely, bad smells, tastes and colors to their waters. Lakes water useful for small towns and hilly areas. The most of the cities are settled near the rivers and it is easy to supplying water of rivers to the city. Perennial rivers can be used as sources of public supplies by providing storage on the upstream. The construction of a dam is adopted on a highly non-perennial river and even on a perennial river. When water is used for multiple uses such as irrigation, hydropower etc. a barrage or a weir constructed on rivers where supplies of water are reduced during dry weather periods. The water stored in the dam and storage reservoir can be used easily not only for water supplies but for other purposes to get optimum benefits. Surfaces waters are dependent upon

rainfall. Rainfall is not uniformly and regularly during the year. Thus storage reservoirs provide good means of storing and utilizing rain waters. Under ground water stored in the ground water reservoir through Infiltration, this water is pure due to natural filtration during the percolation through the soil pores. Moreover, these waters are less contaminated by bacteria. The ground water is brought to the surface by some natural processes like spring and sometimes these waters are tapped by artificial means by constructing wells, tube wells infiltration galleries etc. The drainage of ground water may be used to fulfill irrigation or municipal needs. Water is an important resource of a country. Rivers do carry important resource of water for establishing and developing the cities and towns. The mode of occurrence of ground water depends upon the type of formation and geology of the area.

Economic Development

No life can exist without water. It providing luxuries and comforts of life to fulfilling the basic necessities of life. Water is essential for the survival of human beings and for animals, plants. The water required in private building for drinking, cooking, bathing, sanitary purpose. The economically domestic water consumption per person shall vary to the living condition of the consumers. The water also required for development of various types of industries and commercial establishments such as offices, factories, hotels, hospitals etc. A provision of 20 to 30 per cent of the total public water consumption is made for these uses. The quantity of water also required for development of public utility purposes, such as gardening, parks and sprinkling on roads etc.

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