

Topic: Securing water, Precaution and Response to the Oil Spills

Country: India

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INTRODUCTION

Water is the main sources of plants and animals. Human cannot live without water. Water can ensure food security, feed livestock, maintain organic life, take up industrial production and to conserve the biodiversity and environment. Hence, no life can live without water. Earth is the only planet, so far known to have water and this makes it fit for human living. However, with reckless abuse and increasing demand, due to growing population and unsustainable lifestyle, many countries are facing severe water crisis. In the absence of suitable corrective measures, many developing countries including India, will have to face crisis of water security now or in the future.

SOCIAL FIELD

Although, India is not a water poor country, due to fast growing of human population, severe neglect and over-exploitation of this resource, water is becoming a scarce commodity. India is more vulnerable because of the growing population and in-disciplined lifestyle. This calls for immediate attention by the stakeholders to make sustainable use of the available water resources.

70% of the earth surface is covered with water, which amounts to 1400 million cubic kilometres ($m\ km^3$). However, 97.5% of this water being sea water, it is salty. Fresh water availability is only $35\ m\ km^3$ and only 40% of this can be used by human beings. Out of the total fresh water, 68.7% is frozen in ice caps, 30% is stored underground and only 0.3% water is available on the surface of the earth. Out of the surface water, 87% is stored in lakes, 11% in swamp and 2% in rivers (Anon, 2006).

GOVERNANCE AND MANAGEMENT

India are fortunate to be supported by some of the Non governmental organizations, like UNICEF. They have provided us education and building the water sanitation system. The experts that they have provided have been really useful. It has definitely improved the water quality of the country.

The India government has also conducted some of the laws to protect the system and ensure the citizen are following the rules that they have set up.

ECONOMIC FIELD

India is blessed with good rainfall well distributed over 5-6 months in the year. The average annual rainfall in the country is 1170 mm with a wide range between 100 mm in desert areas of Rajasthan to 10000 mm in Cherapunji. The total available sweet water in the country is 4000 billion m³ per annum. Out of this, over 1047 billion m³ water is lost due to evaporation, transpiration and runoff, reducing the available water to 1953 billion m³ and the usable water to 1123 billion m³. It is disturbing to note that only 18% of the rainwater is used effectively while 48% enters the river and most of which reaches the ocean. Out of the total usable water, 728 billion m³ is contributed from surface water and 395 billion m³ is contributed by replenishable ground water. Against the above supply, the water consumed during the year 2006 in India was 829 billion m³ which is likely to increase to 1093 billion m³ in 2025 and 1047 billion m³ in 2050, as estimated by the Government of India (2009). As the potential for increasing the volume of utilisation of water is hardly 5-10%, India is bound to face severe scarcity of water in the near future.

ENOVIRONMENT FIELD

While water for consumption is most crucial, it is equally important to provide water for irrigation to increase the food production and livestock husbandry, to ensure food security for the increasing population. Growing population, as everyone is aware, is a serious concern as it will create further burden on the per capita water availability in the future. The per capita water availability in 1951 was 5177 m³ per year when the total population was only 361 million. In 2001, as the population increased to 1027 million, the per capita water availability reduced drastically to 1820 m³ per year. By 2025, the per capita water availability will further drop down to 1341 m³ and to 1140 m³ in 2050. Based on the average requirement of water for various purposes, the situation is considered as water stress condition when the per capita water availability ranges from 1000 to 1700 m³ per year and it is considered water scarcity when the availability reduces to 1000 m³ per year. As the water available within the country varies widely as a result of rainfall, ground water reserve and proximity to river basins, most of the Indian States will have reached the water stress condition by 2020 and water scarcity condition by 2025. This would further hamper the food security, as the scarcity of water will directly suppress agricultural production.

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