







## Regional Science City (National Council of Science Museums)

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An exhibition to raise consciousness about the importance of water, its crisis and consequences because it is essential for all dimensions of life.

Although water is vital for survival, it can also be dangerous for health. This is because it can carry microbes that cause disease. Some of these are parasites that live inside their host's body



and sap his or her strength. Others are bacteria called pathogens that cause deadly diseases. These microbes get into the water when sewage contaminates the water supply. Many infectious diseases are water borne, and poorly treated water, when consumed, causes epidemics. That is why clean fresh water is the first and foremost vital requirement for good health. The multimedia explains about the water borne diseases, their cause and effect on human health, their protection and advice from experts.



There are a lot of things individuals and households can do to save water. A lot of water is lost due to leakage etc. during distribution, which can be avoided. The Exhibit on water

efficient devices helps the visitor understand how we can conserve water, as well as avoid wastage of water, using intelligent planning, management and use of conservation.





Water is a precious resource and its scarcity can cause serious societal impacts. Drought, disease and death are some of the effects of water scarcity. Several methods of conservation can be used to prevent these societal impacts. We can conserve water by rain water harvesting, using innovative agricultural practices, finding alternatives to products which require more water per unit production.

To face the future with some hope about water supplies,

scientists and engineers are developing technologies that will make the best use of this essential resource. However, there are grave imbalances which need to be checked-many



developed counties waste water, while some developing countries do not have enough water. People across the world will have to recycle and conserve water more efficiently, than how they do at present, if everyone is to get a fair share of it and the global environment is not to be put in peril.





Water is the very basis of life and is the foundation for human survival and development. Sustainable and equitable use of water over millennia has been ensured by cultural adaptation to water availability through water conservation technologies,



agricultural systems and cropping patterns adapted to different climatic zones, and conservation-based life styles. However, in the last few decades the consequences of population growth, industrialization and urbanization, and the associated consumerist culture, have interfered with the natural hydrological cycle of rainfall, soil moisture, groundwater, surface water and storage of all sizes. This has led to overuse, abuse and pollution of our vital water resources and has disturbed the quality and the natural cleansing capacity of water.

Do humans have some other choices to change, or even reverse, our growing impact on our overburdened water

systems? How are the oceans, the atmosphere, land and life connected? How do these affect us? What is our water footprint? What can we do to save water? This gallery tries to answer these and many more disturbing questions with the



objective of creating awareness among the visitors about the significance of conserving and caring for this scarce resource called water, for our future generations.





With less than 1% of the world's fresh water supply accessible to humans, preserving this scare resource is a critical issue. The rising cost of water infrastructure and acute scarcity of fresh water makes it a cause of social conflicts taking on the general shape of bitter water war in future. There is a dire need of reform in water management system because even a single drop of water counts.

Though it is known that a major part of the Earth's surface is covered with water, most of earth's water is in the oceans and seas. A mere 3% is freshwater, and even out of this, only 3% is usable while the remaining water is trapped in the ground, in glaciers, within living organisms, atmosphere etc. and this water remains directly unusable. Nevertheless, if it is used wisely, even this small amount of water is sufficient for the whole population of the Earth.



In ancient cultures, water represented the very essence of life. Ancient Civilizations, including our very own Indus Civilization, have flourished on riverbanks. Water, and the rivers that are formed from flowing water,



have been revered and worshipped across the world, and rivers have played a key role, not only, in the history of countries, but also in religion, mythology, and art as well. Water has always been perceived as a gift from the gods as it rained from the heavens.

Water makes up more than half of our body weight, and upto 70% by volume. It is the main component of each of

our billions of body cells, without which, we would die in just a few days. The amount of water inside our body must remain almost constant for good health. Experts have ranked water as second only to oxygen essential for life.







On Earth, there is a finite supply of water which constantly moves around the planet in mini water cycles that may take hours or thousands of years to complete. It travels through pipes, rivers, oceans, forests, deserts, rocks, animals,

people, the food we eat, and the air we breathe. Nearly 577,000 cubic kilometer of water circulates each year through the water cycle.

Water has several basic properties such as the pH, specific gravity, etc., and special properties such as hardness, turbidity,



contamination that have to be measured before being used for drinking or any other human need.

Human consumption of water is not just restricted to the volume of water that we drink but also depends on several other parameters. For example, a kg of grain needs 1500 liter of water and a kg of meat needs 10,000 liter of water. In other words, eating a kg of meat is equivalent to drinking 10,000 liter of water. A newspaper uses 80 liter of water to be produced. Animal products, such as chicken and beef, require even greater amounts. This is because domestic animals eat plants that have already been grown using water, and the animals then need their own supply of water as well. From food to fabric, crayons to cars, and

petrol to paper, virtually everything we use, or consume, needs water to produce it. In short, we are thirsty because we are h u n g r y o r m o r e appropriately, because we are greedy!

