Impact of Rainwater Harvesting on the Socio-Enviro-Economic Cultural of the Community

Rainwater harvesting has many benefits but the main one is that it is a sustainable water management practice that can be implemented by anyone on many different levels, from a simple rain barrel to a comprehensive rainwater harvesting system that integrates with an irrigation system or household plumbing. When you think about it… do we need to use municipally treated water to sprinkle on our lawns and landscaping? Definitely not! Harvested rainwater is the perfect candidate for irrigation use in addition to so many other water uses. By using rainwater harvesting systems to supply water for some, or all of our water needs, you can reduce our dependence on municipally treated water. Overall, rainwater harvesting is viewed as a practice that is socially acceptable and environmentally responsible all the while, promoting self-sufficiency.

THE WATER CONSERVATION BENEFITS OF RAINWATER HARVESTING

The rainwater that falls on your roof and property is essentially free. All it takes is a method to harvest it into a tank or cistern for later use. Rainwater harvesting can be a great educational tool to get people to recognize their individual or household water usage. This can get them to start conserving water in other areas around their home. For communities that rely on imported water to supply their needs, collecting rainwater that falls naturally in the community can reduce the need for imported water. Rainwater harvesting helps utilities reduce peak demands during summer months, saving treated water for more important and appropriate water uses. While rainwater can be a perfect primary water source for many uses and situations, it is also a great backup water supply for emergency situations.

THE ENVIRONMENTAL BENEFITS OF RAINWATER HARVESTING

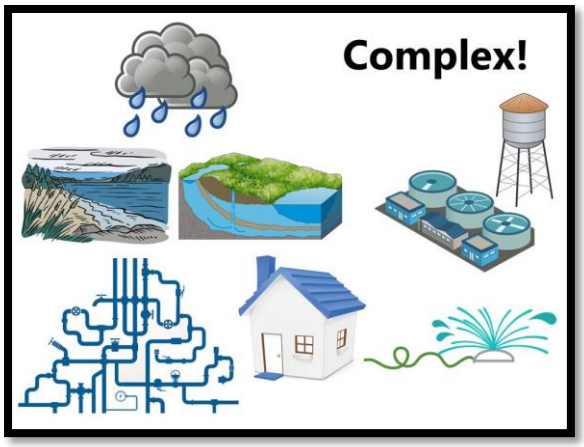
Rainwater harvesting can reduce storm water runoff from a property. The elimination of runoff can reduce contamination of surface water with pesticides, sediment, metals, and fertilizers. By reducing storm water runoff, rainwater harvesting can reduce a storm's peak flow volume and velocity in local creeks, streams, and rivers, thereby reducing the potential for streambank erosion. Rainwater harvesting systems can be employed as simple and effective methods to meet a municipality's storm water management program requirements of individual properties. It is an excellent source of water for plants and landscape irrigation since it has no chemicals such as fluoride and chloramines (chlorine).

THE WATER-ENERGY NEXUS BENEFITS OF RAINWATER HARVESTING

While the logical use of rainwater harvesting is for water conservation purposes, it also reduces energy use within a community. Typically, the end

use of the rainwater is located on the property where the rainwater is collected. Replacing municipal water use at a home and property with rainwater reduces the amount of water that a municipality has to treat and then pump to your house. The treatment and pumping of municipally provided water require a lot of energy. The implementation of rainwater harvesting can help meet new standards of energy and water efficiency ratings and codes that are being developed in communities.

The traditional path of rainwater through our local water ecosystem and how it gets to our homes:



The simplified path available through the implementation of rainwater harvesting:

THE ECONOMIC BENEFITS OF RAINWATER HARVESTING

Collecting and using rainwater to replace municipal water use reduces your water bill Reducing municipal water use for areas such as irrigation reduces the amount of water that a municipality has to treat and pump. This, in turn, reduces water service cost to a municipality. The widespread implementation of rainwater harvesting within a municipality's service area can reduce the long-term water development needs of a city, allowing the city to use their existing water infrastructure investments more efficiently. The cost to the community to supply treated water is becoming more expensive every year. The cost to construct dams, pipes, and treatment plants, not to mention the cost of maintenance and infrastructure replacement is huge. As water users, the rate-payers in the community ultimately will foot this rising bill. Therefore, the practice of rainwater harvesting can

reduce water demand and thus allow municipalities to provide potable water service at a lower cost. Designing and installing rainwater collection systems can provide sustainable jobs for the economy of the future. The rainwater harvesting industry can become a leading employer in the green infrastructure movement. Rainwater stored onsite in a rainwater harvesting system can be available for wildfires and help protect the house and property.

THE ANCILLARY BENEFITS OF RAINWATER HARVESTING

- Rainwater harvesting significantly reduces potable water use.
- Rainwater from a potable rainwater harvesting system that has been properly filtered and disinfected is some of the best tasting water available.
- Rainwater harvesting reduces storm water peak flows and total volume.
- Rainwater harvesting is a local solution that generates local jobs.
- The zero hardness of rainwater provides many advantages such as reducing the amount of detergent and soaps needed, thus in turn reducing money spent on detergents and soaps.
- Rainwater harvesting delivers numerous other benefits at local and regional levels:
    - making houses more affordable
    - keeping creeks and rivers flowing
    - reducing local flooding, especially in built-up areas
    - provides a reliable supply of water in drought
    - saves community funds managing sustainable water

RAINWATER HARVESTING IS VITAL FOR THE FUTURE OF SUSTAINABLE WATER RESOURCES

As you can see from the benefits and advantages listed above, the practice of rainwater harvesting is an important and vital part of developing a sustainable water resource path for any community. As local water resources are stretched to provide for population growth and economic development, new water supply strategies and paradigms will be necessary to meet this demand. Rainwater harvesting is an untapped resource that could be developed quickly within communities and that will also have a tremendous impact. Rainwater harvesting is part of a sustainable water supply strategy for local communities.

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