

Introduction

Water determines where people can live. Water is crucial to all human needs and most activities. It allows cities to grow, land to be fertilized and economic activities to develop. Water is used for agriculture, for life and for energy. In Roman times water was carried through aqueducts which were strictly controlled for leakage and proper use. Rivers and catchments have been protected to ensure sufficient and clean water. Water is stored during rainy periods to tide over the dry season. Over time, people became engineers to manage their living environment.

When there was no water anymore, people moved their cattle, their businesses, to places where water could be secured, sometimes seasonally, sometimes forever. With growing populations, fewer opportunities to move to new lands, and with challenging climate and topography, better water solutions and sharing are needed to allow societies to prosper.

It is nice to talk about those who have access to good water supply. But there are many households and communities that live in areas that are limited in water resources, where water may only come during seasonal rains. Women may have to travel a distance to collect water for the home. Agriculture revolves around periods of rainfall.

Small island communities, fishing villages along the coast or areas with saline ground water wells often find it hard to find fresh water for drinking and cooking. Sometimes the groundwater is contaminated with arsenic or fluoride, making its consumption hazardous to health.

In upland areas, where households are situated above the springs, women have to trek arduously to collect a reasonable amount of water for their families.

Even in cities, there are many examples of where water supply has not yet reached the whole population as utility companies struggle to keep up with the growth and demand.

Dying Wisdom, a book about traditional water harvesting in South Asia, states that ‘water harvesting emerges as a practice related to local community needs and sensitive to local ecological demands’ (CSE, 1999). It describes the experience and expertise of ordinary people able to manage their livelihood in areas with limited rainfall.

This IWA publication presents a number of rainwater harvesting initiatives from around the world where practitioners have demonstrated that rainwater harvesting makes a vital difference for a lot of households and communities. Better rainwater-harvesting techniques for domestic water, including drinking water, and for use in small scale agriculture makes a great difference to all lives, women and men, young and old, the able and less able.

The WHO-UNICEF Joint Monitoring Programme for Water Supply and Sanitation reported that in 2017 90% of the world population had access to safely managed water or a basic service with safe water (JMP, 2019). That leaves 10% of the world population without a decent water service!

Harvesting rain and using it for drinking and domestic use will help to give scattered households and underserved city dwellers access to water. The world cannot ignore using rain as the source of all water. National and local rainwater harvesting policies and strategies need to be applied to make sure that best use can be made of rain to provide water to individual households, to store or buffer water in community reservoirs and to augment the aquifer using infiltration techniques. Not all of these experiences are described in this book, as this publication has a greater focus on domestic retention and use of rainwater. Nevertheless, climate change effects have gradually forced cities to think about slowing down the water that falls on its territory and make sure it does not go to waste. The Sponge City concept and similar approaches are gradually demonstrating their value and longer-term cost saving. More recently, growing emphasis on greening the city and reducing heat stress near buildings offers further beneficial applications of rainwater harvesting. Educating people, and especially young people, on the value of water, and the need to use rainwater at least once before letting it go, will lead to better water management.

Alert planners increasingly recognize that convenience and health can also be achieved with decentralized services. The case studies in this publication demonstrate this. By incorporating rainwater harvesting in the portfolio of water supply solutions, governments will meet ‘the human right to water [is] indispensable for leading a life in human dignity’. Everyone recognizes the right to water. One does not deny drinking water to a guest or passing stranger. Many cultures demonstrate this by first bringing a glass of water when one is invited into the house.

The UN Committee on Economic, Social and Cultural Rights defines the right to water as the ‘right of everyone to sufficient, safe, acceptable and physically accessible and affordable water for personal and domestic uses’. The UN Sustainable Development Goals underline this more specifically by stating in SDG 6.1 that the 2030 objective is to achieve universal access to safely managed water: in effect water from an improved source, available in the premises, when it is needed and safe to drink. Governments have an obligation to implement the human right to water and ensure that universal access is achieved (Albuquerque & Roaf, 2014).

Safely harvested rainwater when properly stored largely fulfills the SDG 6.1 criteria on safely managed water. In addition, rainwater contributes to several more SDGs, in agriculture, poverty alleviation, gender, water resource management, ecosystem protection, and so on.

This book presents stories and experiences from some 15 countries from all over the globe, developed and less developed. There are many more experiences that can be highlighted, but these are thought to give the reader a good overview of what can be done when water supply engineering investment has not yet reached the unserved. Rainwater harvesting has an important role to play as a safe water supply when other sources are not safe or not available. A rainwater system requires storage. This may be somewhat expensive but will most often be cheaper than a house connection from a centrally treated water supply system. This storage could be very valuable in an emergency situation and in times of drought when households with rainwater storage will still have access to water.

We encourage you, the reader, to peruse these stories and arguments at your leisure. There are many ideas and techniques to be gleaned that will be applicable in planning for the serving of the last 10% who are still waiting for water security and a good water service.

Enjoy the enthusiasm and the humanity behind the stories.

REFERENCES

- Albuquerque C. De. and Roaf V. (2014). *Realizing the Human Rights to Water and Sanitation* (Vol. 1). Human Rights to Water & Sanitation UN Special Rapporteur, New York.
- CSE (1999, Chapter 4). Fourth Citizens Report SOE-4: Dying Wisdom: Rise, Fall and Potential of India’s Traditional Water Harvesting Systems. A. Agarwal and S. Narain (eds.), Centre for Science and Environment (CSE), New Delhi.
- JMP (2019). *Progress on Household Drinking Water, Sanitation and Hygiene 2000–2017*. Special Focus on Inequalities, United Nations Children’s Fund (UNICEF) and World Health Organization, New York.