

“Groundwater: Making the Invisible Visible”

1. Introduction

World Water Day (WWD) has been celebrated annually since March 22, 1993, in the world and since 1994 in Ethiopia. The main purpose of the celebration of WWD is to promote the adoption of lasting solutions to the complexities of the problems by focusing on the conservation, development, and maintenance of our water bodies.

WWD celebration is also to raise awareness of the 2.2 billion people living without access to safe water. It is about taking action to tackle the global water crisis. The theme for the 2022 WWD is, “Groundwater: Making the Invisible Visible”.

Groundwater is fundamental to sustain ecosystems, maintain the base flow of rivers, and prevent land subsidence and seawater intrusion. Groundwater is an important part of the climate change adaptation process and is often a solution for people without access to safe water. Despite groundwater is out of sight and out of mind for most people. Human activities (including population- and economic growth) and climate variability are rapidly increasing the pressure on groundwater resources: serious groundwater depletion and pollution problems are reported for many parts of the world. A WWD on groundwater would put a spotlight on this invisible resource, enhance knowledge exchange and collaboration and thereby increase the awareness of the importance of taking care of our this critical resource.

2. The Concept of Groundwater and Climate Change

Nowadays climate change has become a global threat. Realizing this, the people of the world are paying close attention to the issue and are making substantial efforts to address it. One of the major impacts of climate change is its impact on water resources, especially groundwater.

According to the International Panel on Climate Change (IPCC) definition: Climate change means long-term environmental or man-made disturbances. The way people express themselves in terms of society, the environment, and the economy is changed due to climate change. Available data and climate forecasts indicate that surface and groundwater sources that are important to human life are vulnerable to climate change.

Most drinking water services, especially in rural areas, depend on groundwater. Therefore, it is important to know how groundwater is related to the climate. Improving groundwater for rural drinking water is more important than surface water. This is because groundwater has a high concentration of freshwater, which is highly resilient to the effects of annual rainfall fluctuations and climate change.



Spring protection, capturing groundwater for use

The groundwater level is determined by atmospheric conditions, forest cover, and terrain. Rainfall and humidity also depend on the weather and forest cover. Groundwater levels also depend on the type of soil and soil type, while erosion and deforestation negatively affect the amount of groundwater. Climate change, as well as a human activity, are major causes of soil erosion and deforestation.

When there is heavy rainfall; flood rates and related disasters increase. This will destroy drinking water infrastructure; Surface and groundwater sources are exposed to pollution. In rural areas high floods may pollute groundwater sources; Floods disrupt groundwater and rainwater harvesting systems, thus increasing the risk of drinking water and public

health. In addition, latrines, which are widely used in rural areas, are prone to flooding, resulting in serious environmental pollution.

The COWASH project is recognizing the dangers posed by climate change to drinking water facilities and climate change mitigation is a priority response to these disasters taken into account.

3. COWASH in the practice

One of the five expected outcomes of the COWASH project is to ensure that the new or rehabilitated water supply, sanitation, and hygiene facilities are not exposed to the hazardous elements of climate change. Thus, before the construction or rehabilitation of the water facilities, the necessary awareness-raising on all aspects of social, environmental, and climate risks and screened and a plan on how to manage these risks is prepared. During the construction or rehabilitation process, the social, environmental and climate risks management plans are implemented and thus the facilities will continue to operate as planned without interruptions. The continuous uninterrupted service is ensured through an approach called Water Safety Planning (WSP). Each water supply system shall have a WSP, which is a risk assessment plan and it ensures that the community, who is managing the water supply system, regularly assesses and manages the possible and potential risks. In COWASH the WSP approach ensures that women and persons with disabilities are considered and are able to contribute to the planning, construction and management of the water supply system. WSP also ensures that issues related to operation and maintenance are also part and parcel of the WSP process. COWASH is also going to include the sanitation risks as part of the WSP process. This helps to avoid the risks caused by sanitation to the water resources and human health.

The implementation of the social, environmental, and climate risk management plans compiled with Water Safety Planning has been successful in selected COWASH pilot woredas under Phase III. In Phase IV, these good experiences will be scaled up to all COWASH woredas and to all water schemes constructed in COWASH IV.

4. Conclusion and Call to Action

As discussed above, water is a fundamental requirement for all life on the planet, not only for human beings, and must therefore be protected and used responsibly. To this end,

COWASH will ensure that every water scheme constructed or rehabilitated under COWASH follows the guide of Social, Environmental, Climate Risk Screening and Management (SECRSM) as well as having a Water Safety Plan.

The challenges of climate change have made it absolutely clear, that in the rural areas WASH should form a central part of any climate change adaptation strategy. Gladly, this has been recognized by the United Nations as well, and Sustainable Development Goal 6 (SDG6) has set a target of reaching universal and equitable access to safe and affordable WASH services to all humans.

Despite the fact that a lot of work to reach these goals has been done, there is still a lot to do. As mentioned before, it is estimated that about 2.2 billion people in the world lack access to safe water. Another 2 billion people do not have access to basic sanitation, and even up to 3 billion people lack adequate hygiene facilities.

COWASH has been working in rural Ethiopia for over a decade now, helping to bring safe Water Supply, Sanitation, and Hygiene for those most vulnerable to the effects of climate change. Reaching the SDG6 targets may be a long process, but our resilient work will continue.

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