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THE PROTECTION AND RESTORATION OF WATER RELATED ECOSYSTEMS IN SUSTAINABLE DEVELOPMENT GOAL 6

SDG 6 - Target 6.6 WATER-RELATED ECOSYSTEMS



WATER IS LIFE - SANITATION IS DIGNITY



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



UN WATER

Sustainable Development Goals are global goals for improving our country's state of water resources and sanitation services, thereby ensuring that the citizens have access to water that is fit for use as well as access to dignified sanitation facilities. Moreover, water is central to economic growth, and sufficient water enables the country to create more opportunities for economic growth. There is a total of 17 Global Targets that must be achieved by 2030 as set by the United Nations.

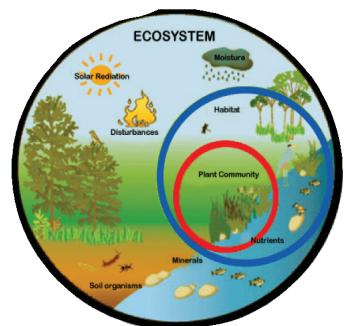
TARGET 6.6 WATER-RELATED ECOSYSTEMS



Sustainable Goal 6 seeks to ensure availability and sustainable management of water and sanitation for all. Access to safe water and sanitation and sound management of freshwater ecosystems are essential to human health, environmental sustainability and economic prosperity (UN, 2019). This Goal has 8 targets, with Target 6.6 focusing on the Protection and Restoration of Water Related Ecosystems.

What is an Ecosystem?

It is a geographical area where a community of living and non-living organisms work together to form a life. An ecosystem consists of abiotic (water, soil, air, etc.) and biotic components/parts (plants, animals, etc.).



What are the different types of water related Ecosystems?



The different types of water related ecosystems include rivers, mountains, forests, lakes, wetlands, estuaries and aquifers (groundwater). The images above show different examples of water related ecosystems.

Why is it important to protect and restore water related Ecosystems?

It is important to protect and restore water ecosystems in order to ensure that they continue to provide valuable ecosystem services (i.e.: food security; provision of water, flood control, recreational benefits, etc.) for society in relation to sustainable water and sanitation services. The function of protection and restoration of water related ecosystem lies with various stakeholders such as National, Provincial and Local Government Departments, Private Sector and Non-Governmental Organisations. These applied protection measures and strategies are

enshrined in the various gazetted legislations like the National Water Act (NWA) and the National Environmental Management Act (NEMA) just to mention a few, which promote the protection and sustainable use of water related ecosystems.

What is the role of the Department, represented by Task Team 6.6 in achieving this target?

The Department of Water and Sanitation is responsible for the protection and maintenance of water-related ecosystems. One of the ways to protect and restore water-related ecosystems is through the determination and implementation of the Resource Directed Measures (RDM), which consists of:

- 1) Water Resource Classification which entails classifying the water resources based on their level of utilization;
- 2) The Reserve which requires that water be set aside for human use as well as aquatic ecosystem; and
- 3) Resource Quality Objectives, which are limits, set to give effect to the classes or Reserve determined.


The Department also lead initiatives such as Adopt-a-River where organisations are encouraged to adopt a specific river and work with the communities around to remove waste from the river to keep it clean. Furthermore, the NWA requires that water use be authorised. This is to ensure equitable and sustainable use of water.

The role of the Task Team for Target 6.6 is to:

- Domesticate the indicators,
- Develop methodologies for the domesticated indicators;
- Develop targets for achieving the indicators;
- Monitor progress towards achieving set goals; and
- Consult relevant stakeholders who have the data required for SDG 6.6.

What role can an ordinary DWS employee play in ensuring the protection and preservation water related ecosystems?

Ordinary DWS officials can do their part in their area of work to ensure the Department has the data/information required for SDG reporting.



They can also implement projects that will help improve the state of water resources and provision of sanitation services. The Department has developed an SDG 6 webpage, which employees can also visit to equip themselves with what is happening in relation to the achievement of SDG 6, so that they can be ambassadors of change in their homes and at work by supporting water conservation measures. Lastly and most importantly, they need to create as much awareness as possible in their communities and educate citizens.


What role can an ordinary South African Citizen play in contributing towards the protection and preservation of water related ecosystems?

Ordinary SA Citizens can protect the water resources by ensuring that they don't throw waste into water resources including wetlands, they don't build houses/ informal settlements within the flood-lines and on the edges of the water resources. They also need to report sewer spillages and water leaks to municipalities in their area and fix household leaks.

Which other stakeholders are involved in the protection and restoration of ecosystems, and their roles?

- **The Department of Forestry; Fisheries and Environment (DFFE)**, has the legal mandate and core business to manage, protect and conserve South Africa's environment and natural resources and promote sustainable development through programmes such as Working for Wetlands and Working for Water. Removal of alien invasive plants carried out by the department ensuring maintenance of current systems that may help reduce/halt loss of ecosystems.
- **South African National Biodiversity Institute (SANBI)** contributes to South Africa's sustainable development by facilitating access to biodiversity data, generating information and knowledge, building capacity, providing policy advice, showcasing and conserving biodiversity in its national botanical and zoological gardens. In mid-2019 SANBI became the official spatial base dataset custodian for wetland data in South Africa.

- **The Water Research Commission (WRC)**, promote coordination, cooperation and communication in the area of water research and development; establishing water research needs and priorities; stimulating and funding water research according to priority; promoting effective transfer of information and technology; and enhancing knowledge and capacity building within the water sector.
- **Department of Agriculture, Land Reform and Rural Development and Land Reform (DALRRD)** provide for the conservation of the natural agricultural resources of South Africa by maintaining the production potential of land, by combating and preventing erosion and the weakening or destruction of water sources, and by the combating of weeds and invader plants. This department is also the custodian of topographical maps and related data in South Africa.
- **The Agricultural Research Centre (ARC)** is the principal agricultural research institution in South Africa and has a dedicated water unit. The ARC is also the custodian of databases such as the National Peatland Database.
- **The Department of Science and Innovation (DSI)** seeks to boost socio-economic development in South Africa through research and innovation. The department oversees a number of data collection and management programmes including e.g. the implementation of the National Space Strategy and the South African Earth Observation Strategy under the overarching guidelines of the National Space Policy. The three key institutions that function as entities under the DSI and who are sector partners in the provision and management of data on water-related ecosystems are:
 - **The South African National Space Agency (SANSA)** foster research in space science, including remote sensing sciences, advancing scientific engineering through developing human capital, and supporting industrial development in space technologies.
 - **The South African Environmental Observation Network (SAEON)** aims to collect, store and assess appropriate longitudinal social, economic and environmental data to inform relevant research, policy, reporting and action. They have numerous data platforms and



programmes that contribute to the data and reporting needs for the SDGs

- **The Council for Scientific and Industrial Research (CSIR)** undertakes directed, multidisciplinary research and technological innovation and have developed water resource decision-support frameworks and tools, including the South African Inventory of Inland Aquatic Ecosystems, for improved water resource quality and quantity.
- **Statistics South Africa** play a pivotal role in the generation of data on environmental and water issues and is the lead agent for the application of the System of Environmental-Economic Accounting (SEEA) and the development of National Capital Accounts (NCA) dealing with water and water-related ecosystems (in partnership with SANBI, DWS, the CSIR and WRC).

Over the years, several strides have been made in achieving the 2030 target, which include:

- Development of the over-arching Methodology for SDG target 6.6.1
- Development of the methodologies for the different sub-indicators:
 - » Some of these methodologies have been presented at local, regional and international conferences and have been well received (e.g. the Groundwater Methodology)
- Domestication of the sub-indicators
- Identification of additional sub-indicators to help achieve the target: Ecological condition of Rivers, Wetlands and Estuaries
- The Gaps identified have been added to the DWS Master Plan
- Submit data to UNEP as and when required

What are the challenges encountered in the protection and restoration of water related ecosystems?

The illegal use of the water related ecosystems, non-compliance to the regulations/authorisations which leads to serious detrimental effects

such as over-abstraction, pollution to water resources, destruction of wetlands, the spread of alien invasive plants etc are challenges that have been identified over the years and the Department has put measures in place to mitigate them.

Are there enough resources to ensure the achievement of the set targets?

Partially, to achieve the set targets will require large financial backing. Funding is needed for the establishment of the Monitoring Programmes I.e Wetland Monitoring Programme. Further funding is required for projects like updating the Present Ecological Status (PES), Ecological Importance and Sensitivity (EIS) and Water Resources Studies (WRS) that will ensure that the required data is available. Also, there is a need to strengthen existing programmes with more resources (skilled/specialist) Personnel, equipment, etc.

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