WATER CYCLES

The natural water cycle (A) is the process of water moving on the earth.
When humans use water for drinking, irrigation, sanitation and industrial use, they take the water out of the natural cycle
and it becomes part of the human or man-made water cycle – the consumer water cycle (B).

A - NATURAL WATER CYCLE

1 Evaporation
2 Cloud formation
3 Rainfall

B - CONSUMER WATER CYCLE

1 Source extraction
Water used for human consumption comes from rivers, dams, boreholes and springs.

2 Water treatment works
Once the water has been extracted, it undergoes several types of treatment processes in order to make it safe to drink.

3 Storage of clean water
Once it is made safe to drink, the water is transported via a network of pipes for storage at reservoirs.

4 Distribution of clean water to consumers
Water is supplied to consumers using a complex system of pipes. Reservoirs, water flow, water pressure and water quality are constantly monitored to ensure that enough water reaches all consumer connected to the network.

Consumers/Users:
4.1 Commercial Users
4.2 Domestic Users
4.3 Mining Users
4.4 Industry Users
4.5 Agricultural Users

5 Waste water collection
Wastewater is collected using a sewerage system. This network consists of a collection of pipes made from cement, concrete or PVC which carry the polluted water to be sent to a waste water treatment plant.

6 Waste water treatment works
Sewage treatment, or domestic wastewater treatment, is the process of removing contaminants from wastewater and household sewage, both runoff (effluents) and domestic. It includes various processes to remove physical, chemical and biological contaminants. The objective of sewage treatment is to produce a disposable effluent without causing harm to the surrounding environment, and also to prevent pollution.

7 Returning clean water to the natural environment
Once treated in a wastewater treatment plant, water is released into the natural environment. It continuous its natural treatment process in rivers or in dams, without adversely affecting the natural balance of the environment.

Water & Sanitation Division
Public Works and Infrastructure Development