

Factsheet series

Constructed Wetland

One of the objectives of the Mau Mara Serengeti Sustainable Water Initiative (MaMaSe) is improving the water quality in the Mara Basin. In line with this, MaMaSe is spearheading the implementation of Constructed Wetlands (CWs) within their activities.

What are Constructed Wetlands?

Constructed wetlands are systems that mimic the wastewater treatment processes that take place in natural wetlands. There are different types of CWs based on the hydrological flow pattern. The recommended type of wetland in the basin is the subsurface system where the water flows below the surface.

How do CWs work?

Constructed wetlands have three components: plants, substrate (gravel) and the waste water. The small gravel provides a surface on which bacteria start growing and decomposing the waste water. The plants help to take up the nutrients besides helping the growth of the bacteria.



Figure 1. A natural wetland.

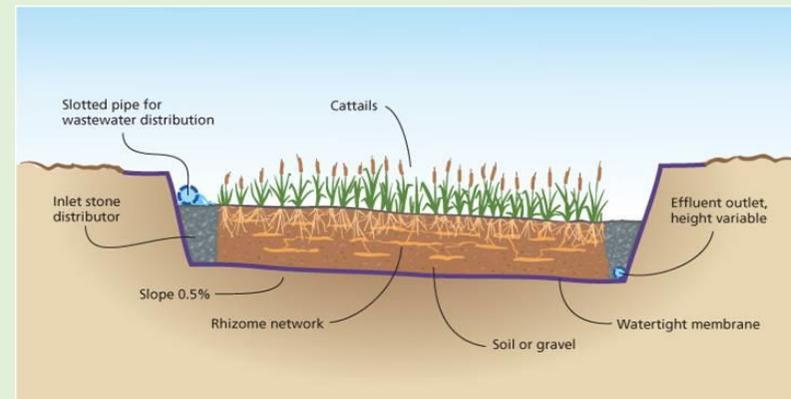


Figure 2. A Constructed Wetland with horizontal subsurface flow. The waste water cannot be seen.

Advantages of these systems

- CWs provide up-to 90% efficiency in terms of wastewater treatment.
- Minimal/no energy needed in the horizontal subsurface flow system as there is no pumping required.
- No need for chemical/biological products.
- Relatively low installation and maintenance cost compared to conventional systems.
- Do not require technical expertise for maintenance.
- Environmentally friendly and no smell.
- Are easily tailored to fit different scenarios.
- Treated water can be re-used.

MaMaSe offers:

- To build capacity among maintenance staff of touristic infrastructures on the design and construction of CWs.
- Provide technical support with regard to the design, construction and maintenance of CWs in the basin. The cost of construction will however be met by the hotels.



Figure 3. Hand- on training for the constructed wetlands. During the training a demo site is put up.