

## Improving Water quality at Shimo la Tewa WIOSAP Demo Projects

### Meeting minutes

Date: 18<sup>th</sup> August 2021

Venue: Microsoft Teams

#### Opening

The meeting was called to order at 13:00Hrs (EAT) with Angela welcoming all in attendance and thanking them for creating time to attend the meeting. This was followed by a brief introduction of all in attendance.

This meeting aimed to get the updates of the Shimo la Tewa demonstration projects in Kenya, challenges they are facing, and technical as well as communication support they may need from the Nairobi convention secretariat.

#### Min 01: Background and project scope

- Mr. Stephen mentioned that the project's main aim was to manage the wastewater from Shimo la Tewa prison, whose raw sewerage was initially being channelled directly to the sea through Mtwapa creek, thereby interfering with the ocean water's health and biodiversity. As a result, the community around the area lose the benefits accrued to the fishing; tourism activities linked to Mombasa Marine Park; hotel businesses, and other social economic ecosystem services. This initiative was initiated through the WIO-LAB project, which began with the construction of a wetland that involved the construction of a septic tank to take care of primary sewage treatment and a horizontal flow lead bed to take care of the secondary treatment. It was commissioned in 2010. However, it was established that the treatment plant did not meet the National Environmental Management Authority guideline for discharge into the ocean. A re-assessment was done under the WIOSAp project, which proposed rehabilitating and redesigning the system to comply with the guidelines.
- The project has four main objectives: managing the wastewater from the prison, improving the general sanitation in Shimo La Tewa prison, improving food security, and disseminating the information to stakeholders to encourage replication. He mentioned that they had challenges accessing the prison facility due to the difficulties caused by the COVID-19 pandemic restrictions but the situation is now better and the project implementation had kicked off already with the rehabilitation of the wetland which has three components: i)primary treatment, which is an anaerobic baffled reactor(ABR) that removes sediments and most of the organic matter up to about 50-60% ii)the secondary treatment would be done through a vertical flow lead bed (wetland that receives the effluent from the ABR through piping system) through which chemical and biological processes will occur, and iii) a horizontal flow lead bed will then receive the effluent, and by the time it leaves this system, the water is good enough to be discharged with a BOD (Biological Oxygen Demand) level of less than 30g/l.

#### Min 02: Progress:

- There was a contractor on-site constructing the primary treatment facility, which entails the conversion of the anaerobic septic tank to an anaerobic baffled reactor and it was about 60% complete. For the vertical and horizontal flow lead beds, they were in the tendering stage, and if all goes as planned, the contractor could be on-site in a period of two months. The secondary and the tertiary treatment would be combined into one contract to recover time lost during COVID-19 restrictions.

- On sanitation (objective 2), procurement of all the materials had been completed and qualified prison personnel were going on with the improvement of sanitation facilities in the prison.
- Mr. Stephen highlighted that the third objective cannot be undertaken until the wetland is completed and confirmation is made on whether the water quality at the tail end of the treatment plant is at the level approved by the National Environmental Management Authority to be used for irrigation and fish farming. After this stage, the dissemination of the information will begin.
- It was highlighted the no cost extension that was given to the project would be sufficient to complete the project. Discussions are underway on further collaboration with the Government in complementing the work on the ground to include treatment of the sludge.

### **Min 03: Support needs**

It was mentioned that more funds could be availed to the project if they showed the need. This would be possible through the provision of progress and expenditure reports. Mr. Stephen highlighted that more funds are needed to undertake dis-sludging, fencing around the project site and other activities that the prison administration would suggest. However, the actual quantification would be clear after the completion of the procurement process.

### **Min 04: Communication Needs**

- Mr. Stephen mentioned that there was already existing information on the actual impact of the wastewater discharge. Their current planning was to finish the construction and then engage the stakeholders to let them know what's going on and the improvements that have been made.
- He highlighted that there were images that document before and after the status of the project and he would share them with the Nairobi Convention communication team. He added that they had taken water samples before treatment and during every step of intervention (– during low water, during flooding, e.t.c.) on the creek to deduce the effect of the treatment project.
- He highlighted that communication assistance is welcome either through any dissemination media. The materials can be in English, and a translation to Swahili would add more value to enhance replication at other national or regional institutions. Mr. Stephen mentioned that they would share the result of the project with prison management, the Mtwapa residents, hotels and learning institutions.

### **Lessons Learnt:**

- This is a low-cost technology that is easy to replicate and could play a significant role in the improvement of the effluent discharged into the marine and coastal environments. This would be important in Mombasa since the region lack a centralized water treatment system.
- He mentioned the need to approach more stakeholders to sell the technology to them as a low-cost technology.

### **Closing**

There being no other matters arising, the meeting came to a close at 14:00Hrs.

**In attendance**

<b>No.</b>	<b>Name</b>	<b>Affiliation</b>
1.	Stephen Mwangi	KMFRI
2.	Melisa Wandia	UNEP
3.	Jane Ndungu	UNEP
4.	Angela Joan Patnode	UNEP
5.	Nathan Majwa	UNEP