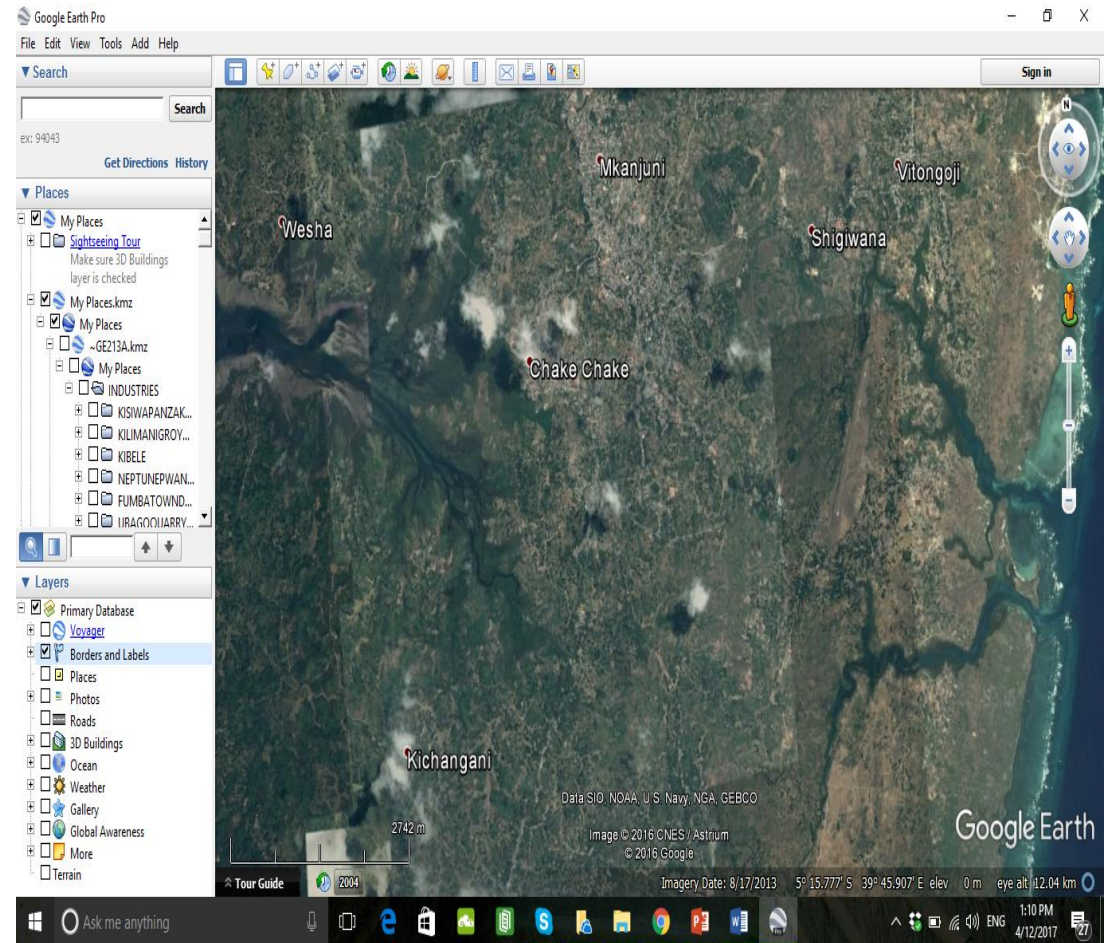
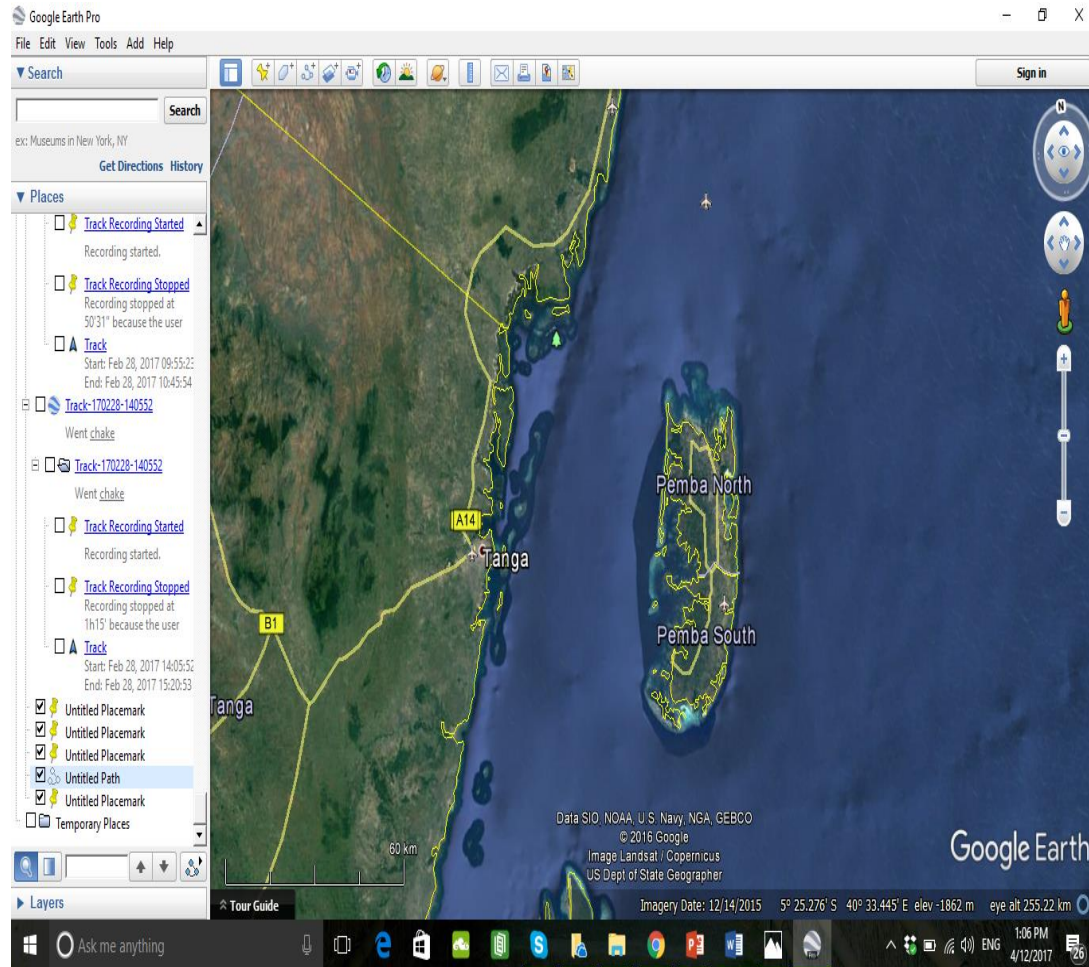


A photograph of a constructed wetland system. In the foreground, there is a calm body of water reflecting the sky and surrounding greenery. The water is bordered by a concrete-lined bank on the left. Behind the water, a grassy bank rises, where several cows are grazing. In the background, there is a dense line of tropical vegetation, including palm trees and banana plants. The sky is bright and clear.

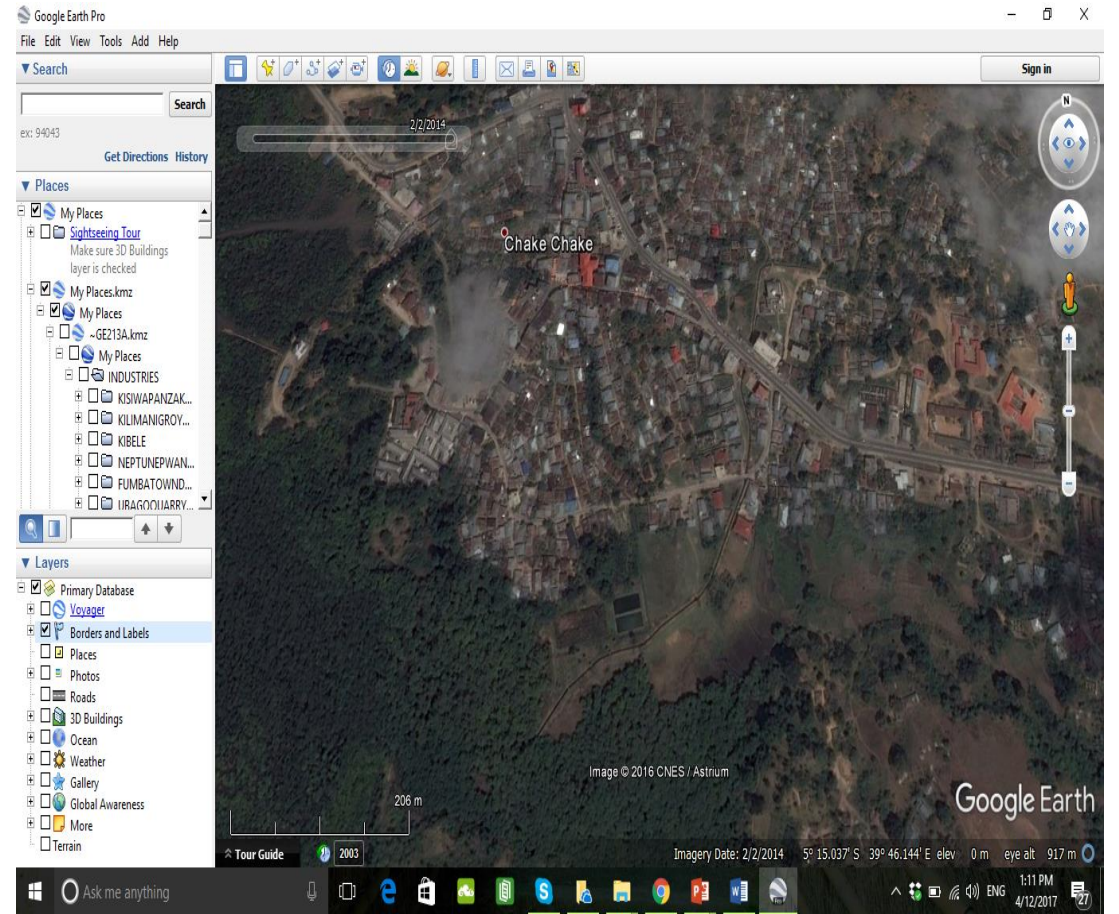
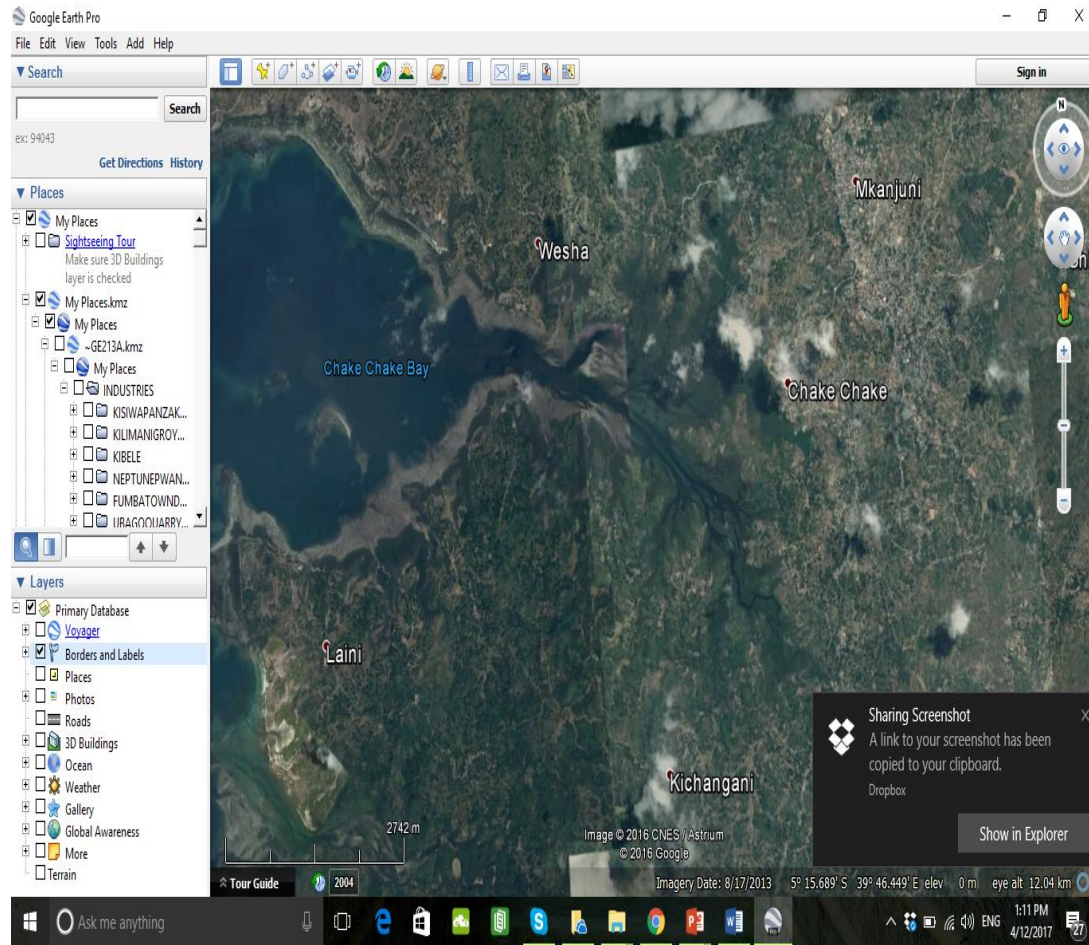
EFFLUENT REDUCTION MEASURES – FROM WIOLAB TO WIOSAP

**A CONSTRUCTED WETLAND SYSTEM AT MTONI-MSINGINI, PEMBA
TANZANIA**

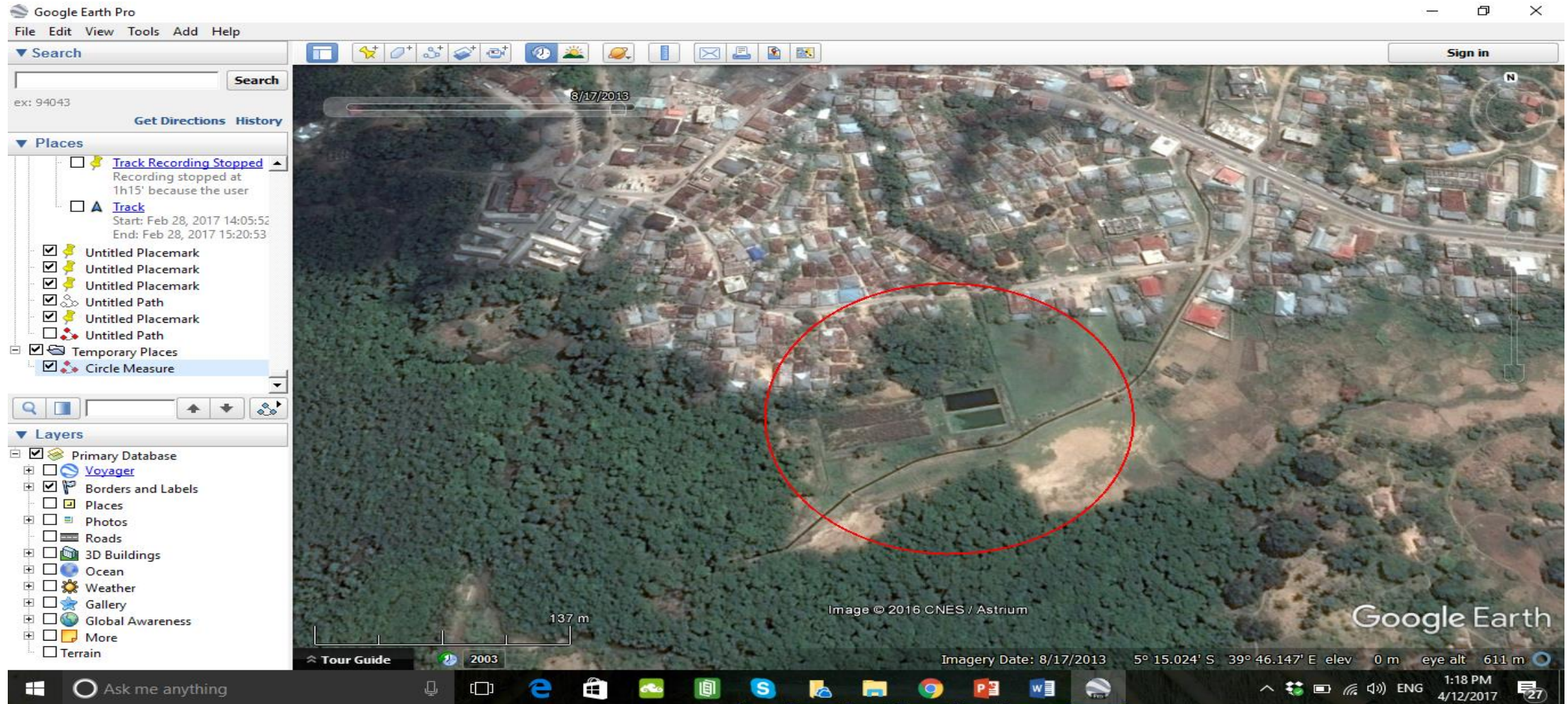
PEMBA, TANZANIA



CHAKECHAKE TOWN



CONSTRUCTED WETLAND POND (MTONI-MSINGINI SYSTEM)



BASICS OF THE WTP

- 1,160 M OF STORM WATER DRAINAGE LENGTH.
- 7 INTERMEDIATE CHAMBERS FOR SEWAGE LINES
- 2 CONSTRUCTED WETLAND PONDS (USING *TYPHA SPP* SOURCED FROM INSIDE PEMBA)
- CAPACITY TO TREAT OVER 200 KLD OF WASTEWATER BUT CURRENTLY RECEIVING LESS THAN 150 KLD.
- 600 CONNECTED HOUSEHOLDS OF CHAKE CHAKE TOWN.
- TRANSFERRED TO CHAKE CHAKE TOWN COUNCIL AFTER COMPLETION.
- ZEMA CARRIES OUT PERIODIC CHECKS AND CONSULTATIONS
- LOOKING FOR AMPLIFICATION UNDER WIOSAP.

CONSTRUCTION WORKS

PLANTING TYPHA



LAYING INLET LINES INTO THE PONDS



CONSTRUCTION WORKS

SEWAGE LINES UNDER ALIGNMENT



INTERMEDIATE CHAMBERS



BASIC ECONOMICS OF CONSTRUCTION WORKS – TECHNOLOGY MADE SIMPLE FOR COMMUNITY PARTICIPATION

CONSTRUCTION WORKERS IN ACTION



COMPLETING THE WETLAND POND



RAW MATERIALS

**TYPHA HARVESTED FROM
FRESHWATER PONDS**



**PREPARING LIMETONE BRICKS FOR THE
POND SYSTEM**



INCREMENTAL EFFECT OF TREATMENT

**TREATED WATER USED FOR
IRRIGATION**



**VEGETABLES GROWN FROM TREATED
IRRIGATED WATER**



FIVE YEARS ON....

STORM WATER DRAIN TODAY



OXIDATION POND BEFORE WETLANDS TREATMENT



PONDS AS SEEN TODAY

RETENTION PONDS



RETENTION PONDS





THE LAST LINE OF DEFENCE – MANGROVES BEFORE THE OCEAN



CONSULTATIONS WITH THE SECRETARIAT IN PEMBA IN MARCH 2017

**WITH VPO, ZEMA, DOE, TOWN
COUNCIL, ZAWA**



WITH VPO, ZEMA, DOE, TOWN COUNCIL, ZAWA



FIELD VISIT AND CONSULTATIONS WITH STAKEHOLDERS



CONSULTATIONS WITH THE MINISTRY



WAY FORWARD

- UPSCALING AND REPLICATION, SCOPING AND EXPANSION.
- ENHANCEMENT OF EFFLUENT REDUCTION MEASURES
- WATER QUALITY MANAGEMENT AND MONITORING
- INCREASED INTERNAL AND EXTERNAL COLLABORATION
- CAPACITY ON PROJECT DOCUMENT WRITE-UP FOR WIO-SAP
- OPTION IN WATER QUALITY, ECOSYSTEM FLOWS AND CRITICAL HABITATS
- WORKING WITH GOVERNMENT AGENCIES AND CLOSE EXPERTS SUCH AS WIOMSA, UNIVERSITIES, IN IMPROVING AND ENHANCING INTERVENTIONS

AHSANTE SANA