

**ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT REPORT  
FOR THE CONSTRUCTION OF FAECAL SLUDGE TREATMENT  
PLANT IN LAMADI TOWN, BUSEGA DISTRICT, SIMIYU REGION –  
TANZANIA**

**(LVWATSAN – Mwanza Project)**

**Non – Technical Executive Summary**  
*(English and Swahili Version)*

**PREPARED FOR:**

Mwanza Urban Water and Sanitation Authority (MWAUWASA) /  
European Investment Bank (EIB)  
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19<sup>th</sup>, September, 2016

## EXECUTIVE SUMMARY

**A: Title and Location of the Project:** Proposed Construction of a Faecal Sludge Treatment Plant in for Lamadi Town, Busega District, Simiyu Region

**B: Name and Contact of the Proponent:**

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**A Brief Outline and Justification of the Proposed Project**

The Lake Victoria Water and Sanitation (LWATSAN) – Mwanza Project, funded by the Ministry of Water and Irrigation (MoWI) and the European Investment Bank (EIB), and implemented between 2014 and 2019, aims at protecting the Lake Victoria environment and wellbeing of the population in the Lake Basin. The Project has several components, one of these being the construction of a faecal sludge treatment plant for Lamadi town.

An Environmental and Social Impact Assessment (ESIA) study for these works for Lamadi town was conducted in January-August 2016; the results have been presented in an ESIA report that was completed on 19<sup>th</sup>, August 2016, and then submitted to NEMC for review and approval.

In Lamadi Town there is no established faecal sludge treatment for the waste being generated in septic tanks and pit latrines. The local administration organizes private operators with suction trucks to empty septic tanks and latrines and when a minimum number of users are

willing to pay, the private operator is called to service several sites at the same time. As there is no appropriate site for disposal of the faecal sludge waste, the waste is dumped in the fields nearby where the private operator has an agreement with the landowner. The works focus on developing a disposal facility near Lamadi town to reduce transportation costs and provide hygienic treatment of the faecal sludge. Construction works, to be implemented simultaneously with water supply works (being subject of a separate ESIA) are expected to start in November 2016, to last for 24 months, followed by a defect period of 12 months.

The land selected for the disposal site is a local government-owned; there is no need for resettlement or compensation for people. Expected negative impacts of construction of the works require the usual set of mitigation measures associated with this sort of work: prevention of soil erosion due to excavation works, pollution of soil and water, noise and dust, spreading of disease, and assuring safety for workers and the general public at construction sites. Operation of the site has been designed to minimize the risk of contamination of the environment through the separation of solids and liquids using settling-thickening ponds, from where each fraction is treated and disposed of separately.

Potential concerns for groundwater protection are pathogen movement in the groundwater and the infiltration of soluble nutrients. Due to their size, the pathogens will adhere to the soil particles and not move far. Soluble nutrients, such as nitrate from urine, will move with the groundwater, but will be diluted to a level where there is no health risk. It is assumed that most of the nitrate has already infiltrated at the site of origin, that is near the households from the infiltration of liquid waste the septic tanks and pit latrines. For re-use of the dried faecal sludge, the operation will secure elimination of *Ascaris* eggs by allowing a three years retention time before final removal of the material.

It is therefore concluded that the negative impacts associated with the proposed intervention are generally site-specific, short-term, reversible in nature, low significance, and can be easily mitigated and that major adverse impacts of the planned interventions are not expected. The usual package of mitigation measures associated with this sort of development are recommended to prevent soil erosion due to excavation and back-filling works, pollution of soil and water sources, dust and noise, spreading of disease and assuring safety for workers and the public in general. A systematic assessment of expected impacts of the intervention learns that the planned development is expected to lead to improved health and sanitation for the population of Lamadi town.

**TATHIMINI YA ATHARI YA MAZINGIRA NA KIJAMII YA MRADI  
WA UJENZI WA DAMPO LA KUHIFADHI NA KUTIBU MAJI TAKA  
KATIKA MJI WA LAMADI, WILAYA YA BUSEGA, MKOANI SIMIYU**

**(Muhtasari Rasmi usio wa Kiufundi)**

**MWENYE MRADI:**

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19, Septemba, 2016

## **MAELEZO YA MRADI KWA UFUPI.**

Mradi wa Maji Safi na Maji Taka katika Mkoa wa Mwanza unafadhiliwa na Wizara ya Maji na Umwagiliaji kwa kushirikiana na Benki ya Maendeleo ya Ulaya, ambao utekelezaji wake ni katika kipindi cha 2014 na 2019, lengo kuu likiwa na kulinda Mazingira ya Ziwa Victoria na uhai wa watu wanaoishi katika ukanda wa Bonde la Ziwa Victoria.

Mradi huu unahusisha ujenzi wa miundombinu mbalimbali ya maji safi pamoja na maji taka, miongoni mwa miradi itakayotelezwa katika mradi huu ni pamoja na ujenzi wa dampo kwa ajili ya kuhifadhi na kutibu maji taka katika Mji wa Lamadi.

Mradi huu wa ujenzi wa dampo la maji taka utahusisha ujenzi wa mabwawa manne ya ukubwa wa mita 50 kwa 50, yenye pande mbili za kuchujia taka maji na jingine la kuchujia taka ngumu kwa kila moja, ingawa katika awamu ya kwanza ya mradi itahusisha ujenzi wa mabwawa mawili ambapo eneo litakalobakia litakuwa kwa ajili ya upanuzi wa ujenzi wa bwawa la tatu na la nne.

Kulingana na Sheria ya Mazingira ya mwaka 2004 na Kanuni zake za mwaka 2005, miradi hii inahitajika kufanyiwa tathmini ya Athari ya Mazingira na Kijamii, ambapo kwa mradi wa Maji taka katika Mji wa Lamadi tathmini ilifanyika katika kipindi cha kuanzia Januari – August 2016, na majibu ya tathmini hii yalikamilika 19 Agosti, 2016 na kuwasilishwa katika Baraza la Taifa la Hifadhi na Usimamizi wa Mazingira, Ofisi ya Kanda ya Ziwa kwa ajili ya uhakiki na kupitishwa

Katika Mji wa Lamadi kwa sasa hakuna dampo maalumu kwa ajili ya kumwaga na kutibia maji taka yanayozalishwa na kuhifadhiwa katika mashimo ya maji taka na mashimo ya vyoo majumbani, maofisini pamoja na maeneo ya vyoo vya umma. Kwa hivyo Mamlaka ya Maji na Usafi wa Mazingira Lamadi wamekua na mfumo wa kuandaa watu binafsi au makampuni yenye magari yanayobeba maji taka kwa ajili ya kutoa huduma ya kunyonya maji taka pindi kunapokuwa na wananchi wanaohitaji kupata huduma hiyo ambao wapo tayari kulipia gharama za kunyonyewa maji taka. Ingawa hakuna eneo maalumu kwa ajili ya kumwaga maji taka, mwenye gari la maji taka kwa kushirikiana na Mamlaka ya Maji Safi na Usafi wa Mazingira Lamadi wanatafuta eneo la wazi na kufanya makubaliano na mwenye eneo kwa ajili ya kumwaga maji taka hayo.

Utekelezaji wa mradi huu unatarajiwa kufanyika karibu na Mji wa Lamadi ili kupunguza gharama za usafirishaji wa maji taka na kuimarisha usafi katika kutibu maji taka. Ujenzi wa mradi utakua unajengwa kwa kipindi kimoja na ujenzi wa mradi wa maji safi katika mji wa Lamadi ambapo ujenzi wake unatarajiwa kuanza katika kipindi cha November 2016 na kukamilika katika kipindi cha miezi 24, na kufuatiwa na kipindi cha majaribio cha miezi 12

Eneo linalotarajiwa kujengwa mradi wa mabwawa ya maji taka tayari linamilikiwa na serikali kupitia Halmashauri ya Wilaya ya Busega, hivyo basi hakutahitajika kuwa na uhamishaji wa watu au ulipaji wa fidia.

Athari hasi zinazotarajiwa kujitokeza kutokana na ujenzi huu zitahitaji kuchukuliwa hatua mbadala za ufumbuzi: miongoni mwa hatua mbadala ni pamoja na kuzuia mmomonyoko wa ardhi unaosababishwa na uchimbaji na ufukiaji wa ardhi, uchafuzi wa maji na udongo, makelele na vumbi, kuenea kwa magonjwa, pamoja na kuhakikisha afya na usalama wa wafanyakazi na jamii kwa ujumla katika maeneo ya ujenzi.

Uendeshaji wa mradi huu umebuniwa katika mfumo wa kupunguza madhara ya kimazingira kwa kutenganisha taka ngumu na taka maji kwa kutumia mfumo wa mabwawa ambayo kila moja litatibiwa na uchafu kuteketezwa kipekee bila kuwa na madhara.

Kuhusiana na uhifadhi na utunzaji wa maji ya ardhini, jambo la muhimu litakuwa ni kuzuia kusambaa kwa wadudu / vimelea na kuingia katika mikondo ya maji. Kulingana na ukubwa wa mabwawa hayo, wadudu / vimelea vitasambaa katika udongo tu na havitoweza kusambaa kwa umbali mrefu na kuingia katika mikondo ya maji ardhini.

Mchanganyiko wa vimelea, kama wadudu wapatikanao kwenye mikojo, watatembea pamoja na maji ya ardhini, ingawaje maji taka yatatibiwa katika kiwango ambacho wadudu watakosa nguvu za kuendelea kuishi. Vimelea vingi vitakua vimenyonywa kwenye udongo katika maeneo ya uzalishaji wa maji taka, karibu na maeneo ya jirani na nyumba ambako ndiko vyanzo vya maji taka viliko kama vile mashimo ya maji taka na mashimo ya vyoo.

Mabaki ya maji taka ambayo yakakuwa katika mfumo wa taka ngumu yatahifadhiwa kwa kipindi cha miaka mitatu kwa ajili ya kuivishwa kwa kuondoa wadudu na mayai ya wadudu na baada ya hapo yatatumiwa na wakulima kwa ajili ya mbolea ya mashambani.

Kwa kuhitimisha, madhara yatakayosababishwa na mradi yatakumba eneo la mradi pekee, na madhara yake yatakua ya muda mfupi, yanayoweza kutatuliwa kwa muda mfupi, na yanaweza kuepukika, pamoja na kwamba madhara hayo yanaweza yasijitokeze kama umakini kipindi cha utekelezaji wa mradi utapewa kipaumbele.

Katika mradi huu mbinu mbadala za kutatua changamoto ambazo zinaweza kujitokeza ni pamoja na kuhakikisha suala la kuzuia mmomonyoko wa udongo katika eneo la mradi kipindi cha kuchimba na kufukia linazingatiwa, kuhakikisha hakuna uchafuzi wa udongo na vyanzo vya maji, kuzuia kusambaa kwa magonjwa pamoja na kuhakikisha afya na usalama wa wafanyakazi na jamii kwa ujumla.

Majibu ya utafiti huu yanaonesha kuwa, mradi huu tarajiwa utakua na manufaa makubwa kwa jamii kwani utasaidia katika kuboresha afya na usafi kwa jamii ya watu wa Mji wa Lamadi kwani watu watakua na eneo maalum kwa ajili ya kumwaga na kutibu maji taka na kufikia kiwango ambacho hakina madhara kwa binadamu na viumbe wengine.