COMMENTS AND RECOMMENDATIONS on the DRAFT WSDP III

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Introduction

These recommendations were prepared based on the events aligned to the Maji Week 2022 and in particular the Conference on Wastewater and Faecal Sludge Management, which was facilitated by BORDA in Dar es Salaam on the 6th of April 2022. Within this conference key stakeholders from the Government of Tanzania, including Ministries in charge for sanitation, public health and environment, LGAs, EWURA, TBS, WSSA, RUWASA, academic institutions, private service providers and consultants, sector Networks, CSOs and PDs evaluated the progress of the past three years and developed specific targets for improved wastewater and faecal sludge management in Tanzania. The recommendations are further based on existing Tanzanian Guidelines, as well as recent reports and literature. We much appreciate the contribution of all stakeholder, which we summarize within these recommendations and which are further presented in the attached report of the conference. We especially like to thank the United Nations Environmental Programme (UNEP) for their ongoing support.

Comments and Recommendations on Chapter 6.1.3 and 8.0

Chapter	***Page***	***Comment***	***Supporting Literature / Data***
6.1.3	57	"***Target 2:"*** Very good: "Wastewater quality standards and guidelines reviewed and implemented by 2025." – Can be more specific? Which exactly? We suggest more specific standards depending on the volume of water discharged (or the People Equivalent (PE) connected to a Treatment Plant) and kind of receiving water body (e.g. water used as source for water supply, used for recreation, natural conservation, marine water bodies, ground water, etc.). We also suggest to develop standards for discharging the effluent from FSTPs (which due to the nature of Faecal Sludge, is highly concentrated in e.g. COD). Here as well a differentiation according to the size of the treatment plant (PE) and the receiving water body / type of reuse is required.	
Table 3	59	"Recycling and re-use of wastewater promoted by 2025. The line of actions" – Editing: Delete "The line of action"	
8.0.	75	"The sewered sanitation services in urban areas are still low due to old and inadequate infrastructure" – not only: mainly because insufficient investment in extension of the sewer system and rapid urbanization creating a fast increase of demand	

Comments and Recommendations on Chapter 8.1

Chapter	Page	Comment	Supporting Literature / Data
8.1.	76	"physical sewer infrastructure for conveyance ***and*** treatment of sewage facilities and services for the safe disposal of sewage in urban centres" better: " […]physical sewer infrastructure for conveyance ***to*** wastewater treatment plants (WWTP), which enable safe disposal / reuse of sewage, e.g. in urban centres."	
8.1.	76	"The sewered sanitation services in urban areas are still low due to old and inadequate infrastructure, which results into leakage and ineffective treatment of wastewater." This is an unnecessary repetition and can be deleted, see same page above	
8.1	76	"WSDP III will promote appropriate technologies for further treatment of effluent and sludge for recycling and re-use purposes" :: What technologies are referred here? Are these technologies existing in Tanzania? Are there existing guidelines for these technologies if apart from WSPs and DEWATS? We propose to evaluate technologies before promotion and where possible to apply tested solutions: look at the pros and cons for each technology focusing on land availability for construction, capital costs, operational and maintenance costs, technical capacity both construction and operation, context, customers response.	BL: 4
8.1	76	"The objective is to have a reliable, affordable, sustainable and safely managed sewered sanitation services". If this is the case then, I recommend to adopt simplified sewerage systems with DEWATS as treatment option.	

Chapter	Page	Comment	Supporting Literature / Data
8.1.	76	We strongly recommend to include the option of decentralized wastewater treatment which is connected to decentralized sewage networks (can be e.g. simplified sewer systems)	Guidelines for the Application of Small-Scale, Decentralised Wastewater Treatment Systems, MoW, 2018
8.1.	76	"improve access sewer sanitation services in urban areas from 13% to 30% by 2025" This is almost 57% increase, is this realistic within this short remaining period? Does the enabling environment to make this happen exist?	BL: 1, 2 and 3
8.1.	76	"The existing sewered sanitation infrastructures are inadequate and most are old resulting into blockages and leakages." Unnecessary repetition, especially as this is not the main challenge. The main challenge is related to raid urban population growth and urban sprawl.	5 and https://www.tawasanet.or.tz/files/2019_Tanzania-Guidlines.pdf
8.1.	76	"In addition, most of the existing sewered treatment facilities do not cater for faecal sludge treatment, which causes deterioration of treatment facilities, hence the quality of both treated faecal sludge and effluents not meeting disposal standards." To be clear: the problem is disposal of faecal sludge in treatment plants / ponds which are designed for wastewater	
8.1.1.	76	**"Strategy 1: Promote joint town level master planning"** We propose to have a rapid assessment of existing sanitation planning tools, e.g. city-wide sanitation plans to be derived from the existing guide for Dar es Salaam city sanitation planning, and to apply the most appropriate. M&E and following development of the most appropriate tool shall be a continuous process with dedicated personnel/institutions. Many tools are available, and tested with little coordination. As the development of sanitation planning tools requires significant resources and capacities	https://www.borda.org/solutions/city-sanitation-planning

Chapter	Page	Comment	Supporting Literature / Data
		sector actors shall collaborate effectively to achieve improved and updated city sanitation planning tools.	
8.1.1.	77	"Strategy 2, ***Target 1*****: 500 km** sewerage network constructed by 2025" , better to use the number of household connections as indicator, instead of the km of sewerage. Generally the length of a sewerage network should be kept as short as possible while at the same time connecting as many people as possible, to reduce costs, and increase affordability.	
8.1.1.	77 -78	**Strategy 3, target 1 to 4** highlight the rehabilitation of existing sewerage systems. The reason that sewerage system is failing especially in DAR is because the government could not keep up service provision with the demand caused by population growth. Rehabilitating the existing system will include uprooting of existing concrete pipes and demolition of other infrastructures including chambers and manholes. This is complex and cost full. We propose rehabilitation to be made on areas where uprooting is possible and cheap, while looking for other (appropriate) options for services provision in areas where sewer systems are not feasible or too expensive. On the same note, the allocated period/time to accomplish this task is not realistic	BL 2
8.1.1	77	***"Target 2:*** Seven (7) treatment plants with total capacity of 154,000m3/day constructed by 2025." This does not seem realistic. We recommend to be more specific. Are these ongoing projects, e.g. by DAWASA? Then this shall be mentioned and described as "finalizing" ongoing projects in XX WSSA, or initiating XX Projects in YY WSSA. Also the number of treatment plants are low in comparison to the treatment capacity. Sewer systems	

Chapter	Page	Comment	Supporting Literature / Data
8.1.1.	77	"***Target 3:*** 12,000 customers" : This is very low in comparison to the high aim capacity of 15400m³/day in new WWTPs	
8.1.1.	77	**"Strategy 3: Expand sewerage systems"** in which way is this different than "**Strategy 2: Construct new sewerage systems"**. Are the targets listed under "expand sewerage system" in addition to "construct new sewerage system"? We recommend joining the two strategies, as there seems to be no significant difference. We also recommend to strategically evaluate and plan which sewerage networks are to be expanded. This shall be based on Strategy 1: "**joint town level master planning"**	
8.1.1.	78	**"Strategy 4, Target 1:"** – "DEWARTs" – We recommend to use the original term "DEWATS" for Decentralized Wastewater Treatment Systems according to the national guidelines. We propose strategy 4, in Particular DEWATS, to be the priority here, taking into consideration the technology selection criteria e.g. : Is the enabling environment existing to allow the execution? Customer willingness? Land? Budget? Particular attention is required also to serve rural areas where 70% of the population lives. What sizes of plants are to be constructed? At some point, will some of these plants be connected to existing sewerage networks? What will be the criterion for the selection of sites to benefit? What is the status of enabling environment for re-use? Re-use standards for treated WW and FS end products are not in place yet. This is a very critical factor	Guidelines for the Application of Small-Scale, Decentralised Wastewater Treatment Systems, MoW 2018 https://www.cseindia.org/tanzania-the-state-of-sanitation-10866 BL: 6 & 7 Report on WW&FSM Conference 2022

Chapter	Page	Comment	Supporting Literature / Data
		especially when conducting market promotion. Were there any conducted preliminary studies regarding the social-culture acceptability (willingness and readiness to use), and the market variability between biosolids and artificial fertilizers (N, P, K)?	
			https://www.epa.vic.gov.au/-/media/epa/files/publications/1707-1.pdf
8.1.1.	78	**"**Decentralized wastewater systems (also referred to as decentralized wastewater treatment systems) consists of a variety of approaches for collection" – It is one approach, but a variety of technologies	Guidelines for the Application of Small-Scale, Decentralised Wastewater Treatment Systems, MoW 2018
8.1.1.	78	"**Strategy 6: Promote private sector participation in provision of sewered sanitation services."** This needs more elaboration and discussion: Shall private sector implement, own and operate public sewer systems? We recommend to evaluate the enforcement of private decentralized sewer and treatment systems on-site at locations with high wastewater generation, e.g. in large institutions, new housing projects, and industrial facilities. Lessons learnt e.g. from the Indian context shall be evaluated and used as basis. Provide guidance which technologies are appropriate at which institution. Agree on a percentage / amount to be allocated to wastewater treatment when implementing new buildings, institutions industries, e.g. new hospitals, building	Guidelines for the Application of Small-Scale, Decentralised Wastewater Treatment Systems, MoW 2018 4-S-Project in India, by EAWAG-Sandec: Eawag - Swiss Federal Institute of Aquatic Science and Technology - Eawag Review and further develop: „ 2019, Tanzania: Action Plan For Enhancing Private Sector Participation In The Water Sector" Guidelines for industrial wastewater by EWURA/GIZ

Chapter	Page	Comment	Supporting Literature / Data
		complexes, breweries, etc. and agree on feasible improved solutions. The aspect of Industrial Wastewater Management is strongly neglected in the WSDP III. This needs to be improved based on the new guidelines developed by EWURA and GIZ. The first target shall be related to exploring the potentials of involving industries and making them accountable for their pollution. We also recommend to create frameworks which clarify how to an create enabling environment for investors while focusing on the infrastructures and services sustainability.	
8.1.1.	79	"The sewered sanitation still has a problem in tariff setting for house connection, standard for influent disposal for the end product." Review this sentence to make the message clear.	

General recommendations on Chapter 8.1

1. Apply the available guidelines and specify targets based on these-
2. Review the structure of Chapter 8.1:
    a. Sewer systems are not only relevant for centralized systems, but also required for decentralized systems
    b. “Appropriate Technologies”, as a own chapter seems as if the other systems are not appropriate.
    c. Expansion of sewer systems and implementation of sewer systems seems the same, and a differentiation seems irrelevant.
    d. Increase the focus on alternative sewered sanitation solutions such as simplified sewer system
    e. WE RECOMMEND THE FOLLOWNG STRUCTUE:
        i. Centralized Systems:
            1. Conveyance
            2. Treatment
            3. Reuse /Disposal
        ii. Decentralized Systems
            1. Conveyance
            2. Treatment
            3. Reuse /Disposal
        iii. Private Sector Participation
        iv. Sewered Service Delivery and Regulation

Comments and Recommendations on Chapter 8.2.

Chapter	Page	Comment	Supporting Literature / Data
8.2.1	81	"***Target 1:*** Location specific map with recommended capture and containment technologies prepared by 2025" *Comments* – This needs more elaboration to indicate specific target – To how many regions will the topographical maps be prepared? we propose to first conduct baseline surveys study to proposed regions prior the intervention. What does it mean by identifying technologies for capture and containment, is it on-site or off-site? If onsite, we have pits and septic tanks which are currently existing types of containment systems in Tanzania. The only challenge with them is that most are not aligned and it is challenging when you want to empty them as some have no manholes. I propose to continue targeting on the same technologies but focusing on how to improve them. If off-site, why should we opt that? We will need more space, construction costs etc. I propose to go for DEWATS where treatment capacity will be design depending upon the quantity of WW generated with a buffer for waste case scenarios. I propose to first invest in preliminary surveys before hypothesizing on the business model. What does it mean by faecal sludge ponds, are these anaerobic ponds or?	https://www.tawasanet.or.tz/files/2019_Tanzania-Guidlines.pdf and https://borda-africa.org/wp-content/uploads/2021/05/FSM-DAR-GUIDE.pdf and 8
8.2.1	81	***Target 2:*** Capture and containment manual developed and implemented by 2025.	Consultation can be made to CCI- Centre for Community initiative which implemented successfully the sanitation loan project in Dar es Salaam

Chapter	Page	Comment	Supporting Literature / Data
		Comments – There should be a mechanism for reaching those who are currently using non-emptiable containments. The strategy can be to create enabling environment for private sector participation through issuance of sanitation improvement loan to households. The loan will be used to incur cost for safe emptying and upgrading of the containment to make them emptiable as per EWURA and DEWATS Guidelines	*Example* Kasala, S. E., Burra, M. M. and Mwankenja, T. S. (2016) 'Access to improved sanitation in informal settlements: The case of Dar es Salaam', *Current Urban Studies*, 4(March), pp. 23–35. doi: 10.4236/cus.2016.41003.
8.2.1	82	"***Target 3:*** 60 emptiers" and 200 transfer stations *Comment* – What are the "emptiers": Are these vacuum tracks? Provide the meaning given by MoW to WSSA and Municipalities? – Transfer stations have been impracticable in Tanzania and other parts of the word mainly because of bureaucracy is soliciting land for construction of Transfer station, also they have been ineffective because of operation and maintenance: • If transfer station is mandatory, the plan should be purchase of fabricate locally *the Mobile Transfer Station* • Mobile Faecal Sludge Management Transfer Station will address the problem of long distance to treatment plant. However, the problem of accessing remote house plots in unplanned areas will remain. Because the large vacuum tankers have problem in accessing narrow street road and the pumping is inefficient at a distance of over 60 m. To do away with this problem, a plan can be to build capacity of COBWSOs (rural) and Sanitation Centres (In Urban) on managing *movable/Portable* Faecal Sludge Transfer Stations • Regarding the purchase of 60 Emptier truck. Since the trucks will fail to provide service to house plots in remote/congested	Godfrey, A. and Mtitu, F. (2015) 'Pit emptying business model: Lessons from Dar es Salaam , Tanzania', *38TH WEDC International Conference, Loughborough University, UK (27-31 July, 2015)*. Boot, N. L. D. (2008) 'The use of transfer stations for faecal sludge management in Accra, Ghana', *Waterlines*, 27(1), pp. 71–81. doi: 10.3362/1756-3488.2008.007.

Chapter	Page	Comment	Supporting Literature / Data
		settlements. Plan should be in place to Register Small Scale Sanitation Service Providers, who provide service using Manual hand pumps. The target may be set around having registered in place, small scale sanitation service provider in urban areas and maintaining the database.	
8.2.1	82	"***Target 4:*** 22 faecal sludge ponds", *Comment* – why "ponds" – this should not be limited to ponds, but the technologies shall be selected according to the specific context. We recommend to use the expression "Faecal Sludge Treatment Plants" (FSTPs). And it is important to be consistent with the terminology.	OSS&FSM – Guidelines EWURA, 2020
8.2.1	82	Target 4: "Other actions include identify and register artisans for construction of capture and containment facilities *Comment* – "The statement is repeated in target 2. Hence can be deleted in target 2	
8.2.1	83	***Strategy 2 "Target 2:*** 100 disposal sites" *Comments* – What are the "disposal sites being referred to in this target? Are these FSTPs? How is this different to the targets mentioned under Strategy 1? We recommend to combine the respective targets as this seems to be a repetition.	
8.2.2.	83	"Regulation of non sewered service"	OSS&FSM – Guidelines EWURA, 2020 ESAWAS Guidelines for Regulation of Sanitation Services.

Chapter	Page	Comment	Supporting Literature / Data
		Comment – This is much too general and shows little motivation for action. We recommend to review guidelines developed by EWURA in 2020 and by ESAWAS, and to include appropriate Strategies in the WSDP III.	
8.2.3	83	"**Strategy 1: Ensure non-sewered sanitation service delivery meets standards.** *Comments* – The target is to improve non-sewered sanitation services by 2025". This is very general, and not specific. How to improve? And how to measure the improvement? – This (e.g. "procure desludging and transportation equipment and working gears") also seems to be overlapping with 8.2.1, strategy 1, e.g. target 2 & 3 – As non- sewered services are required in urban areas as well, the text that task UWASA to carry out same businesss in urban areas should also be added	
8.2.3	83	**Strategy 1:** "establish charges to facilitate the cost" *Comment* – This requires much more elaboration. We recommend reviewing existing publications. E.g. shall a sanitation levy be introduced? We recommend to have this as an individual strategy with its specific targets.	FSM Guide for DAR, DAWASA & BORDA, 2021 Publications by EWURA and ESAWAS
8.2.3	83	Strategy 1: "procure desludging and transportation equipment and working gears;"	WW&FSM Conference Report 2022; Chapter Institutional Arrangements and Private Sector Participation.

Chapter	Page	Comment	Supporting Literature / Data
		Comment – For which actors will these be provided to? Is it private entrepreneurs of to the WSSA or Utility sanitation workers?	
8.2.3	83	"prepare standards and guidelines for non-sewered services;" *Comment* – Which new standards are required? Review the WW&FSM Conference Report 2022. The focus shall first be on implementing the existing guidelines. –	WW&FSM Conference Report 2022
8.2.3	83	"***Target 1:*** The target is technologies for non sewered sanitation chain developed and implemented," *Comment* – which technologies of non-sewered are being referred to need to be specified. We recommend to focus on emptying and transportation equipment, which enables accessing containment systems which are currently inaccessible.	WW&FSM Conference Report 2022, Chapter Technologies
8.2.3	83	**Strategy 2; Target1**; "percent of sludge effluent quality tests which meet the effluent quality standards by 2025." *Comment* – Up to now there are no standards for the effluent (liquid fraction) form FSTPs. We recommend to develop specific standards for the effluent from FSTPs, as these cannot apply the standards for effluent from wastewater treatment plants	WW&FSM Conference Report 2022, Chapter "Environmental compliance and effluent standards"
8.2.3	84	"**Strategy 3: Promote private sector participation in provision of non-sewered sanitation services."**	WW&FSM Conference Report 2022; Chapter "Institutional Arrangements and Private Sector Participation"

Chapter	Page	Comment	Supporting Literature / Data
		Comment – We recommend to be more specific here. In particular Emptying and Transportation Equipment can be owned and operated by the private sector. This shall be enabled, especially in areas where business is currently impossible due to high costs and low willingness to pay. Also FSTPs can be owned and operated by the private sector. Experience from e.g. Dar es Salaam, Iringa, Shinyanga, and Tunduma shall be applied. We recommend to review the WW&FSM Conference Report 2022, Chapter "Institutional Arrangements and Private Sector Participation", and the "FSM Guide for DAR"	FSM Guide for Dar es Salaam, DAWASA & BORDA, 2021

General recommendations on Chapter 8.2

- The 2021 Water Sector Status Report [1] provides adequate data on sewer connection, access to sanitation facilities and number and Councils that implement specific project for faecal sludge treatment. The report, however, lack information on settlement that access sanitation facilities through simplified sewers, as well as the number of operating sanitation service providers who provide desludging services
- Water Supply and Sanitation (Provision and Management of Sewage and Wastewater Services) Regulations of 2019 [2], has clearly defined roles and responsibilities of utilities and Local Government regarding desludging, transportation and Treatment of faecal sludge. However, awareness and collaboration among the parties is still low as reported in the 2020/2021 EWURA Water Utilities Performance Review Report [3] thus effecting effective delivery of sanitation services. This is also presented in the report of the WW&FSM Conference 2022.
- Law enforcement is one of effective tools for inducing behavioural change for instance in fostering hygienic desludging practices wherever feasible (e.g. where FSTPs are available). However, a majority of Local Government Authorities maintain outdated laws that stipulate low penalties against poor desludging practices [4]. As consequence uptake of desludging equipment especially those designed to be used in unplanned settlements where a majority of urban residents live remain low [5].
- Large vacuum tankers face difficulties in accessing plots amidst informal settlements. Multi-staged conveyance system (intermediate transfer stations) are reportedly to have potential of expanding services in these areas as presented during 2022 Maji Week Conference.
- Specific target and status of implementation of non-sewed sanitation ought to be set to track progress. In particular targets for upscaling of DEWATS such as Biogas settler as well as setting specific Target on the number of registered sanitation service providers.
- Develop coordination mechanism at Local Government Authority (LGA) level to enhance collaboration between Water Supply Authorities (WSSA and RUWASA) and LGAs on matters related to household acquisition of emptiable containments, registration and monitoring quality of sanitation services as per OSS & FSM Guidelines[6]
- Local Government Authorities should be capacitated in reviewing bylaws to include sections that induce behaviour change and promote use of improved desludging and transportation infrastructure and services
- Area inaccessible with the vacuum tankers and far for manual carriage of faecal sludge, can adopt movable/intermediate transfer stations. Utilities in collaboration with LGAs should map areas inaccessible with the vacuum tanker and develop specific programme to reach desludging services

Comments and Recommendations on Chapter 8.3.

Chapter	Page	Comment	Supporting Literature / Data
8.3	90	The WSDP III, targets at ensuring improved sanitation and health facilities to all institutions by 2025. Is this realistic, tasks vs timeframe? We have the 2016 WASH Guideline for schools which focus on ensuring availability of toilets, water supply and functional handwashing facilities, the 2016 Guideline for Rural CLTS which focus on involving children to end open defecation and behaviour change. However,	
8.3.1	91	The WSDP III, targets at upgrading and/or constructing new WASH infrastructures in health care facilities (HCF). However, it did not mention the existing enabling environment for such improvement plans; from sanitation budget constraints, management of both WW and FS which will be generated from such facilities, availability of area for improvements and monitoring of such infrastructures and services.	BL 9
8.3.2	93	On improving WASH in schools, WSDP III action 1 focuses on constructing and upgrading infrastructures. It is better to consider the fact that SWASH report [1] notes that policy measures and fee-free schemes have encouraged many students to enrol for school education. In rationalising the number of facilities per school, this should also be considered. Another concern is about the quality of supplied water, the same report indicates that approximately 20% had water from unprotected sources. Another concern is on the availability of water, 22% of water supply infrastructures were not providing the service due to unreliable sources. The report on the state of sanitation in Tanzania mentions that only 10.6% of school toilets are disabled friendly, which	BL 10, https://www.cseindia.org/tanzania-the-state-of-sanitation-10866 and BL 11

Chapter	Page	Comment	Supporting Literature / Data
		is aligned with the 2018 WASH Budget Brief [2] that 96% of school toilets do not have facilities for disabled children. So, while focusing on improvement, we should also consider the issue of quality and reliability especially in water sources. Furthermore, focus should be made on the lining of the pit and septic walls to prevent pollution of water sources. The fact that our theme is not to leave anyone behind, considerations should also be to disabled when designing and upgrading.	
		BL12	BL 12
8.3.3	94	The WSDP III, strategizes on the installation/rehabilitation of WASH facilities in public places. However, the plan does not show any existing enabling environment that supports the effort; existing budget constraints in sanitation, lack of feasibility studies, nature of proposed sanitation technology approach with a focus on availability of space. Is there enough resources from both the authority and utilities to ensure the sustainability of such infrastructures and services?	
8.3.4	95	The WSDP III, targets at construction of WASH facilities for travellers and hygiene promotion. In Tanzania currently, we have several weigh bridges almost every when entering any region. In these stops, they provide water and sanitation services although in most cases not for free. Why shouldn't WSDP III think of integrating the existing infrastructures and focus on hygiene promotion and advocating on the use of such facilities to travers? On the same note, WSDP III should think of assigning responsible LGAs on ensuring a continuous monitoring for sustainability.	

General recommendations on Chapter 8.3

1. Guidelines are available, e.g. for Schools and Health Care Facilities but the operationalization / application of Guidelines require more attention. Additional guidelines might be required for public spaces, e.g. markets and highways
2. Targets are high and thus unrealistic in relation to the time line; it partially requires more focus on achievable targets.
3. It seems as if ongoing projects are listed as targets here, but it is not transparent which targets are related to ongoing projects, and which projects need to be initiated to achieve the overall targets.
4. Monitoring and maintenance of existing facilities requires more attention.
5. Implementation of onsite facilities requires increased faecal sludge management. A good strategy is required to align increased production of faecal sludge in newly constructed containment systems, with the services implemented to collect and treat faecal sludge.
6. Research on opportunities for appropriate technologies requires attention and support. In areas with high wastewater / Faecal Sludge production under one management and with a reliable source of revenue (e.g. at Bus stops and Markets) opportunities can be available.
7. Strengthen the focus on enabling and enforcing implementation of improved treatment facilities by private entities and/or on private land. This includes financial initiatives and regulation. Review barriers in legislation, e.g. to implement public infrastructure on public land. Align this with “prepare/review private sector engagement strategy”.

Comments and Recommendations on Chapter 8.4

Chapter	*Page*	*Comment*	*Supporting Literature / Data*
8.4.1 - Social Behaviour Change Communication campaign	95	Strategy: District government staff and partners have undertaken CLTS and human-centred design in new communities on good hand-washing practice and toilet use. **Recommendation 1.** Strengthen Engagement of stakeholders at community level- religious, leaders, community leaders , strengthening children interventions in school and out of school, youth groups , women groups, use of local media , **messages in local language** (radio episodes on improved toilet use) to address the gaps found in areas and communities which still practice open defecation those are socially and geographically isolated SBCC – messages to be communicated should be comprehensive to educate people on proper technologies as raised in the JWSR undertaking TWG4 **Recommendation 2.** Increase motivational events – such as football league for youth – this to trickle down at village /ward level , National level to provide a token as start up for prizes, tshirts etc- Take the Nyumba ni Choo Cup downward at village and ward level- this could be coordinated by the district cultural officer (Afisa Utamaduni)- for sustainability it has to be handled at LGA level.	WSDP III , JWSR undertaking WSSR 2021 – pg 42 WSDP II Evaluation pg 41 key findings

Chapter	*Page*	*Comment*	*Supporting Literature / Data*
8.4.2 - Baby WASH	96	**Recommendation 1.** Add Strategy : to integrate water, sanitation and hygiene (WASH) into maternal, newborn and child health (MNCH), early childhood development (ECD) and nutrition programs **The recommendation 2** : to be added to strategy is enhance Direct Consumer Contact- this should be done to revive the house to house visit by Community health workers or community volunteers. Therefore materials to be produced such as Flip Chart with Sanitation and Hygiene messages and education to be used , these materials should be packed in the so called Sanitation and Hygiene bag (Mkoba wa Usafi na Afya) – it's a proposal Implementation of this strategy can be done at the clinics, women gatherings /events and house to house evening talk.	WSDP III

Chapter	*Page*	*Comment*	*Supporting Literature / Data*
8.4.3. - Menstrual Health and Hygiene Management subcomponent	97 & 98	**Provide targeted support for adolescent girls who are still in school:** each school with girls will be supported with menstrual management materials for addressing the emergences that may occur to girls and female staff. Also as part of capacity building and intensification of MHH activities in school, the WSDP III will train matrons for each school to enable the transfer of right knowledge to pupils including boys. **Recommendation:** 1. The strategy of building capacity and training of Matron in schools should also consider training of Male teacher patron to support boys 2. Another strategy should be added to ensure provision of **training and reading materials- teaching guides** on MHH Provision of materials has to be sustainable and the way should be working with the ministry of education to increase allocation in Capitation fund so that to have continuous support. This could be done by either setting standalone percentage of fund for MHH and direct head teachers to use it for the purpose. It is also important that a guide on disposal facilities is provided – currently implementers are using variety of technologies. Others construct covered pit, others burning chamber attached to the MHH room, others construct standalone burning chamber. The 50% of schools that are targeted to have WASH facilities is hanging, 50% from where and where do we want to reach. **Inclusive MHH** – There should be investment in provision of materials and support for girls with disabilities. Therefore innovations should be encouraged around this area – specific budget to support innovation	WSDP III Menstrual Health and Hygiene among School Girls in Tanzania, Research report by NIMR

- Shortcomings identified in the WSSR are not addressed by the undertakings – these should be linked

Component 4: Sanitation and Hygiene

1. Unexpected price increase on the construction materials such as cement, still bars and timber;
2. The COVID-19 pandemic caused delay or suspension of some of the activities.
3. Shortage of Environmental Health Officers in the implementing councils;
4. Inadequate number of civil engineers to supervise construction work to the projects which are managed through Force Account; and
5. Shortage of transport to enhance supervision and monitoring.

The WSDP II evaluation mentioned on sanitation Urban:

The DPs indicate that Tanga city, for example, collects household wastewater into sewers and then discharges it out to sea untreated. This is not sustainable – there is no undertaking to ensure that this issue is addressed. Hence the WSDP III should clearly in the targets for sanitation state which regions or towns will implement the construction of treatment system or anything. It is in the document just said in numbers but not specific targeted areas which can at the end be asked. (WSSR 2021 Pg 58, WSDP II evaluation Pg 41)

Recommendation:

1. Strengthen and encourage the supply side (e.g. by private – sector participation) as
2. Research on the issue of availability vs. affordability of services.
3. Balancing demand and supply is a key challenge: supply can only be built up when demand is high, and demand can only be created when supply is available.
4. Baby WaSH
    a. There should be a budget allocated to facilitate production of contents/package (materials) for Mkoba wa afya na usafi.
    b. The responsibilities/incentives of community health workers should be clearly stated and accountability of VEO and WEO on supporting the implementation of sanitation at household level.
    c. Specific budget for procuring and capacitating of new health workers at community level. It should be a sustainable capacity building
5. Menstrual hygiene
    a. The recommendation to support boys (through patron) to understand the MHH issues should go hand in hand to address the effect of MHH environment. This should be a room to enhance boys behaviour change and practices.

Recommendation on Programme coordination and Delivery support

12	Dialogue mechanism was more effective during WSDP I than WSDP II. The transition to earmarked projects during WSDP II significantly reduced overall incentives for sector dialogue.	The dialogue should explore collaboration in design to align with the National Water Strategy and to improve the coordination between the different parties and enhance the effectiveness of the DPWG.
Commitment of WSDP III to address the gap identified during WSDP II is NOT enough. Inactiveness of the dialogue mechanisms as observed in WSDP II were hindering CSO's in taking up its oversight role as were observed and useful in WSDP I. ***Recommendation:*** 1) *The WSDP III should ensure the dialogues dialogue calendar as committed is well implemented to support uplifting the sector through technical sharing, learning and consultations.* 2) *Improve the engagement of CSO´s in TWGs. This increases accountability and alignment of efforts on both sides.* 3) *Include also private sector in the dialogue mechanism through their associations (e.g. pit emptier association) to develop enabling environments for private investment and participation for service delivery.* ***Observation:*** *"**Target 1:*** Four (4) TWGs, one (1) steering committee, two (2) JSM and one (1) Maji Week event conducted annually." Is the JWSR is not mentioned under Target 1, while it is a relevant instrument to increase accountability.		

Table 1: Lessons from WSDP II and Recommendations for WSDP III

22	Water supply project should involve a component of sanitation	We recommend for every water supply project should involve the sanitation component starting with the financial agreement, and thus increase financial resources for sanitation. (review report from WW&FSM Conference 2022). This is good; however, it needs more emphasis and commitments. ***Recommendation:*** Programme should consider struggling at least towards meeting international/regional commitment of committing 0.5 of GDP pledged to support sanitation and hygiene services. As referred to *eThekwini Declaration*; *N'gor Declarations*

General recommendation on Stakeholder Engagement during WSDP III

To enhance effective utilization of efforts, energy and resources contributing to the smooth implementation of the program it is our opinion that the following should be considered for improvement;

(i) Revitalizing active dialogue mechanism – through TWG's, JSM, JWSR and other sector related platforms to provide space for coordination, sharing, learning and close monitoring of sector progress. As committed in the WSDP III targets

(ii) Strengthening **coordination** and improvement of the existing relationship between government and sector stakeholders with specific emphasis to CSO's and the private sector. This will enhance utilization of efforts, energy and resources in contributing to reach the intended sector targets at the national and global levels

(iii) Finalizing review process of the **Water policy**, this document has been in the review process for some time back. Some key important issues were incorporated to provide guidance of handling sanitation aspects/issues. WSDP III should translate the draft new Policy very well – taking in consideration any current changes which was not accommodated in the NAWAPO 2002

(iv) Development/Strengthening of **data collection systems** to accommodate key information capturing left behind items/components including WW & FSM. Specify key data required for monitoring, planning and optimization. Review KPIs specified in guidelines.

(v) Financing – **increase funding base/budget** to uplift sanitation sector profile hence multiply employment chances for young people through sanitation sub-sector (refer regional and international commitments

(vi) Push **implementation of agreed undertakings** from the sector platforms (EWURA reports, JWSR undertakings and the rest of sector short/long term plans) reach the intended sector targets at the national and global levels. The WSDP III shall specify which institutions are responsible.

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Appendix: Report – Conference on Wastewater and Faecal Sludge Management

UN environment programme 50 1972-2022

BORDA TANZANIA

Conference on Wastewater and Faecal Sludge Management

Sector Review and Recommendation

Date: 6th of April 2022

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Introduction:

In 2018 the Tanzanian Guidelines for the Application of Small-Scale, Decentralised Wastewater Treatment Systems were endorsed by the Ministry of Water. The development of these Guidelines was facilitated by BORDA with the support of UNEP and UN-Habitat. The Guidelines are based on monitoring and evaluation of existing decentralised wastewater treatment systems in Tanzania, key literature and stakeholder engagement for providing input, feedback and final validation. In 2021, the Guidelines were translated to Kiswahili and trainings based on the Guidelines were provided.

Annually aligned to the national events taking place in the "Maji Week" before the world water day (22nd of March), the Tanzanian Water Sector facilitated the Scientific Conference with a focus on water and sanitation related topics. In 2022 the Maji (Water) Scientific Conference took place on 4th and 5th of April in Dar es Salaam and was facilitated by the Water Institute of the Ministry of Water. The main theme was "Water resource management for sustainable water supply and sanitation services". BORDA with

The Maji Scientific Conference provided the platform for academics, representatives from national agencies (e.g. Ministries, Regulators, etc.), water supply and sanitation authorities, the private sector, development partners and CSOs to exchange experiences and research findings. Knowledge was exchanged in presentations, panel discussions and booth exhibitions.

BORDA with the support from UNEP engaged in the conference by facilitating the participation of key representatives from ministries in charge for sanitation services and by exhibiting sanitation solutions. BORDA and UNEP presented the Tanzanian Guidelines for the Application of Small-Scale, Decentralised Wastewater Treatment Systems and facilitated a panel discussion on National Policies, Strategies and Programmes Supporting Wastewater and Faecal Sludge Management in Tanzania, as a continuation of bringing the Guidelines into action. In addition, UNEP presented the Sanitation and Wastewater Atlas of Africa.

In continuation, BORDA and UNEP facilitated a one-day conference to evaluate the progress of wastewater and faecal sludge management since 2018 and to provide a platform for key sector actors to exchange on and align the next steps. Stakeholders discussed in moderated groups to the topics of:

- Financial Arrangements
- Capacity Development
- Institutional arrangements and private sector participation
- Environmental compliance and effluent standards
- Technologies

In the following report findings are presented, are documented and serve as reference for further discussions, programming and decision-making

Opening Remarks:

After the brief energiser, the conference was ready to start. The moderator invited Laura Bright-Davies the Tanzania Country Director and Alex Miller, the Africa Regional Director of Bremen Overseas Research and Development Association (BORDA) to give their official opening remarks and remind the participants of the essence of the meeting.

Highlights from their speech include:

Laura Bright-Davies, BORDA Tanzania Country Director

Laura thanked everyone for attending the conference and joining the wastewater (WW) and Faecal Sludge Management (FSM) efforts. She noted that the conference has brought together stakeholders of Wastewater Management (WWM) from a broad spectrum of key actors from both private and public sectors.

She noted the presence of the Ministry of Health (MoH) and the Ministry of Water (MoW) who are key players in this sector. She thanked stakeholders for taking the time to attend particularly United Nations Environment Programme (UNEP) which has continued building on their sustainable partnership.

She noted that UNEP has been key in supporting the development guidelines and standards that provide guidance for other stakeholders in the sector.

She concluded by reminding the participants of the importance of this meeting:

We are here today: To have a productive dialogue between stakeholders of the WW and FSM and to identify synergies and areas of collaboration, paving a common way forward for the sector.

Alex Miller, BORDA Africa, Regional Director

Alex gave his opening remarks by providing a brief background on what BORDA Africa is currently doing.

He began by mentioning that BORDA started operating in Africa through cooperation with TED (Technology for Economic Development), a Lesotho based NGO since 2006. This was later followed by establishment of the regional BORDA Africa office, Dar es Salaam in 2010.

He mentioned that BORDA Africa is specialised in integrated decentralised sanitation solutions in the fields of WW, FS (FS) and Solid Waste Management (SWM).

This includes ensuring the sustainable implementation of sanitation solutions, playing an essential role in developing holistic solutions for Africa while strengthening and advising local government institutions on appropriate sanitation solutions.

He concluded his speech by mentioning that there are similar conferences happening across the region on the similar topic of WWM solutions through the engagement of key stakeholders in respective sectors. He thanked all the stakeholders in the room and reminded them of the relevance of this conference to further advance the WWM sector in the country. He wished all the participants fruitful deliberations and discussions on this important event.

Alex concluded his remarks by reminding the participants of the relevance of the conference.

Main Takeaway: Let's not re-invent the wheel; it's essential to get each other's perspectives to best establish what solutions already exist and are working well so we can learn from each other

Riccardo Zennaro, Programme Management Officer – UN Environment Programme

Riccardo gave brief remarks on behalf of UNEP as a partner of BORDA Africa in this project. He noted that UNEP works on WWM and actively collaborates on policy, technology, awareness-raising and capacity building and demonstration projects in the sector. Riccardo gave the example of project jointly implemented by UNEP and BORDA on innovative, low-cost, Decentralised Treatment Solutions (DEWATS), which provides hope for better sanitation and WWMin Tanzania and for the local communities.

Riccardo also noted that UNEP supports the Tanzanian government in WW and sanitation by partnering with institutions such as BORDA, which implement projects to achieve the intended results. He said that BORDA is one of their strongest partners and expressed his interest in hearing from other stakeholders and exchanging ideas with other participants who attended the conference.

Agenda Overview

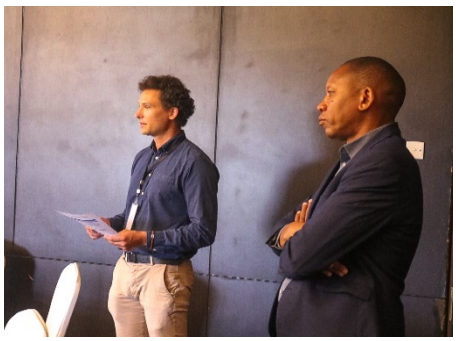
Tim Fettback, Technical Advisor - BORDA Africa:

The moderator welcomed Tim Fettback to take the participants through the agenda.

He began by noting that the BORDA team and several of the participants have been attending the Maji Scientific Conference for the past two days. The conference brought together key stakeholders of the water sector across the country.

He took the participants through the agenda and shared that there would be group discussions, each group with a unique theme in the WWM sector.

He briefed that the group discussions with reflect on the main achievements of the sector for the past 3 years, since the publication of the "Guidelines for the Application of Small-Scale, Decentralised Wastewater Treatment Systems" and will further discuss on major tangible steps that will lead to further advancements in the sector.



Tim finalized his remarks by noting that a detailed report will be prepared and shared in the few weeks to come.

Opening Remarks from the Ministry of Water

Engineer William Christian - Guest of Honour:

The guest of honour, Engineer William Christian began his remarks by recognising the presence of all the stakeholders in the room, particularly the Ministry of Health, the representatives of PORALG, the BORDA Africa team and UNEP represented by Riccardo and Avantika Singh.

He also noted the presence of other government officials from various levels and the academia representing different universities in the country.

He thanked everyone who took time to attend the workshop as it will be pivotal to share ideas and come up with solutions that will pioneer the WW and FSM sector to new heights.

Eng. Christian continued that the Ministry of Water has been actively working on sanitation, including containment, conveyance and treatment of WW. He noted that some of these activities need more joint efforts from partners such as BORDA in order to be achieve. He also commended BORDA's effort to assist the development of the guidelines in applying small-scale, DEWATS. He noted that the guidelines have provided a framework to guide all partners in the sector toward safe handling of WW.

Eng. Christian also noted the importance of innovation, mentioning that new technology has been designed to simplify the storage and treatment of WW and sewage. He said that sewage is now considered a raw material from which we can create energy in the form of gas, manure for agriculture and purify the water for irrigation. He highlighted the potential of DEWATS approach as its low operational cost fits the intended purpose of being simple to construct and maintain. He strengthened his remarks by noting an African proverb:

"If you want to see far, then stand on the shoulders of giants."

He noted that all conference participants are giants and hence, to achieve promotion of DEWATS technologies and efficient management of WW, collaboration is key to reaching the desired destination.

He concluded his speech by thanking GIZ and BORDA noting that GIZ has funded WW and FSM projects in Mbeya, Dodoma and Dar es Salaam. He wished everyone a fruitful discussion and was looking forward to share his perspective in the group discussions.

Eng. Christian as the guest of honour, declared the conference officially opened and recognized by Ministry of Water.

Sector Review - Individual Reflection:

The moderator asked the participants to take a piece of paper and write their ideas on the following questions:

- What were the key achievements of the past 3 years? (Since the publication of the Guidelines)

- What does the sector require?
- In which aspects of WW and FSM will my institution be active in the next 3 years?

Participants wrote their ideas and the moderator asked the participants to hold on to their personal reflections as they were heading to the group discussions. Their reflections will play a key role in driving the discussions in the groups.

Sector Review – Focus Group Discussion

The moderator split the groups according to 5 thematic areas:

- Financial Arrangements
- Capacity Development
- Environmental Compliance and Effluent Standards Technologies
- Institutional Arrangements and Private Sector Participation
- Technologies

The groups were allocated time to work on the following questions:

Questions:
1. What were the key achievements of the past three years of the Tanzanian WW or FSM sector? (List the top 5-10)
2. Which sources of data do you apply/are available for Monitoring and Evaluation (M&E) of the progress?
3. Which are the next "SMART" (Specific, Measurable, Achievable, Relevant and Time-bound) steps for WW and FSM in the upcoming three years? (List the top 5-10)
4. Which data sources do you apply/ are available for planning your intervention and for evidence-based decision-making?

presentations were as follows:

Each group was given an hour to discuss their responses in each thematic group.

1st Group: Environmental Compliance and Effluent Standards

Questions	Answers
What were the key achievements of the past three years of the Tanzanian WW/FSM Sector? List the top 5 – 10	**1**.<u>Development of standards:</u> ❖ Municipal and Industrial WW standards - general tolerance limits for use of treated WW in irrigation (waiting for gazettement).

	❖ FSM (FSM) standards - permissible limits for use and disposal (waiting for gazettement) ❖ Decentralized Wastewater Treatment Systems (DEWATS) standards - general tolerance limits for discharge to the environment (waiting for approval by the Board) **2**. <u>Development of policies, Acts & guidelines:</u> ❖ Design, construction supervision, operation and maintenance (DECOM-Manual)-design of sanitation management ❖ Water Sanitation Act of 2019 ❖ Energy and Water Regulatory Authority (EWURA) guidelines - On-Site Sanitation (OSS) and FSM of 2020 ❖ Drafting of new Environmental Management Act (EMA) - (in progress) **3**. Increased stakeholders' awareness on environmental compliance and effluent standards. **4.** Roles of Water Supply Sanitation Authorities (WSSA) and Local government Authority (LGA) towards OSS and FSM have been more clearly stated
Any Other Additional Comments/ Observations: Drafting of Tanzania Standards: Solid biofuel - Sustainable charcoal and carbonised briquettes for household and commercial use - Specification.	
Which data sources do you apply / are available for M&E of the progress?	Presence of data on FSM for the past two years- from EWURA reports. ❖ Other sources of data: National Environmental Management Council (NEMC), Water Basins, EWURA, Water Authorities (WSSA & LGA) & City Councils e.g., quality and quantity of effluents
Which are the next "SMART" (Specific, Measurable, Achievable, Relevant and Time-bound) Steps for WW and FSM in the upcoming three years? List at least the top 5 - 10	**1.** Awareness creation to institutions, operators, and private sectors through workshops and media on environmental compliance and standards. Refer Table 1 below **2**. Translation of research-based findings into easily understandable messages to the community **3.** Revision of teaching curriculum and incorporation of emerging aspects of environmental compliance in WW & FSM

	4. Identification of gaps in compliance with standards and filling the gaps **5.** Updating By-laws to strengthen compliance at LGAs guided by guidelines and standards **6.** Close monitoring of the implemented system projects for compliance and data acquirement **7.** Continuous capacity building on monitoring and compliance
Any Other Additional Comments/ Observations: Challenges: Inadequate laboratories and capabilities for monitoring some WW parameters, e.g., antibiotics Recommendation: Financing mechanism to improve technical capacity for environmental monitoring and compliance	
Which sources of data do you apply/are available for planning your intervention and evidence-based decision making?	1. Monitoring data i.e., from NEMC, EWURA, WSSA, LGA & Water basin; 2. Research-based data; 3. Baseline data e.g., Census, Demographic and Health Surveys (DHS)
Any Other Additional Comments/ Observations: Challenges on availability and accuracy of data from these sources	

Table 1: "SMART" Steps for WW and FSM in the upcoming 3 years

S/N	Objective	Responsible entity	Time frame
1	Awareness creation on existing and upcoming standards & environmental compliance on WW & FSM to institutions, operators, and private sectors through workshops and media	TBS (Standards) NEMC & EWURA (Environmental compliance)	Within the next three years
2	Translation of research-based findings into easily understandable messages to the community	Academic institutions, NGOs and local government	Within the next three years
3	Revision of teaching curriculum and incorporation of emerging aspects of environmental compliance in WW & FSM	Academic institutions, other stakeholders	Within the next three years

4	Identification of gaps in compliance standards and filling those gaps	TBS (Standards) NEMC (compliance)	Within the next three years
5	Updating by-laws to strengthen compliance at LGA guided by guidelines and standards	Local government Authority	Within the next three years
6	Close monitoring of the implemented system projects for compliance and acquirement of data	Implementers e.g., BORDA, SNV	Within the next three years
7	Continuous capacity building on monitoring and compliance	Ministries, e.g., MoW, MoH, PORALG	Within the next three years

Table 2: Sources of data to apply/available for planning your intervention and evidence-based decision making

S/N		Examples	Time frame
1	Baseline data	Census, DHS	Within the next three years
2	Monitoring data	LGA, Water utilities, NGOs	Within the next three years
3	Research-based data	Academic institutions, NGOs, journals,	Within the next three years
4	Secondary data	i.e., borrowed from other countries	Within the next three years

Participants also got to ask questions during the first group's presentation:

Questions:	Answers:
Do we have different standards for treating and disposing of FS and WW?	Yes, there are different standards and have been developed separately for the treatment and disposal of FS waste. These standards include: • Municipal and Industrial wastewatwe standards- general tolerance limits for the use of treated WW in irrigation (waiting for gazettement). • Faecal Sludge Management (FSM) standards- permissible limits for use and disposal (waiting for gazettement)
Follow up question: What about the water that is in the FS, which standard governs this?	This will depend on the end use requirement. If treated water is to be used for irrigation the standard for reuse in irrigation has to be met and if treated water is for disposal to the environment, then the effluent discharge limits have to be met. has to meet the respective standard.

Which standards are being developed?	We have the WW and FS re-use standard waiting for approval specifically for irrigation; another standard on DEWATS is currently awaiting approval. The development of standards is mainly stakeholder-driven. This refers to identifying the standard gaps and being proactive in development of the standards alongside TBS.

2nd Group: Institutional Agreements and Private Sector Participation

Questions	Answers
What were the key achievements of the past three years of the Tanzanian WW & FSM Sector? List the top 5 – 10	1. The private sectors have been involved in most of strategic areas. For example: private sectors in designs, private sectors in construction. 2. Water Sanitation Act 2019. The private sector has been highlighted 3. EWURA: private sectors prices assist in tariffs making by setting benchmarks. This also includes the Guideline from EWURA for FSM /OSS 4. Harmonisation of the bylaws in all areas such as cities, municipalities etc. policy makers did this. (uniformity of the laws) 5. DAWASA currently have their own equipment and vehicles from private sectors for waste management's operations. These projects include construction building more DEWATS and public toilets. 6. Monitoring truck systems for waste management in the regions of Shinyanga, Dodoma and Dar es Salaam. 7. DAWASA have set departments for Off-grid sanitation and FSM: For example; Bagamoyo, 8. Local government improves engagement between local government and private sector

	9. Ministry of Water established a section for water and sanitation and its strategies to upgrade the section 10. LGAs have set up structures for waste management and sanitation unit 11. Successful construction of DEWATS in collaboration with private sector, transportation, Technologies and more sanitation facilities
Any Other Additional Comments/ Observations: 12. Policy markers collaboration and contribution: sectors dealing with FSM, and government coordination, as an achievement. 13. Media visibility: Use of media to promote sanitation messages and create awareness. 13. National sanitation campaign in rural areas for improved toilets 14. EWURA has developed data collection tools on FS collection 15. Tanga, Mwanza, Mbeya, Mtwara are registering and monitoring emptiers	
Which sources of data do you apply/are available for M&E of the progress?	1. National water supply and sanitation act 2. EWURA website 3. DAWASA website 4. MoW 5. LGAs
Any Other Additional Comments/ Observation **Gaps and challenges:** 1. Missing new standards for pit latrines construction and use 2. Water Utilities: competition between the public operators and private sectors, hence public ones giving more challenge for private sectors to operate. 3. Utilities do not like to let go of certain sanitation services despite inability to serve the market effectively. 4. Lack of harmonization for private sectors and utility to work in collaboration to fulfil the goals 5. It is not in all places that private sector service providers are registered. There is a dire need to ensure private sectors providers are registered. 6. There are multiple platforms facilitating learning and sharing. Creating a learning platform for exchange with the private sector in mind would inform them on services needed. 7. Ministry of Water and agencies should highlight areas of concern for the private sectors to participate 8. Promote private sector partnerships and create a conducive environment to steer investments 9. Low sanitation sensitization, especially on emptying of FSM. 10.Guideline gaps for use of sanitation by-products. **“Business model/ cooperation model”** For sanitation services, just like other services, there should be business operating models, along sanitation value chain i.e. From waste disposal, transportation, treatment and reuse. It’s key that private sector uncover the business potential hidden in this sector.	

Which are the next “SMART” (Specific, Measurable, Achievable, Relevant and Time-bound) Steps for WW and FSM in the upcoming three years? List at least the top 5 – 10	1. New standards for Pit latrine 2. Learning platform or events on experience in private sectors 3. Guideline or guidance on business model 4. Invite feedback on implementability of policies or guidelines 5. Guidelines for use of by-products 6. Create platforms for exchange with private sector. 7. Events with national stakeholders on sanitation, SWM, etc.

Any Other Additional Comments/ Observations:

Sanitation key players for sanitation:

- VPO (vice presidents’ office)
- PORALG
- MoW
- MoH
- Ministry of Industry
- Academic Institutions i.e (UDSM, NM-AIST, ARU, MUHAS)

Who should do the work:

- Invites for feedback on implementability of policy or guideline- EWURA
- Guideline for use of the by-product - TBS, in collaboration with MoW

Time interval/ Time bound:
Use existing platforms for example, the annual water week or national sanitation week on the fourth quarter

Which sources of data do you apply / are available for planning your intervention and evidence-based decision making?	• Baseline data from key players like PORALG, VPO, MoW, MoH • Monitoring data from EWURA • Research-based data

Any Other Additional Comments/ Observations:

Why should we include private sectors on sanitation and WW management?

1. Increase in population, where the government cannot afford to supply and extend the network due to low financial capacity, hence involvement of private sector is crucial to cover financial gaps, reference from national sanitation acts and water supply and sanitation Act. Private sector in this regards a tool to support resources provision to the government

2. Effective performance in terms of services, said that when private sector works together with the governments brings about effectiveness in working and efficiency hence the working capacity increases and more effectiveness.

   Challenge; previously the government alone had no tools and knowledge. Private sector in this regard overcome pending barriers.

3. Private sector engagement encourages innovation and importation of technologies from outside, since most of private sectors have good networks.

4. Private sector is also a unit of a government. It extends services in places where the government has not reached. In some occasion, the government pays incentives to private sector to enhance realization of goals and performance of governments' responsibilities. The private sectors can extend its services.

5. Ownership in the government structure, unlike the project emphasized by the government, the private sector engagements bring diverse contributions i.e., from different people.

6. Assist or support the government to work effectively

7. Extend services to remote areas, where the government doesn't reach out and transparency.

Comments from the participants:	
Eng. Christian: Regarding private sector participation needs to be improved as we have not done much in this area. There's a need to work with Ministry of Finance to further develop in this regard, there is potential for the private sector to improve efficiencies in these areas	Regarding the Business model for the private sector: we need to reach a point where we can convince consumers to realize the potential of WW & FSM. There are also social roadblocks and stigma in this sector which we also need to tackle, so as to bring in the private sector and increase their participation
Much more guidance is needed to private sector so we can maximize their contribution. I second the business model idea but more emphasis needs to be given to ensure private sector collaboration	There is a role of community sensitization, to break the bias tendencies that the community is currently having on WW management. Its considered inferior but I believe if awareness is increased more private sector actors will take an active role in the sector

3rd Group- Capacity Development:

Questions	**Answers**
What were the key achievements of the past three years of the Tanzanian WW/FSM Sector? (List the top 5 – 10)	1. private sector inclusion in capacity building 2. conducting trainings 3. Capacity building for water sector though it is not enough 4. Construction of treatment plants for excreta management 5. Donor support has been increased 6. Programme implementation
Any Other Additional Comments/ Observations: **Sector requirement /Gap** • To have one gateway approach in WW & FSM	

- Need to focus on training (capacity development)
- Implementation of bottom-up approach in WW & FSM system; Inclusion of all government levels and public through community-based management (involves community representatives and mapping the area having as particular issue)
- Need to engage smart advocacy about WW & FSM
- Insufficient number of workers in sanitation and FSM, in the low cadres of the sanitation value chain
- Recruitment of appropriate awareness strategies and assigning of stakeholder roles
- Lack of data from the agencies / no credible data/ being able to develop customised data for decision making
- Sustainable capacity building measuring in terms of being able to measure progress over time
- Conducting training based on expectation and measure the achievement
- Ensure adequate capacity building capacity to stakeholders
- University students' involvement in implementation and capacity building

Focus in the next 3 years

- Expanding funding and mobilizing resources; later on, sanitation will create more employment and benefits such as green jobs.
- Industrial and academia involvement
- Establishing ways to measuring the progress
- More capacity building for increasing technology
- Emphasis on knowledge management creating a common portal or gateway to access all the relevant information through a unified, integrated and coordinated customized data
- Fostering capacity building of sanitation workers
- Effective use of the available guidelines

Which sources of data do you apply / are available for M&E of the progress?	1. From government agencies such as the National Council for Technical and Vocational Education and Training (NACTVET), Tanzania Bureau of Standards (TBS), National Bureau of Statistics (NBS) etc. 2. Self-generated data

Challenges with M&E data:

- Lack of reliable data from government agencies
- Monitoring systems that generate credible data
- Unified and integrated systems in data
- Data should be customed and used for decision making and user requirements

Gap in data

- Lack of quality data
- Lack of coordinated stakeholders

Which are the next "SMART" (Specific, Measurable, Achievable, Relevant and Time bound) Steps for WW and FSM in the upcoming three years? List at least the top 5 - 10	1.To simplify, harmonize, optimize and streamline data through above mentioned unified portals 2. Financial mobilization for partners/donors to engage in capacity building 3. Smart advocacy in building capacity for stakeholders to engage

	4. Increase the number of sanitation experts 5. Increasing resources and facilities to be able to generate qualities data
Which sources of data do you apply/are available for planning your intervention and evidence-based decision making?	1. Survey data 2. Questionnaires 3. Workshops and conferences 4. Short courses and Training 5. Donor budget allocation/output 6. Interviews

Comment from Participants:	
Thank you all for the presentation on capacity building, specifically on hygiene and sanitation. Recently the Ministry of water and health have been actively working to bring this up. We also have a number of experts from different universities who are also collaborating in developing capacity building contents. We are focused on capacity building for the transportation, containment and other equipment of WW and sanitation services. We need alignment to work together across the departments and ministries.	**Questions**: Are we using national guidelines in capacity building and development training material? **Answer:** We have currently developed a training curriculum that is in line with the Ministry of Education guidelines. It's possible however to include the guideline in our curriculum. We teach students the tools for implementation and how to arrive at the guidelines, instead of limiting the lecturing to specific publications. We equip them with the right skills for them to understand how they can develop and implement guidelines that are beneficial to the sector. We tell them all aspects that are required to understand the guidelines and we focus on developing the student's conceptual framework.

4th Group- Technology:

Questions	**Answers**
What were the key achievements of the past three years of the Tanzanian WW & FSM Sector? List the top 5 – 10	1. Guidelines helped in the Operation and Maintenance (O&M) of DEWATS 2. Translation of the guidelines from English to Swahili for the advocacy of the Technology. 3. DEWATS have stimulated the usage of WW and FS by-products. 4. Utilising guidelines and technologies for 12 DEWATS in Dar es Salaam and Tunduma. 5. Guidelines have resulted in the acceptance of DEWATS
Any Other Additional Comments/ Observations:	

None	
Which sources of data do you apply/are available for M&E of the progress?	1. Water utilities 2. Local Government Authorities (WEO/VEO) / Local health facilities. 3. MoW and MoH 4. EWURA
Any Other Additional Comments/ Observations: - Baseline Information (no direct source of data) - Performance information	
Which are the next "SMART" (Specific, Measurable, Achievable, Relevant and Time bound) Steps for WW and FSM in the upcoming three years? List at least the top 5 - 10	1. Replicate and upscale DEWATS 2. Sanitation Mapping 3. Analysis of the business/financial models of DEWATS to make them technologically and financially viable. 4. Disseminate Guidelines 5. Construction of Demonstration (DEWATS) plants. 6. Capacity development on water and sanitation
Any Other Additional Comments/ Observations: - Proper location - Review of the guidelines - Expansion and upgrading when need arises	
Which sources of data do you apply / are available for planning your intervention and evidence-based decision making?	1. Sanitation Policy 2. Design Manuals 3. Government Budget 4. Acts (Sanitation related) 5. Guidelines (Sanitation related)

Comments from Participants	
There is a need to contextualize the standards and technologies to our local context and culture. Sanitation goes along with culture of a particular area. We also need to consider affordability and to consider the issue of technical economic evaluation to bring this study to light. We also have our local technologies which could also be considered and taken up to be used in our local context.	On regards to toilets, we have the sanitation guidelines aimed at improving sanitation. We also have emptiable toilets as a technology option that exists in countries like Uganda and if adopted, they would be able to solve the sanitation problems caused by toilet waste. It's a call to the MoW to coordinate all available efforts in Tanzania and other countries to ensure coherent knowledge management.
I found a company promoting a unique type of septic tank technology which is more favourable and cheaper. Unfortunately, this cheap technology possess high	Sanitation is advancing and is becoming prominent in various discussions. The government through the MoW has seen its

environmental and health risks. If that technology is working, what will be the future of DEWATS from health and cost perspectives? I believe this is something we ought to think about. If there are other affordable ways we should prioritize and make them available and known.	importance and hence it has increased the access across the country. Sanitation is coming up lately pulling financial resources and the policies that are coming up on sanitation. In the next years, sanitation will require enforcement of the guidelines.

5th Group- Financial Arrangements:

Questions	Answers
What were the key achievements of the past three years of the Tanzanian WW/FSM Sector? (List the top 5 – 10)	1. Development of FSM Guidelines which has led to the increase of the financial investment in the sanitation projects and it's an advocacy tool for financing. 2. The launching of RUWASA as seen in the Sanitation Act. No. 5 has helped rectify the problematic water systems, which has helped substantially reduce the loss associated with faulty sanitation systems. Now more funders are attracted because there is a set authority to implement sanitation projects in rural areas. 3. Development of the new WW design manual which incorporates the FS. 4. Financial institutions such as Agence Française de Développement **(**AFD) have come in to finance sanitation projects in the sector. 5. The government is picking up to support sanitation programs e.g., by paying compensation for resettlement and tax reductions (Increased willingness of the government to support sanitation projects over the recent past) 6. Financial planning tools developed to assist the strategic implementation. 7. Elevation of sanitation as the priority of the ministry which means more funding from the government to the sector 8. The increase of the DEWATS and other faecal management plants which are

	financed collaboratively the government and other external funders. 9. 25% of the funding from AFD to the sector, has to go to sanitation 10. Improvement of the containments at all levels and there has been the decrease in the OD through the P4R funds (Through the ODF strategy—National Strategy for Accelerating Sanitation plus Hygiene for all 2020-2025).
Any Other Additional Comments/ Observations: There has been a WB funded sanitation projects through DAWASA Financing in terms of achievement, there is still a gap in government contribution What are the financial plans in investing in the sector in the near future? The funds coming in for sanitation matters in the utilities are normally not taken to do what they are meant for, or they take much longer time to do so.	
Which sources of data do you apply / are available for M&E of the progress?	1. EWURA 2. LGA 3. MoH Sanitation Portal 4. Water Utilities 5. MoW MIS
Any Other Additional Comments/ Observations: None.	
Which are the next “SMART” (Specific, Measurable, Achievable, Relevant and Time bound) Steps for WW and FSM in the upcoming three years? List at least the top 5 - 10	1. Effective engagement with stakeholders each to give insights and expert contribution to the water sector development program which will be issued to DPs on April 20 2022. 2. ATAWAS to consult MoW on harmonization of data (Having data coordination units which will facilitate data harmonization) 3. Enforcing the FSM OSS guideline which has a chapter on data collection for M&E 4. EWURA and MoW to scale up the citywide inclusive sanitation planning tool which was piloted in DAWASA 5. Several tools for sanitation planning are available, there is a need to strategize

	how to harmonize the tools and agree which is the most suitable for scaling up. 6. ATAWAS to liaise with MoW on the status of the national water policy which was drafted in 2020 (if it includes the statement for sanitation levy to bridge the gap on sanitation investments)

Closing Remarks:

Dr Mohammed - Representing Zanzibar:

He thanked all the participants and organisers for the invitation extended to Zanzibar. Dr. Mohammed mentioned that he was impressed by the presentation on technology and asked for Zanzibar to be actively involved in similar discussions. He noted to have learned a lot and appreciated all the presenters for their good work. He welcome partners such as BORDA Africa and UNEP to work with the Zanzibar government to uphold the quality standards of WW and FSM. He expressed his desire to use modern technology to improve sanitation services in Zanzibar, to achieve this collaboration and partnership is key.

Dr. Israel, Principle Environmental Health Officer, PORALG:

Thanked organizers for a very great job that brought key stakeholders of the WWMsector to one room. He urged the partners to continue with such activities considering that much needs to be done to achieve the intended objectives.

He noted a new challenge in change in population dynamics and city planning. He noted that this has been a major hindrance to improving sanitations services as increase in population particularly in major cities becomes a challenge. He noted that the Environmental management Act is a new policy developed and is in the finalization process to tackle this challenge. He also noted that the Ministry of Health is currently being finalized as well. The policy will develop new structures that will need to be harmonized alongside other policies and standards.

Riccardo Zennaro, UNEP – Programme Management Officer:

Riccardo gave a few words on behalf of UNEP. He thanked everyone for their participation and expressed his gratitude to everyone who actively participated in the discussions.

Dr. Amour Seleman, Ministry of Health- Senior Environmental Health Officer:

Dr Amour thanked everyone for the opportunity. He commended the strong collaboration between the Ministry of Health and partners such as BORDA Africa in the promotion of good health through sanitation and WW management. He committed to continued working together with other stakeholders from the public and private sector so we move together as a team and achieve the objectives.

Eng. William Christian - Assistant Director for Sanitation and Hygiene- Ministry of Waters:

Thanked all the participants for their contributions. He noted that it is clear that some tasks are yet to be undertaken but they can't be done without wider collaboration of stakeholders within the sector and beyond, giving an example of irrigation and sanitation challenges involving storage, treatment and dissemination of WW.

He acknowledged an uphill challenge of adopting a city-wide planning approach and the storm water challenge which damage existing infrastructures. City wide planning needed more collaboration between actors to solve current challenges. He noted that working tools and enforcement of guidelines will be key to solving pending sanitation challenges.

He noted that the sanitation needed a broader studies to understand what other parties were doing, which required pulling financial resource for development of appropriate tools and equipment that improve sanitation issues. He finalized his remarks by thanking everyone and brought the meeting to a close.

Ms Joyce Musira – Country Coordinator, BORDA Tanzania:

Joyce gave final remarks and thanked everyone on behalf of BORDA. She noted that a lot has been harvested from the day and thanked everyone for their participation. She wished everyone a safe and happy trip home and was looking forward to the next engagement.

End of Report

Abbreviations:

AFD	Agence Française de Développement
ARU	Ardhi University
BORDA	Bremen Overseas Research and Development Association
DEWATS	Decentralised WW Treatment Solutions
DHS	Demographic and Health Surveys
EMA	Environmental Management Act
EWURA	Energy and Water Utility Regulation Authority
FSM	FSM
LGA	Local Government Authority
M&E	Monitoring and Evaluation
MoH	Ministry of Health
MoW	Ministry of Water
MUHAS	Muhimbili University of Health and Allied Science
NACTVET	National Council for Technical and Vocational Education and Training
NBS	National Bureau of Statistics
NEMC	National Environmental Management Council
NM- AIST	Nelson Mandela Africa Institute of Science and Technology
OSS	On-Site Sanitation
PORALG	The President's Office Regional Administration and Local Government
TBS	Tanzania Bureau of Standards
UDSM	University of Dar es Salaam
VEO	Village Executive Officer
VPO	Vice Presidents Office
WEO	Ward Executive Officer
WSSA	Water Supply and Sanitation Authority
WW	Wastewater
WWM	Wastewater Management

Appendix: Participants List of the Conference on Wastewater and Faecal Sludge Management

	Name	Institution	Title
1	Israel Nyarubeli	PORALG (TAMISEMI)	Principal Environmental and Health officer
2	Najib Nsojo	Ministry of Water	Project Engineer
3	William Kazenga Christian	Ministry of Water	Assistant Director of Sanitation and Hygiene
4	Salvata Silayo	Ministry of Health	Senior Environmental Health Officer
5	Joseph Birago	Ministry of Health	Head of Occupation Health and Safety
6	Amour Seleman	Ministry of Health	Senior Environmental Health Officer
7	Aloyce Limo	Ministry of Water	State Attorney
8	Andrew Mahande	Ministry of Water	Policy & Development officer
9	Mohammed A. Mohamed	Zanzibar - PORALGSD(TAMISEMIIM	Head of Research division
10	John Charles	Arusha City council	Environmental Health officer
11	Timotheo Massawa	Tunduma Town Council	Legal officer
12	Mathias Millinga	UMAWA	Director
13	Severine Allute	ATAWAS	OPS Manager
14	Joseph Mcharo	RUWASA HQ	Sanitation & Health Manager
15	Wilhelmina Malima	SAWA	WASH Advisor
16	Nyang'olo Paul	Solution TAGS	Public relation officer
17	Hezron Magambo	SNV	Sanitation Engineer
18	Jayden Neema	Ardhi University	Student
19	Enock Michael	Ardhi University	Student
20	Cosmas Mwita	RUWASA-Momba	Acting District manager
21	Benedict Fumbe	IRUWASA Iringa	Distribution Network Engineer
22	Kennedy Josephat	DOHWA/LUPTAN	Civil Engineer
23	Yusuph Mussa	IRUWASA Iringa	Sanitation Engineer
24	Oliver Kavishe	TAWASANET	Supportive Programme officer
25	Osca Mbekenga	Fleelance Consultant	Consultant
26	Rashind Ahmed Seleman	EWURA	Water Engineer
27	Nasra Hessein	TBS	Standard Officer
28	Tina Eisele	GIZ	Advisor
29	Joseph kamalamo	Ardhi University	Student
30	Jacob Kihila	Ardhi University	Senior Research and lecturer
31	Riccardo Zennaro	UNEP	PMO
32	Avantika Singh	UNEP	Programme Assistant

	Name	Institution	Title
33	Romanus Mwang'ingo	ICE	Director
34	Nsaa-IYA Amaniel	DPG-W	LC
35	Deogratius Bernado	Mbeya UWSSA	Senior Project Construction Expert
36	Mahuna Msangi	Ardhi Unversity	Student
37	Eline Gerlyane	Mbeya UWSSA	Senior Environmental expert
38	Charles Makoye	DAWASA	Manager -On site sanitation
39	Modekai Sanga	AFD	Project coordinator
40	Anneth Nassoro	ATAWAS	Project coordinator
41	Costantino Charles	ATAWAS	Executive Secretary
42	Anodi Mdindikasi	BORDA	Training logistics
43	Charles Muhamba	BORDA	Project Engineer
44	Methuselah Bahame	BORDA	Research Coordinator
45	Joyce Musira	BORDA	Programme coordinator
46	Eliwaza Kitundu	BORDA	Social Facilitator
47	Alex Miller	BORDA	Regional Director
48	Laura Bright-Davies	BORDA	Country Director
49	Godlove Ngoda	BORDA	Head of Engineering
50	Michael Onesmo	Freelance Consultant	Consultant
51	Tim Fettback	HCU & Freelance Consultant	Research Associate and Project Coordinator