



SESSION DESCRIPTION FORM 2.

10TH WORLD WATER FORUM

This Session Description Form 2 is for the specified program of the session. Please complete this form no later than 28th of February 2024.

**The session description 1 (online form) is separately requested for the session coordinators to deliver a concise session outline with the contact info and the logistical requests.*

Session Code and Title:

T2D3

~~Former title: Safe collection, treatment and resource recovery/circular economy of fecal sludge and wastewater~~

New title:

Towards a circular economy transition through safe collection, treatment and resource recovery of wastewater and fecal sludge

Session Coordinators (Name, Position, Organization, email, mobile number):

Dr. (Mr.) Pierre Flamand
Manager - International Affairs, Japan Sanitation Consortium (JSC), pierre@jsanic.org,
+818030374107

Dr. (Mr.) Papa Samba Diop
Governor, World Water Council; Technical Advisor, National Sanitation Office of Senegal (ONAS),
papsambadiop@gmail.com, +221776374135

Ms. Saniya Niska
WASH SDG Programme Manager, SNV, sniska@snv.org, +622179186988

Session Description including objectives and expected outcomes (500 words maximum):

Despite significant progress under the Millennium Development Goals and Sustainable Development Goals and an increasing awareness of the importance of sanitation for public health, social and economic development, the world will be far from achieving the key SDG 6 goal of delivering sanitation for all by 2030. Although access to sanitation systems has improved, the safe collection, treatment and disposal of fecal sludge from on-site sanitation systems remain a difficult challenge in many locations, often being unregulated and handled by the informal and private sectors. Moreover, accelerating the transition to a green and circular economy by increasing the opportunities of turning wastewater and fecal sludge from wastes to valuable resources is essential.

The aim of the session is to share experiences and best practices from different regions of the world for developing access to sustainable sanitation services through the safe collection and treatment of wastewater and fecal sludge, and the proper management of the associated systems. It also aims at showing examples for resource recovery and water reuse, considering the potential and key elements for a market-based approach. Through an international panel of stakeholders from multi-sectors - government, public utility, academia, NGOs and international organizations - the session will provide an opportunity to discuss different options and their viability in the different settings of small, medium and large cities, and the challenge of adapting them in the context of a growing urban population and in small communities, considering both collective and individual solutions.

The session time will be equally shared between presentations - introducing the sanitation challenges and needed policies, as well as case studies for resource recovery and water reuse - and a stimulating panel discussion. At various moments of the session, the audience will be provided opportunities to interact with the speakers and panelists through questions and comments. Following the panel discussion, the outcomes and key messages of the session will be summarized, and measures and recommendations will be drawn up to contribute to the thematic process of the 10th World Water Forum. We look forward to your participation and to exploring together the opportunities for transitioning to a circular economy through the provision of safe and sustainable sanitation services for all.

Detailed Session plan:

ESTIMATED TIMING	ITEM DESCRIPTION / ROLE	SPEAKERS	SPEAKERS STATUS (OK OR TBC)
Total session time = 90'			
3'	Introduction to the session's main theme and the keynote speaker	<u>Moderator:</u> Dr. (Mr.) Pierre Flamand; Manager - International Affairs; Japan Sanitation Consortium (JSC)	OK
10'	Keynote speaker	Dr. (Mr.) Yoshitaka Ebie; Manager of International Coordination Office, Planning Division, National Institute for Environmental Studies (NIES); Advisor for Water Environment Partnership in Asia (WEPA)	OK
2'	Introduction of the speakers	<u>Moderator:</u> Dr. (Mr.) Pierre Flamand (JSC)	Ok
8'	The rise in population demands robust Fecal Sludge Management (FSM) and Wastewater Managements (WWM), be it onsite or offsite, sewerred or non-sewerred sanitation. As WWM ahead compared -to FSM, a significant need exists globally to adopt efficient and sustainable FSM and WWM. Deciding on a proper treatment technology for FS and WW before discharging it into environment or reusing it is essential to create a pollution-free environment. It is necessary to identify and implement feasible reuse options in order to develop a sustainable management system. However, a variety of bottlenecks may impede the	Speaker 1 Mr. Hezekiah Pireh; Water and Sanitation Team Leader; Urban Basic Services Section; Urban Practices Branch; Global Solutions Division; United Nations Human Settlements Programme, UN-Habitat	Ok

	<p>optimal reuse of treatment WW and FS.</p> <p>There are many aspects to be considered to reach feasible reuse / circular economy for FSM and WWM, including financial, geographical, technical, socio-cultural, and regulatory considerations, as well as the added value generated by the reuse of treated water and sludge. Consideration of monitoring and evaluation of treated water and sludge are crucial to turn waste stream into physical and financial resource stream and promoting safe reuse practices. Such recovery of resources is part of a circular and sustainable sanitation approach, generating added value for the population while protecting human and ecological health. Although in some countries, reuse scheme is a high priority for the national government, treated wastewater and sludge is not optimally currently reused, due to lack of social and political acceptance, and the different effluent standard for reuse, especially for treated sludge. In addition, resources capacity ensuring the safe reuse of the treated water and sludge is another challenge facing the operators or services provider. Innovative concepts for the treatment and feasible reuse (specially sludge) need to be developed and tested to solve related pollution problems and contribute to the sustainable of sanitation systems in the long term.</p>		
8'	Policy for on-site sanitation management in Senegal and circular economy	<p>Speaker 2</p> <p>Mr. Mouhamadou Gueye; Director of Autonomous Sanitation; National Sanitation Office of Senegal (ONAS)</p>	OK
8'	I am interested to share our experience in managing fecal sludge in the world's largest refugee camp,	<p>Speaker 3</p> <p>Mr. Safwatul Haque Niloy; Team Leader -</p>	OK

	<p>OXFAM, with funding support from UNHCR, has played a pioneering role. Thousands of onsite latrines, including innovative worm-based toilets, were constructed. As these latrines filled up, the crucial task of emptying, transporting, and safely treating the sludge became imperative to prevent disease outbreaks and potential water pollution. Over the past five years, OXFAM has operated large-scale fecal sludge treatment plants, gaining invaluable insights into the diverse challenges that such systems face at maximum capacity. Addressing the costly transportation aspect, we introduced an innovative solution—the Intermediate Fecal Sludge Transfer Network (IFSTN), a piped network with transfer stations that transport fecal sludge at three times less cost than traditional methods like vacutugs, ensuring a hygienic and safe process.</p> <p>Our comprehensive approach includes a large anaerobic lagoon that harnesses biogas from the waste. We've demonstrated the use of a hydrogen sulfide scrubber and a biogas generator for electricity generation. Furthermore, biosolids collected from planted drying beds are showcased as organic fertilizer, with a focus on overcoming policy and social acceptance barriers but still we not successful on that line. Drawing from our extensive experience managing the entire sanitation chain in dense settlements, we can shed light on interventions, major challenges, and successful strategies employed in this critical domain.</p>	<p>Public Health Engineering; OXFAM Bangladesh</p>	
8'	<p>In 2022, SNV with Wastewater Operator of Tasikmalaya City in Indonesia initiated research on fecal sludge compost production, its application to different types of plants, and products socialization to potential users in the city.</p>	<p>Speaker 4 Mr. Supriyanto; Head of Wastewater Operator; Public Works and Spatial Office, Tasikmalaya City, Indonesia</p>	OK

	<p>The research started with identifying optimum characteristics of dried sludge from FSTP Singkup and other mixtures (e.g., cow dung, leaves, market waste) based on materials availability, low-cost, and nutrients quality. Different mixtures were produced using a 24-hr rapid composting machine and tested based on the Minister of Agriculture Regulation 261/KPTS/SR.310/M/4/2019. We applied the mixtures to ornamental plant (marigold flower), food crop (soy), and non-food crop (palm oil) and monitored several parameters, including plant height and weight, number and diameter of flower, and nutrients. Following the application results to the plants, we facilitated a socialization and discussion to get feedbacks from potential users e.g., farmers association, Environment Office, Agriculture Office. We also surveyed users' responses to proposed product, price, place, and promotion. Potential users showed a positive feedback and interest to do trial, and expected a price ranging IDR 2,500-5,000/Kg.</p> <p>The research introduced technological options to reuse treated sludge from an FSTP, offered potential use and partnership with other parties e.g., by Environment Office for city park and subsidy for FSTP's operational cost, and explored a new revenue stream for the operator (which its viability depends on the institutional framework), all in parallel with the operator's capacity strengthening. Concluding the research, the Wastewater Operator submitted the initiative to the city and provincial level's Technology Innovation Competition and successfully won it.</p>		
8'	Q&A with speakers		

38'	<p>Panel discussion:</p> <p>Moderator: Ms. Saniya Niska; WASH SDG Programme Manager; Interim Water Sector Leader; SNV - OK</p> <p>Panelists:</p> <ul style="list-style-type: none"> - Ms. Rouguiyatou Ba; Association des Jeunes professionnels de l'Eau et de l'Assainissement Sénégal (AJPEAS) - OK - Prof. (Mr.) V. Srinivas Chary; Director of the Centre for Environment, Urban Governance, and Infrastructure Development; Administrative Staff College of India (ASCI) - OK - Dr. (Mr.) Jean Birane Gning; Environmental Sciences Institute; Faculty of Sciences and Technology; Cheikh Anta Diop University, Senegal - OK - Ms. Mélodie Boissel; Head of Mediterranean basin and knowledge production, pS-Eau - OK - Mr. Shu Nishi; Director for Sewerage International Affairs and Engineering Office; Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan - OK
5'	<p>Remarks and considerations on the session content in relation to the issues highlighted at the beginning and key messages for the contribution to the thematic process of the forum</p> <p>Dr. (Mr.) Papa Samba Diop; Governor, World Water Council; Technical Advisor, National Sanitation Office of Senegal (ONAS) - OK</p>