

Conference Program

WasteSafe 2019

6th International Conference on
Integrated Solid Waste & Faecal Sludge Management in South-Asian Countries

23-24 February 2019

Khulna, Bangladesh

WasteSafe

Department of Civil Engineering
Khulna University of Engineering and Technology (KUET)
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Jointly Organized by

Khulna University of Engineering & Technology, Bangladesh;
Bauhaus University Weimar, Germany;
University of Padova, Italy
International Waste Working Group (IWWG).

Welcome to WasteSafe 2019

Increased population rate, rapid urbanization and industrialization in South-Asian countries create huge challenge for the management of solid waste, faecal sludge and related wastewater. Although cities of these countries have a lower rate of waste generation, the quantum of waste is high owing to their higher levels of population density and the absence of appropriate technology. The tropical climates with a high degree of rainfall and humidity aggravate the problem of solid waste disposal. As cities are becoming more urbanized, their waste composition also changes. The most significant change is the higher part of plastics, multilateral items specially electrical & electronics wastes, consumer products and packaging materials. Recently, environment-friendly management of faecal sludge and wastewater become striking urban sanitation issues in most of the South-Asian countries, like Bangladesh. However, the improvement of existing situations depend completely on the change of the attitude of individuals, community and authority, otherwise environmental degradation will make a threat for sustainability of the inherent socio-economic settings and to achieve Sustainable Development Goals (SDGs) by 2030.

This WasteSafe 2019, 6th International Conference on Integrated Solid Waste & Faecal Sludge Management in South-Asian Countries, is organized at Khulna, Bangladesh to exchange the views and experiences at international level and to understand the solid waste & faecal sludge management concept as a whole. It is expected that the academicians, researchers, officials and professionals will unfold the prevailing reality in these sectors, innovative ideas, latest findings and experiences in this forum in order to provide the necessary guidelines through which a safe and sustainable system for solid waste & faecal sludge management can be implemented within limited existing social settings, resources and inherent constraints.

To address these social and environmental issues, Khulna University of Engineering & Technology (KUET) has taken several initiatives in the past since 2002. In this footstep, WasteSafe 2009, the 1st International Conference on Solid Waste Management was organized successfully in 9-10 Nov. 2009 at Khulna. The success of WasteSafe 2009, encouraged the organizer to continue such activities in Bangladesh in every odd year in a particular period. To materialize such attempt, the WasteSafe 2011, 2013, 2015 & 2017 the 2nd, 3rd, 4th & 5th International Conference on Solid Waste Management in Developing Countries was held successfully at Khulna, Bangladesh on 13-15 February 2011, on 10-12 February 2013, on 15-17 February 2015 & on 25-27 February 2017, respectively. To continue these activities, WasteSafe 2019, the 6th International Conference on Integrated Solid Waste & Faecal Sludge Management in South-Asian Countries has arranged at Khulna, Bangladesh on 23-24 February 2019 with theme of Solid Waste, Faecal sludge and related waste water management. WasteSafe 2019 is jointly organized by Khulna University of Engineering & Technology, Bangladesh; Bauhaus University Weimar, Germany; University of Padova, Italy; and Inter

national Waste Working Group (IWWG). Technical papers were invited through website (www.wastesafe.info) and information bulletin from the academicians/ researchers/ professionals/ social activists working on solid waste management around the worldwide before the conference date.

After review, a total of 68 technical papers including 3 Keynote papers and 1 Theme paper were selected for publications into the Conference Proceedings, Oral Presentation through 1 Inauguration session, 1 Keynote Sessions and 10 Technical sessions. In addition, there is also one poster sessions which mainly demonstrate the 8 postgraduate level ongoing research topics on faecal sludge management. Academicians, researchers, professionals and other personalities from 06 different countries - Bangladesh, India, Italy, Germany, Nepal, and Zimbabwe - submitted their scientific contributions in this conference. Papers have been lightly edited to homogenize the style and to revise the contents based on reviewers' comments. However, each individual author holds the final responsibility for the contents, quality and the presentation of the papers. In this proceedings only the executive summary of the papers are printed and hence published, however, full papers are available in a 'USB Memory Stick' given to the participants.

I would like to acknowledge the great efforts of the authors and the supports received from the reviewers' who did a tedious job. The contributions of the members of all committee are gratefully acknowledged. Heartiest thanks to Dr. M Rafizul Islam, S.M.Tariqul Islam, M. Hasibul Hasan and Pingki Datta for putting their excellent joint efforts with me for editing the proceedings including composing the text, figures, tables and photographs.

The support and cooperation of Bangladesh University Grants Commission, SNV - Netherlands Development Organization, WaterAid Bangladesh, Seven Rings Cement, Practical Action Bangladesh and China Geo-Engineering Corporation are gratefully acknowledged. Special thanks are also due to Prof. Werner Bidlingmaier of Germany Prof. Raffaello Cossu of Italy.

Finally, great appreciation is due to Prof. Kraft and Prof. Lavagnolo for their support, warm cooperation and encouragement.

Muhammed Alamgir
Khulna, February 2019

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6th International Conference on

Integrated Solid Waste & Faecal Sludge Management in South-Asian Countries

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Khulna University of Engineering & Technology, Bangladesh

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Former Faculty, University of Padova, Italy

Professor Eckhard Kraft

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Assistant Professor, Institute of Disaster Management

Khulna University of Engineering & Technology

Khulna 9203, Bangladesh

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Conference Program

23 February 2019, Saturday: Conference Day I	
08:00 - Onward : Registration (Lobby of 1st Floor, SWC, KUET)	
09:00 - 10:30 : Inauguration at Conf. Room 201, SWC, KUET	
09:00-10:30	• Welcome Address: Prof. Muhammed Alamgir Chair, WasteSafe 2019 International Conference and Professor, Department of Civil Engg., KUET, Bangladesh
	• Address by the Co-Organizer Dr. Maria Cristina Lavagnolo, University of Padova, Italy Prof. Eckhard Kraft , Bauhaus University Weimar, Germany
	• Address by the Strategic Partners Mehrab Ul Goni, Practical Action Bangladesh Dr. Md. Liakath Ali, WaterAid Bangladesh
	• Theme Paper: Prof. Raffaello Cossu, Italy “Closing the Lopes of Waste Management Strategy”
	• Special Guests Speech: Mr. Jason Mitchell Belanger, Country Director, SNV Bangladesh
	• Address by the Chief Guest: Talukder Abdul Khaleque, Hon’ble Mayor, Khulna City Corporation
	• Address by the Chief Patron: Prof. Quazi Sazzad Hossain, Hon’ble Vice-Chancellor, KUET
10:30-10:40	• Photo Session
10:30-10:40	• Opening of Exhibition “100 yrs. of Bauhaus University Weimar’ at KUET Archive, Ground Floor, SWC, KUET
10:30-11:00: Tea Break (Lobby of the 1st Floor, SWC, KUET)	

11:00 - 13:00: Keynote Session (Conference Room 201, SWC, KUET) (23 February 2019, Saturday)	
11:00-13:00	Session Chair: Prof. Raffaello Cossu <i>Italy</i>
11:00-11:40	Prof. Jörg Londong , Bauhaus University Weimar, Germany "Faecal Sludge Management -Way of Transition/Transformation"
11:40-12:20	Dr. Tanvir Ahmed , Bangladesh University of Engineering & Technology, Bangladesh "Identification and Estimation of Mercury Emissions in Bangladesh: towards Development of a National Mercury Profile for Ratification of the Minamata Convention"
12:20-13:00	Dr. Nawraj Khatiwada , Nepal "Issues and Challenges of Solid Waste Management in Emerging Urban Areas"
13:00-14:30: Lunch Break (Lobby of the 1st Floor, SWC, KUET)	
14:30-16:00: Parallel Technical Sessions A1 & B1 (23 February 2019, Saturday)	
	Session A1 (Conf. Room 201, SWC)
	Chair of the Session: Prof. Eckhard Kraft Bauhaus-Universität Weimar Germany
14:30-14:45	ID- 077 (p. 111) Leachate Management at Sisdol Landfill Site in Nepal: Current Status and Proposed Technology <i>Shankar Shrestha, Monica Maharjan, Nawa Raj Khatiwada, Surya Man Shakya and Bijay Thapa Nepal</i>
14:45-15:00	ID- 117 (p. 31) Performance Analysis of Semi-Aerobic Landfill Under Different Water Availability Conditions and Putrescible Waste Content <i>Valentina Grossule and Maria Cristina Lavagnolo Italy</i>
	Session A1 (Conf. Room 201, SWC)
	Chair of the Session: Prof. Md. Monowar Hossain ED, IWM, Dhaka, Bangladesh
	ID- 001 (p. 97) Practical Report for Alleviating Social Exclusion of Waste Pickers and Improving Community-based Waste Management Capacity through Conducting Environmental Education and Collaborating with Multi-Stakeholders in Khulna <i>Hideki Sato, Md. Maksudur Rahman and Shantanu Biswas Japan</i>
	ID- 123 (p. 33) Potentials of the synergetic use of organic matter in residual material flows <i>Thomas Haupt, Andrea Lueck, Eckhard Kraft and Jörg Londong Germany</i>

15:00-15:15	ID-126 (p. 47) Volunteerism for Environmental Pollution Control in Khulna City Corporation <i>Md. Wasiul Islam, M. Nazmul Azam David and Akbar Hossain Bangladesh</i>	ID-085 (p. 75) Emerging Issues in Solid Waste Management in South Asia: A Situational Analysis of Nepal <i>Monica Maharjan, Surya Man Shakya and Nawa Raj Khatiwada Nepal</i>
15:15-15:30	ID- 023 (p. 69) A Study on E-Waste Generation and Its Impacts on Pabna Municipality Area of Bangladesh <i>Md. Marufuzzaman and Mst. Mahbuba Khanam Bangladesh</i>	ID- 110 (p. 51) Role of Informal Sector Recycling in Waste Management in Khulna City <i>Md. Hafijur Rahman, Md. Oyaliullah Sheikh and Md. Mahadi Hashan Shakil Bangladesh</i>
15:30-15:45	ID-130 (p. 107) Sustainable Biofuels Production and Wastewater Treatment by A Proposed Low-cost and Energy Positive Technological Approach <i>Md . Khalekuzzaman, Md Bashirul Islam, Muhammed Alamgir and Md Khairul Islam Bangladesh</i>	ID-121 (p. 15) A Nobel Wastewater Treatment Ecotechnology Applied to Improve Environmental Sanitation in Khulna Slum <i>Babul Bala, Abdullah Al-Muyeed and Md. Liakath Ali Bangladesh</i>
15:45-16:00	ID- 113 (p. 23) Restaurant Food Waste Management - A Case Study of Dhanmondi Area <i>Rumman Mowla Chowdhury, Toukirul Islam and Abu Bakar Mohammad Irad Hossain Bangladesh</i>	ID- 105 (p. 49) Assessment of Treated Wastewater to Meet Fire Fighting Water Demand in a University Campus of Bangladesh <i>Md. Asiful Islam, Debatosh Banik Partha, Md. Saiful Islam Bangladesh</i>
16:00-16:30: Tea Break (Lobby of the 1st Floor, SWC, KUET)		
16:30-18:00: Parallel Technical Sessions A2 & B2 (23 February 2019, Sunday)		
	Session A2 (Conf. Room 201, SWC)	Session B2 (Conf. Room 202, SWC)
	Chair of the Session: Prof. Quazi Hamidul Bari Director, IDM and Dean, Faculty of Civil Engg. KUET, Bangladesh	Chair of the Session: Dr. Nawa Raj Khatiwada Academician and Waste Management Expert, Nepal

16:30-16:45	ID- 029 (p. 45) Municipal Waste Management of Kushtia Municipality: Challenges and Opportunities <i>Md. Abdul Kader, Sneha Paul, Md. Sainur Rahman, Md. Amanullah Parvez and Ranver Ahmed Bangladesh</i>	ID-124 (p. 115) Anaerobic Digestion of Macroalgae <i>Tonia Schmitz, Christoph Braun and Eckhard Kraft Germany</i>
16:45-17:00	ID- 040 (p. 93) Community Participation as a Tool for Improving Solid Waste Management: A Case Study on Savar Municipality, Dhaka <i>Ridoy Roy, Md. Galib Hasan and Rezaul Bari Ishan Bangladesh</i>	ID- 073 (p. 95) Paper and Metal Waste Recycling in Khulna City <i>Koushik Roy and Q. Hamidul Bari Bangladesh</i>
17:00-17:15	ID- 033 (p. 103) Designing a Sustainable Solid Waste Management System for Habiganj Poursava <i>Md. Soumik Sikdar, Md. Galib Hasan and Monishi Roy Tutul Bangladesh</i>	ID- 045 (p. 39) Assessment on Small Plastic Packet Waste Production Rate in KUET Campus with Possibilities of Further Uses <i>Md. Shahnur Hoque, Shah Nawaz Nowshad and Quazi Hamidul Bari Bangladesh</i>
17:15-17:30	ID- 006 (p. 101) Recycling and Reusing of Lead from Lead Acid Dattery: A Case Study on Machhkhali (raksha Dazaar) in Bera Upazila of Pabna district <i>Afsana Sultana and Zamil Ahamed Bangladesh</i>	ID-128 (p. 89) Assessing Functionality of Mini Dustbins in Khulna City <i>Tusar Kanti Roy, Md. Sabbir Hossain, Saima Rahman, Md. Raihan Kabir and Mohammad Mosaib Bangladesh</i>
17:30-17:45	ID- 071 (p. 133) Entering Rocinha: A Study on Solid Waste Management in a Slum of Rio de Janeiro (Brasil) <i>Francesca Villa, Andrea Arcidicono, Francesco Causone, Gabriele Masera, Massimo Tadi and Mario Grosso Italy</i>	ID- 109 (p. 09) Reinvent the Toilet Challenges and Technologies for Energy and Treatment of Wastewater <i>Md. Ashrafal Alam, Bishwajit shaha, Md. Mahadi Hashan Shakil, Md. Oyaliullah Sheikh and Md. Mahmudun Nabi Bangladesh</i>

17:45-18:00	ID- 090 (p. 29) Solid Waste Separation and Management System for Urban Area of Bangladesh <i>Md. Abdullah Ibn Faruk, M. Ashrafuddoula Dipu, Soumitra Das and M. Touhid Sikder Bangladesh</i>	ID- 093 (p. 105) A Study on Bangladeshi Fly Ash as a Partial Replacement of Ordinary Portland Cement in Concrete Production using Deifferent Water Cement Ratio <i>Md, Sabbrojjaman, Md. Rashedul Islam and Tafsirojjaman Bangladesh</i>
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19:30 - 21:30
Conference Dinner & Cultural Show
(Hotel Castle Salam, Khulna)

- **WasteSafe Lifetime Achievement Award**
- **Acknowledgement to the Sponsors**
- **Conference Dinner**
- **Bengali Cultural Show**

24 February 2019, Sunday: Conference Day II

08:00 – Onward: Registration (*Lobby of the 1st Floor, SWC, KUET*)

09:00-10:30: Parallel Technical Sessions A3 & B3

(24 February 2019, Sunday)

	Session A3 (Conf. Room 201, SWC)	Session B3 (Conf. Room 202, SWC)
	Chair of the Session: Prof. Raffaello Cossu IWWG, Italy	Chair of the Session: Dr. Tanvir Ahmed Bangladesh University of Engineering & Technology, Bangladesh
09:00-09:15	ID- 108 (p. 83) Scenario of Solid Waste Management in Khulna City in Accordance with the Economic Status <i>Md. Mahmudun Nabi, Md. Mahadi Hashan Shakil, Md. Ashrafal Alam and Md. Oyaliullah Sheikh</i> Bangladesh	ID- 131 (p. 27) Study on Bioconversion of Household Waste and Faecal Sludge through Various Composting Process <i>Tonmoy Debnath and Muhammed Alamgir</i> Bangladesh
09:15-09:30	ID- 122 (p. 59) Aspects for the Utilization of Mobile Fermentation Facilities in Refugee Camps and Disaster Areas <i>Eckhard Kraft</i> Germany	ID- 070 (p. 131) Social Aspects in the Pathway toward the Closure of a Dumpsite: The Case of Ngong (Kenya) <i>Francesca Villa, Sonia Maria Dias and Mario Grosso</i> Italy
09:30-09:45	ID- 058 (p. 05) Stabilization of Medical Incineration Fly Ash in Cement Mortar Matrix <i>Tanvir Ahmed, Musfira Rahman and Rumpa Chowdhury</i> Bangladesh	ID-133 (p. 67) Community Managed Sanitation Systems for Low Income Communities in Khulna Bangladesh <i>Md Irfan Ahmed Khan, Sk Shaker Ahmed and Abdul Aziz</i> Bangladesh
09:45-10:00	ID- 007 (p. 53) Identification and Assessment of Ecosystem Service and Disservice of Ward no. 11, 12 and 13 <i>Fariha Harun, Israt Fatima Easha, Fakrul Bin Kabir</i> Bangladesh	ID-019 (p. 13) A GIS Based Suitability Analysis for Waste Dumping Zone – A Case Study on Pabna Municipality, Bangladesh <i>A.K. Azad And Sagar Ray</i> Bangladesh
10:00-10:15	ID- 081 (p. 127) Situational Analysis of Strategic Solid Waste of Melamchi Municipality in Nepal <i>Bipin Thapa, Ina Shrestha and Nawa Raj Khatiwada</i> Nepal	ID-074 (p. 91) Water Supply History of Khulna City <i>Koushik Roy, Q. Hamidul Bari, Sardar Mostakim and Debo Brata</i> Paul Argha Bangladesh

10:15-10:30	ID-092 (p. 99) Application of Adaptive Neuro-Fuzzy Inference System for the Analysis of Heavy Metals in Soil of a Waste Disposal Site in Khulna <i>Shyamol, K.S. and Rafizul, I.M.</i> Bangladesh	ID- 062 (p. 45) Impact of Plastic Debris on Marine Environment of Bangladesh: A Review <i>Sk. Md. Imdadul Islam, Md. Zahidul Islam, Muhammad Raihan and Mohammad Iqbal Hossain</i> Bangladesh
10:30-11:00: Tea Break (<i>Lobby of the 1st Floor, SWC, KUET</i>)		
11:00-13:00: Parallel Technical Sessions A4 & B4		
(24 February 2019, SUNDAY)		
	Session A4 (Conf. Room 201, SWC)	Session B4 (Conf. Room 202, SWC)
	Chair of the Session: Prof. Jörg Londong Bauhaus University Weimar, Germany	Chair of the Session: Dr. Md. Liakath Ali Director, Programmes and Policy Advocacy, WaterAid Bangladesh
11:00-11:15	ID- 002 (p. 55) Commercial and Household Food Waste Separation Behaviour and the Role of Local Authority – Towards A Smart City <i>Mamun Jamal, Aleksandra Szeffler, Colman Kelly and Nicholas Bond</i> Bangladesh	ID- 097 (p. 125) Experimental Investigations on Recycled Coarse Aggregate as a Full or Partial Replacement of Coarse Aggregate in Concrete Production Using High FM Fine Aggregates <i>Md, Sabbrojjaman, Ruman Mia and Tafsirojjaman</i> Bangladesh
11:15-11:30	ID- 100 (p. 81) Plastic Waste Recycling in Khulna City and Proposal for Improvement <i>Tapu Mojumder and Khondoker Mahbub Hassan</i> Bangladesh	ID- 082 (p. 121) An Assessment of Waste Paper Production of the Working Place in Nepal <i>Ina Shrestha, Surav Shrestha and Nawa Raj Khatiwada</i> Nepal
11:30-11:45	ID- 102 (p. 79) Management and Recycling of Electronic Waste in Khulna City <i>S. M. Moniruzzaman, Md. Nahid Hasan, Md. Shazadur Rahman and Md. Hossain Ali</i> Bangladesh	ID- 101 (p. 35) Risk Assessment of Solid Waste Disposal on Ground Water Quality Around Rajbandh Dumping Site <i>Md. Refat Hossain and Kh. Mahbub Hassan</i> Bangladesh

11:45-12:00	ID- 054 (p. 119) Waste Water Related Issues in Pabna Municipality (A Case Study on Pabna Municipality, Bangladesh) <i>Suraiya Sultana and Nowshin Rahman Bangladesh</i>	ID- 106 (p. 117) Present Scenario of Hospital and Clinical Waste Management in Khulna City <i>Md. Mahadi Hashan Shakil, Md. Oyaliullah Sheikh Manik, Md. Mahmudun Nabi and Md. Ashraful Alam Bangladesh</i>
12:00-12:15	ID- 075 (p. 63) Applying Nudge Theory Strategies in Solid Waste Management <i>Nawa Raj Khatiwada, Monica Maharjan, Shankar Shrestha and Ganesh Shah Nepal</i>	ID-111 (p. 11) Behavior of Concrete Produced by Incorporating Waste Ceramic Powder into Cement Exposed to Fire <i>Anindya Saha Antu, Fazle Rabbi Rahik and HM Iqbal Mahmud Bangladesh</i>
12:15-12:30	ID-118 Status of Municipal Faecal Sludge Management Planning in the New Constitutional Arrangement of Nepal <i>Suman Dhun Shrestha Nepal</i>	ID-129 (p. 85) Healthcare Waste Management Initiative in Bogura Municipality: A Case Study of SAPNO, an NGO <i>Md. Ziaur Rahman, Tusar Kanti Roy, Matiur Rahman and Tanmoy Mazumder Bangladesh</i>
12:30-12:45	ID- 094 (p. 77) Optimization Municipal Solid Waste Collection Routes for Minimum Fuel Consumption in Khulna City by GIS <i>Mohammad Mosaib, Md. Moniruzzaman Siddique, Md. Raihan Kabir and S. M. Moniruzzaman Bangladesh</i>	ID- 018 (p. 87) Proposal of Public Encouragement to Manage Solid Waste - A Study On Nirala Residential Area, Khulna <i>Sagar Ray and A. K. Azad Bangladesh</i>
12:45-13:00	ID-044 An Analysis on Solid Waste Management in Residential Areas of Chittagong City Corporation, Bangladesh <i>Rezaul Bari Ishan, Md. Shah Naim Hredoy and Hridoy Roy</i>	
13:00-14:30: Lunch Break (Lobby of the 1st Floor, SWC, KUET)		

14:30-16:00: Parallel Technical Sessions A5 & B5 (24 February 2019, Sunday)		
	Session A5 (Conf. Room 201, SWC)	Session B5 (Conf. Room 202, SWC)
	Chair of the Session: Dr. Kh. Mahbub Hassan Professor, Dept. of Civil Engg., KUET Bangladesh	Chair of the Session: Engr. Md. Abdullah Managing Director Khulna WASA, Bangladesh
14:30-14:45	ID- 028 (p.113) Assessing the Impact of Faecal Sludge of Train Toilet at Chittagong, Bangladesh <i>Md. Soumik Sikdar, Monishi Roy Tutul, Zarin Tasnim Arpa, Muhammad Rashidul Hasan Bangladesh</i>	ID- 112 (p. 41) A Comprehensive Study on Battery Waste Management Practice in Khulna City <i>Khondaker Badid Baiyan Huda and Kh. Mahbub Hassan Bangladesh</i>
14:45-15:00	ID- 036 (p. 109) Effects of Raw Sewage Pretreatment using Bar Screen in Khulna Municipal Area <i>Jobaer Ahmed Saju , Shah Nawaj Rahman Rubel , Md. Masudur Rahman and Subinoy Biswas Nayan Bangladesh</i>	ID-134 (p. 21) Transformational Changes in Co-compost Product Quality Post Outsourcing of FSTP in Kushtia, Bangladesh <i>Tanvir Ahmed Chowdhury and Ranveer Ahmed Bangladesh</i>
15:00-15:15	ID-119 (p. 71) Comparative Study of the Methods Used for Faecal Sludge (FS) treatment in an Emergency Human Settlement – Rohingya Camps in Ukhia, Cox's Bazar <i>Mehedi Hasan Mishuk, Janefer Flower Janee, Muhammed Alamgir and S. M. Tariqul Islam Bangladesh</i>	ID- 064 (p. 19) Household Solid Waste Management in Khulna City: Environment and Health Concern <i>Md. Mahir Labib Chowdhury and Md. Esraz-Ul-Zannat Bangladesh</i>
15:15-15:30	ID- 104 (p. 65) Comparative Assessment of Sewage Treatment Systems at Khalishpur area in Khulna city <i>Md. Tahasin Khan and Khondoker Mahbub Hassan Bangladesh</i>	ID- 031 (p. 73) Aluminum Waste Recycling Practice in Khulna City <i>Md. Mamunur Rashid and Quazi Hamidul Bari Bangladesh</i>

15:30-15:45	ID-127 (p. 43) Faecal Sludge and Municipality Solid Waste Co-Composting Plant, Jamalpur <i>Md. Akramul Islam, Md. Moktadir Kabir, Abu Taleb Biswas, Shah Riazur Rahman, Digbijoy Dey Bangladesh</i>	ID- 024 (p. 03) Monitoring of Solid Waste Disposal by Urban Slum Dweller in Rajshahi City and its Impact on the River Water Quality <i>Tonmoy Ahmed, Raju Ahmed, and Md. Niamul Bari Bangladesh</i>
15:45-16:00	ID-125 (p. 129) Experience Sharing of Emergency Faecal Sludge Management with Biological Treatment Process in Rohingya Response <i>S. M. Tariquzzaman, Dr. Abdullah Al Mueyed and Dr. Liakath Ali Bangladesh</i>	ID- 107 (p. 123) Characteristics of Domestic Wastewater and Its Treatment in KUET Campus <i>Md. Oyaliullah Sheikh, Md. Mahmudun Nabi, Md. Mahadi Hashan Shakil, Md. Ashrafal Alam Bangladesh</i>

16:00 - 16:30: Tea Break (Lobby of the 1st Floor, SWC, KUET)

16:30 - 17:30 Closing Session
Conference Room 201, SWC, KUET

- **Feedback on the Conference**
- **Declaration of the Best Innovation**
- **Declaration of Best Papers Award**
- **Announcement of the Date of WasteSafe 2021**

Poster Session

Poster presentations will be accessible to conference delegates at all times. However, poster discussion will take place in the presence of authors on two conference days' (23 & 24 Feb. 2019) morning and afternoon from 10:30 to 11:00, 14:00 to 14:30 and 16:00 to 16:30 to be held at the Lobby of 1st Floor, SWC, KUET. The list of presentation in poster session is listed below:

1. Study on the potential reuse of faecal sludge through co-composting and vermicomposting process
Nazifa Anjum
2. Developing a sustainable model of faecal sludge management for the slums of Khulna city
Israt Fatema Easha
3. Recycling effluent from faecal Sludge treatment plant for home yard gardening
Sheikh Enjamamul
4. Ecologically Sustainable Management of effluent from faecal sludge treatment plant, Rajbandh, Khulna
Zannatul Ferdous

5. Comparative performance study on faecal sludge treatment plants at Khulna, Kushtia and Jhenaidah Districts
Asmaul Husna
6. Developing Corporating model for Faecal sludge management in Khulna City
Prattusha Mondal Reya
7. Developing a model for pro-poor sanitation system engaging private operators in Khulna city
Tahsin Reza
8. Decentralized Wastewater Treatment System (DWTS), WaterAid Bangladesh
9. Faecal Sludge Management at Shakhirpur Paurashava, WaterAid Bangladesh

Showcasing of Activities & Achievements

In the recent years, remarkable improvement occurs on sanitation in the South-Asian and African Countries. Besides the government of the respective country, international organizations have taken lot of initiatives for solving these striking environmental problems. In this conference, WasteSafe 2019, SNV – Netherlands Development Organization at Bangladesh, WaterAid Bangladesh, will show their activities and achievements. In the recent years, Khulna University of Engineering & Technology (KUET) has made remarkable progress to create a clean and green campus through the management of solid wastes, which also will be showcasing during the conference.

Showcasing Booths will be accessible to conference delegates at all times in the two days of the conference (23 & 24 Feb. 2019) from 10:00 to 18:00 at the Lobby of 1st Floor, SWC, KUET.

WasteSafe Lifetime Achievement Award

To recognize the credential of an individual who has made outstanding contribution in local and global perspectives for the advancement of waste management, 'WasteSafe Life Time Achievement Award' is being awarded since 2017. This recognition will be given through an award, namely, "Waste-Safe Lifetime Achievement Award", to be presented biennially during the WasteSafe International Conference at Khulna, Bangladesh. The name of the recipient of "WasteSafe Lifetime Achievement Award 2019" will be declared prior to the Conference dates after getting nominations from different corners. The AWARD will be handed over to the distinguished recipient during the Conference Dinner through a simple ceremony.

Innovative Project Competition

Only Innovation can deliberate appropriate solutions that meet new requirements and unarticulated needs. WasteSafe has arranged such innovation on

waste management since 2017 to encourage the young scientists and professionals to think on the success of this crucial issue. In Solid Waste as well as Faecal Sludge Management, 'Collection Vehicle' used from Source (Home/Office/Roadside) to Secondary Points plays a crucial role to establish a value chain in the system. As there is no 'the Vehicle', so innovation needs. This competition is mainly for Students/ Young researchers/ Professionals. The submitted ideas will be evaluated through a Jury Board and the 'Best Innovation' will be declared and awarded during the Closing Ceremony of the conference.

Best Paper Award

To encourage the Young Scientists/ Researchers 'Prof. Dr. Mohammad Harunur Rashid Best Paper Awards' will be given to the THREE Best Papers. Only the papers presented at the parallel Technical Session of WasteSafe International Conference will be considered for the awards based on the recommendation of the Evaluation Committee. The award contains Prize Money and Certificate. The AWARDS will be declared and handed over during the Closing Ceremony of the conference.

Special Events

There exists very close collaborative relationship between the Khulna University of Engineering & Technology (KUET), Bangladesh and the Bauhaus University Weimar (BUW), Germany since 2005. BUW is one of the co-organizers of WasteSafe International Conference since 2009. A 15 members team from BUW will participate in WasteSafe 2019. This year, BUW celebrates its 100 years Anniversary. In this context, BUW has voluntarily arranged an Art Work Exhibition at KUET campus during the WasteSafe International Conference. The exhibition will be held in 'KUET Archive', Ground Floor, SWC, KUET, which will be accessible to any interested person at all times from 23 to 26 February 2019 from 10:30 to 18:00.

24 Feb. 2019 Sunday: 17:30 END of the CONFERENCE

Post Conference Activities: SUNDARBANS Tour

(Only for pre-paid participants)

24 February (Start 20:30) - 27 February, 2019 (14:30 End)

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