Special Session in the 3RINCs 2024

Impact of COVID19 pandemic on waste management and proper waste handling in post-COVID19 era

Organized by

The Joint Graduate School of Energy and Environment (JGSEE), King Mongkut's University of Technology Thonburi-Thailand in collaboration with Kasetsart University-Thailand and National Institute of Environmental Studies, JAPAN

Introduction

The occurrence of COVID-19 pandemic created several challenges on public service and healthcare sectors in many countries especially those in economical developing stage. The waste management in public service sector has been heavily impact by the pandemic as the amount of waste generation, its composition and inclusion of health care related waste were dramatically changed. Inadequate waste management experienced during COVID-19 could provide as lesson learnt for future planning for systematic, sustainable and resilient waste management structure in the future.

Appropriate management of solid waste for urban cities involves adequate infrastructures as well as effective administration, operation, financial, legal and political support. The waste generation in different cities are varied in terms of waste generation rate, composition, socio-economical and local environmental conditions. Therefore, different challenges are being faced in many cities even during normal situation but the shortage of waste handling capabilities would become more obvious during the crisis. For instance, large volume of special waste would be generated within certain period either short or long time during the occurrence of natural disaster or pandemic events.

The COVID-19 pandemic creates severe stress and impact on the waste management infrastructure of cities not only due to its impact on waste quantity and composition but also the lifestyle of people and their waste disposal behavior. Inclusion of healthcare waste such as medical and infectious waste as well as those arising from personal protection equipment creates for complexity to whole bulk of urban waste to be managed. These sudden changes during the pandemic are generally not possible to be handled properly using existing infrastructure and management systems for ordinary waste. More critical situation would happen to hazardous infectious waste which must be handled differently from ordinary waste to ensure public safety. Each country needs to develop their own strategies to cope with this crisis considering the reliance and compliance with their existing waste management systems. The capacities to adapt themselves to uncertainly inherent from unforeseen drastic changing situation incurring during the pandemic would ensure the resiliencies of their waste management systems These capacities could be enhanced through historical precedents and summary of lessons learnt from previous crisis which can lead or guide to develop more effective decision-making, design and operation of resilient solid waste management for the future.

This special session is organized to assess impact of COVID19 pandemic on waste management and share the lessons learnt from different countries during the pandemic. The main points of session will focus on information sharing on impact of the pandemic on waste management system including waste handling, social and environmental problems, solution and experiences gain during the covid 19 situation. They will follow with appropriate strategies with how to manage future waste scheme and readiness to cope with the situation in the post pandemic era.

Objective

This special session aims to serve as a platform to share experiences and exchange information from various countries on impact of COVID19 on waste treatment systems. The session also intends to find adaptive way of resilient and sustainable waste management toward post pandemic era.

Expected outcomes

It is expected that through the information exchanged in this session, scientific understanding on the extent of impact on waste management and other related issue will be improved and lead to a proactive planning as well as innovative research in order to cope with waste management situation in a resilient and sustainable manner in the future. It is also expected that scientific networking on the waste management sector after pandemic era will be enhanced and elevated collaboration among countries.

Session program

Part I: Impacts of pandemic on waste management: situation, problems, solutions

Moderator:

Presentations (60 minutes, 10-min for each presentation)

1. Dr. Chart Chiemchaisri, Kasetsart University, Thailand
Impact of COVID-19 pandemic on Greenhouse Gas Emission from Municipal Solid Waste Management in Bangkok

2. Dr. Masato Yamada, National Institute for Environmental Studies, Japan (online)
Prevention of COVID-19 infection in waste collection

3. Dr. Noppharit Sutthasil, Mae Fah Luang University, Thailand
The effect of COVID-19 to the change of infectious municipal solid waste composition: A case study of Thailand

4. Dr. Awassada Phongphiphat, King Mongkut's University of Technology Thonburi, Thailand
Waste and wastewater management in selected Thailand's healthcare facilities and their GHG emissions

5. Dr. Kosuke Kawai, National Institute for Environmental Studies, Japan (online)
Recycling Activities at the Community Level Influenced by the COVID-19 Pandemic in Japan

6. Presentation on Pacific Island case studies (Speaker?)

Topic

Part II: Waste management in the post pandemic era (30 minutes, 2-min short message for each presenter followed by Q&A)

Key points:

Changes of waste management systems in the post pandemic era

Preparation of resilient waste management in terms of policy, planning, administration, infrastructure, technology