

KFPE's Learning Events Programme

Biowaste-management Integrated approaches and appropriate technologies for the Indonesian context

28 November 2016 – 2 December 2016

Rationale

Solid waste management is acknowledged as one of the key challenges of the 21st century and considered a fundamental element for sustainable development. Opportunities for improvement remain particularly pronounced in urban low- and middle-income settings like in Indonesia, where solid waste management is characterized by low waste collection coverage, lack of treatment and inadequate disposal. Adverse effects on human health, the environment, and social and economic development are the consequence. Treatment of biowaste, the predominant waste fraction in the Indonesia setting, offers public health, environmental and economic benefits by converting waste into a hygienic product, diverting it from disposal sites, and providing a source of income.

The proposed learning event therefore focused on the topic of **“Integrated Urban Biowaste Management”** with two main objectives: a) to enhance the educational, scientific and training competencies of individual researchers as well as their research institutions and b) to bring together researchers with practice, local governments and policy makers to foster knowledge exchange and trigger implementation in practice. The word “integrated”, as used in this context, comprises the wider sustainability dimensions encompassing technical, economic, social and institutional issues in the learning event and also engages on the development of “soft-skills” of participants. The “soft-skills” development comprise topics such as proposal and project planning as well as presentation techniques.

Outline

The learning event was highly interdisciplinary primarily targeting researchers in Indonesia but with selected invitation of experts from Asia and Europe and audience from the government, NGO, and private sector. The learning event furthermore provided a first formal step in developing a “biowaste community of practice”(BioCoP) where exchange and support among those participating can be sustained and fostered beyond the duration of this single workshop.



Picture 1: Field visit of a composting facility



Picture 2: Group work on presentation skills.

The first two days focussed on an interaction between researchers, covering sessions on the state-of-art and enabling environment in Indonesia followed by technical sessions of biowaste treatment, field visit of treatment facilities and two “soft skill” training sessions: one on project planning,

management and financial administration and a second one on presentation skills and presentation principles. The following two days then included participants from local government, civil society and practice to foster interaction with the research community. Sessions included presentations and discussion panels on opportunities of biowaste treatment and site visits to expose all participants to the realities of practice. Indonesian operators of four different biowaste conversion technologies shared their specific practical biowaste conversion experiences, as did researchers and factory operators from China. Representatives of the product sides (compost and protein for animal feed) shed light on market opportunities and restrictions for biowaste conversion. All participants developed a roadmap for improving the biowaste situation in Indonesia and a community of practice (CoP) on biowaste management. A total of 134 participants attended the learning event, whereby 56 from Universities & Research Centers, 36 from NGOs and private enterprises, and 42 from local & national government authorities.



Picture 3: Group photo (day 2) of the workshop participants at the BSFL treatment facility.

Conclusions

The participants formulated the following consensual statement for wider dissemination:

- **Organic waste management is a key priority to:**
 - Reduce landfill requirement
 - Capture value from urban solid waste
- **Organic waste treatment (conversion) technologies exist but at-scale experiences are hardly documented nor researched.**
- **Success factors for organic waste conversion can be summarized as:**
 - Clean biowaste segregation at source/household is a necessity
 - Good collection logistics must be in place
 - Payment for “responsible” service is key to economic sustainability
 - Treatment of waste to produce “products” needs to match customer demand
- **Research gaps for organic waste conversion:**
 - Applied research on social drivers (e.g. for waste segregation) or economic research (on markets, business models, economic feasibility) is still lacking. This requires involving other disciplinary fields besides engineering and natural/environmental sciences.
- **Share Knowledge and Build Community of Practice**
 - WhatsApp group on biowaste created (Kelola Sampah Organik)
 - National “summit” for organic waste management in 2017

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