

Good practices of the 3Rs for organic waste management in Thailand, Laos and Cambodia

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Presentation outline

- Current status of municipal solid waste management (MSW) in Cambodia, Laos and Thailand
- Potential GHG emissions from urban organic waste in studied countries
- Example of 3Rs practices for organic waste in studied countries
- Conclusion

Current status of MSW management in Cambodia

- Local governments **do not set budget** for waste collection and improvement of disposal site.
- Waste collection is mainly done by contracted company → '**waste collection business**'.
- Residents are requested to pay waste collection fee to the contracted company (~1 USD/mon/household), **no pay no service principle...**
- In Phnom Penh, waste collection company could collect waste fee from 80% of residents by **combining waste fee with electricity bill**.
- Waste disposal practice is **open dumping** in designated area. **Burning is** sometime applied to reduce waste volume.
- Waste disposal site is owned by either waste collection company or local government.

Disposal sites in Cambodia



Most advance disposal site in Cambodia



Current status of MSW management in Laos

- Budget for waste collection and disposal is based on **fee collected from residents** (1 USD/household/month) and by **selling soil** from the disposal site.
- Waste collection is done by either **local government or contracted company**.
- **No pay no service principle**, but fee collection rate is only 30-40%.
- Waste disposal practice is **open dumping** in designated area; sometimes soil cover is applied. In some places, **burning** is practiced to reduce waste volume.
- **Waste disposal site is operated by local government**; disposal fee is applied to private sector.

Disposal sites in Laos



Current status of MSW management in Thailand

- Waste management **budget is allocated by local governments** and sometimes subsidized by national government.
- Waste disposal practices range from **open dumping** for small cities to **sanitary landfill** for large cities. **Incineration** is practiced by a few cities.
- To some extent, **integrated approaches** for waste management are found in most cities.
- Most **residents do not pay** the waste management fee.
- High **social resistance** to landfill and incineration siting exists.

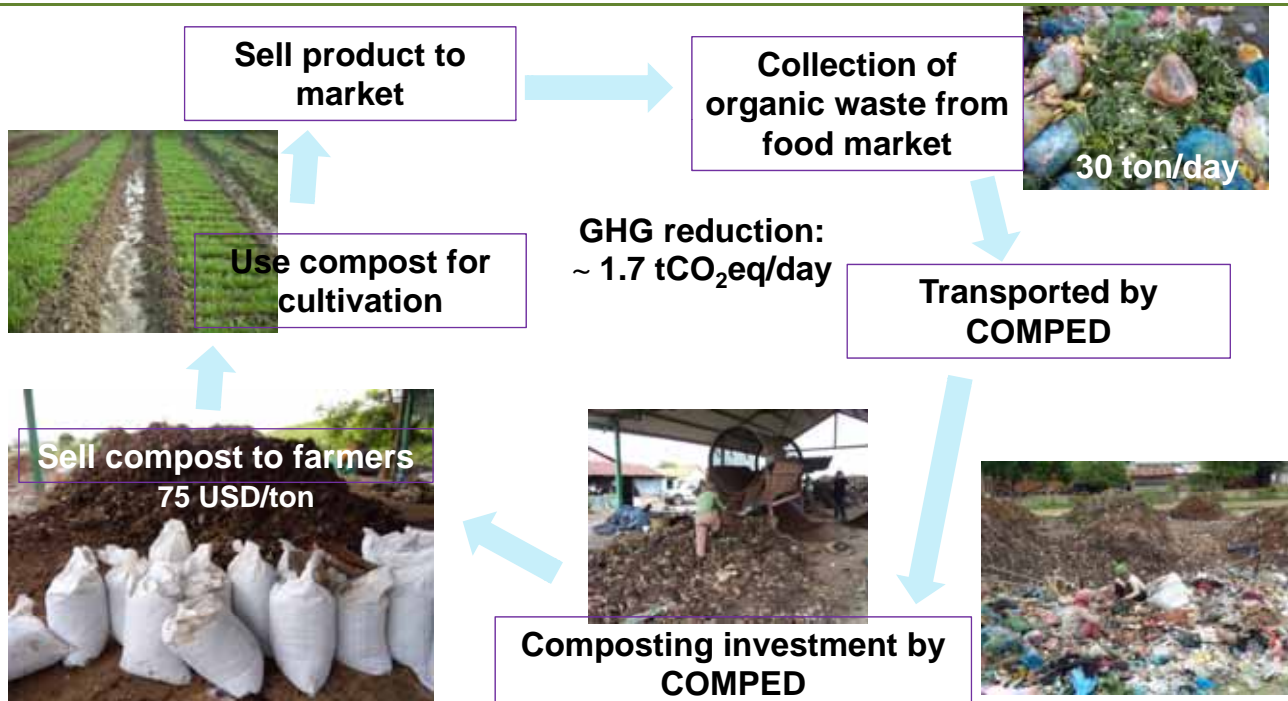
Examples of waste transportation and disposal in Thailand



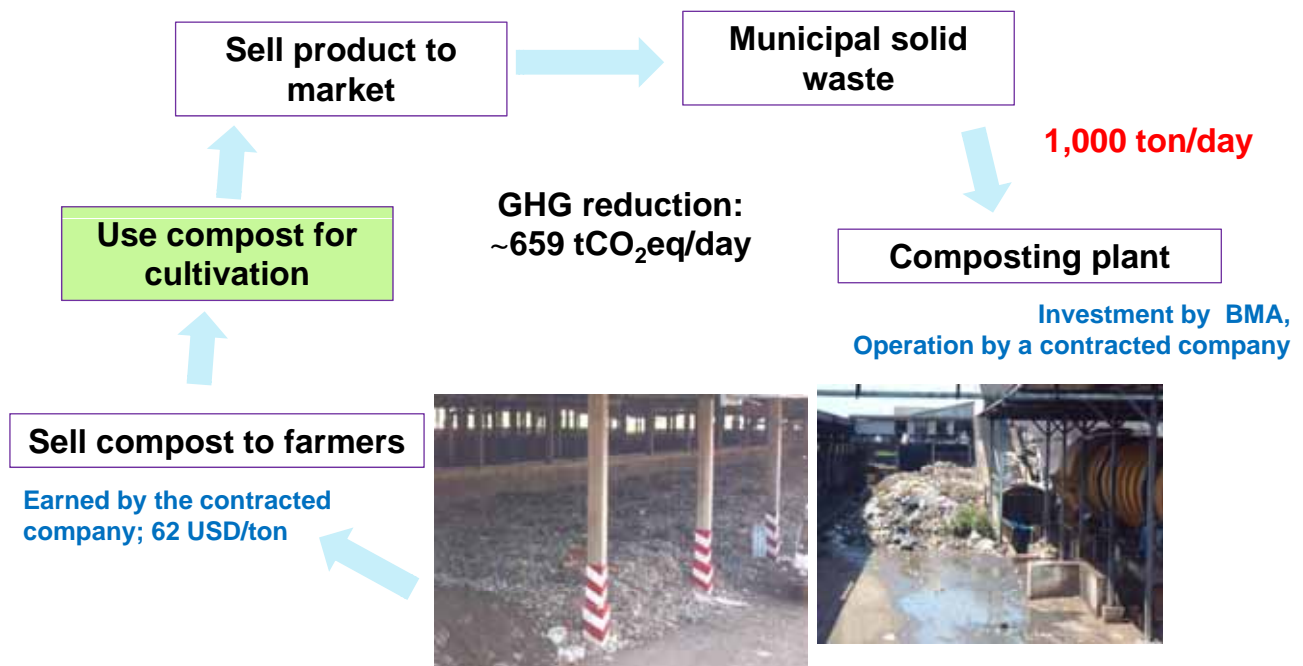
3Rs practices for municipal organic waste management

- **Cambodia**
 - Urban composting project in Phnom Penh
- **Laos:**
 - None
- **Thailand**
 - Urban waste composting in Bangkok
 - Wood waste composting in Bangkok
 - Food waste digesters in Bangkok
 - Biogas project in Rayong
 - Food waste management in Suratthani
 - Organic waste management at Kradang-Nga sub-district, Samutsongkram

Urban composting in Phnom Penh, Cambodia



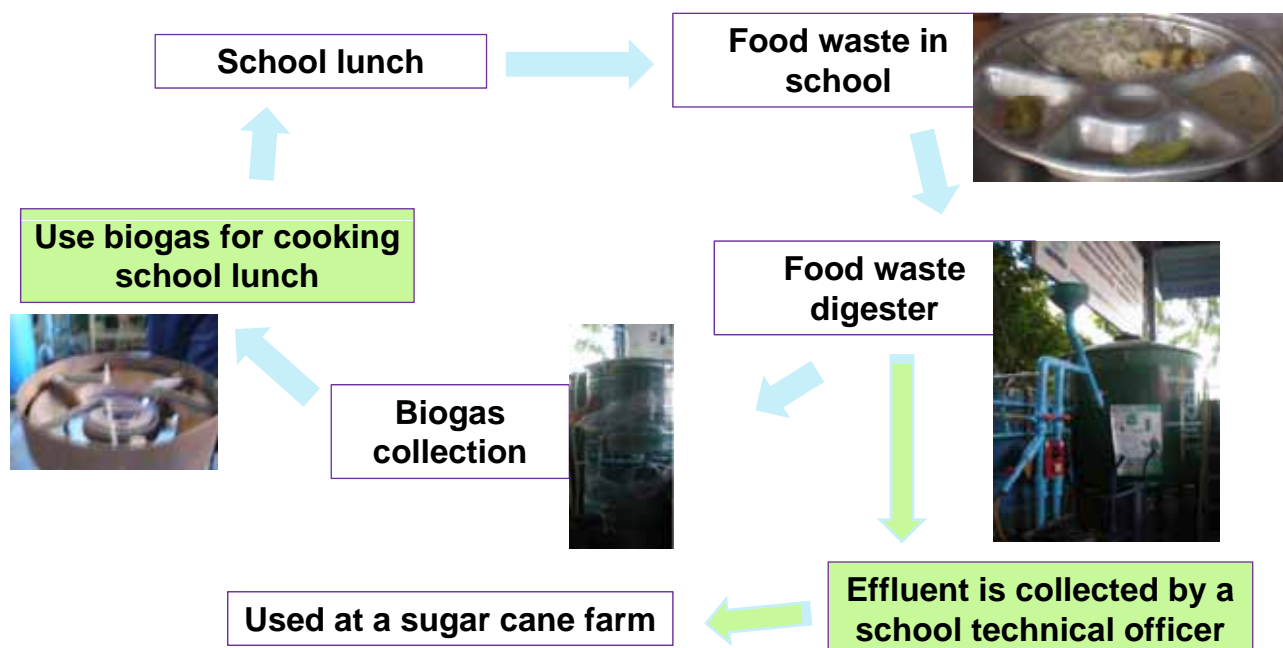
Urban waste composting in Bangkok, Thailand



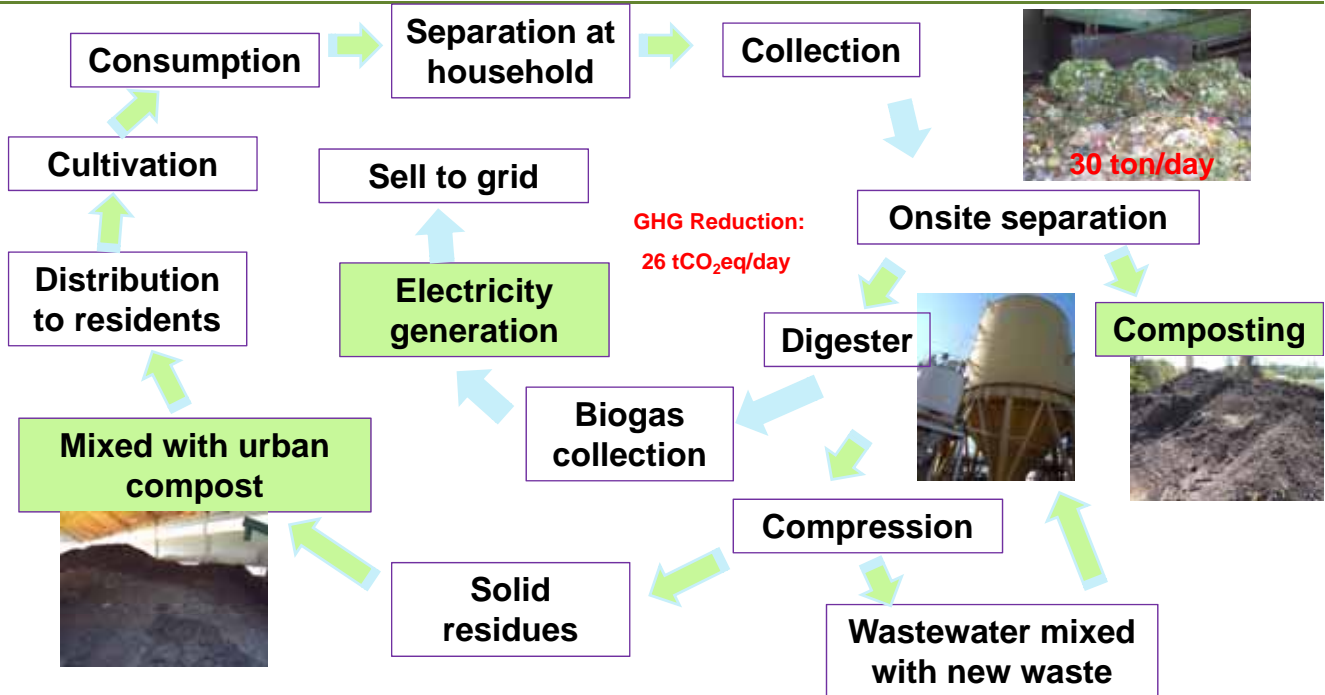
Wood waste composting in Bangkok, Thailand



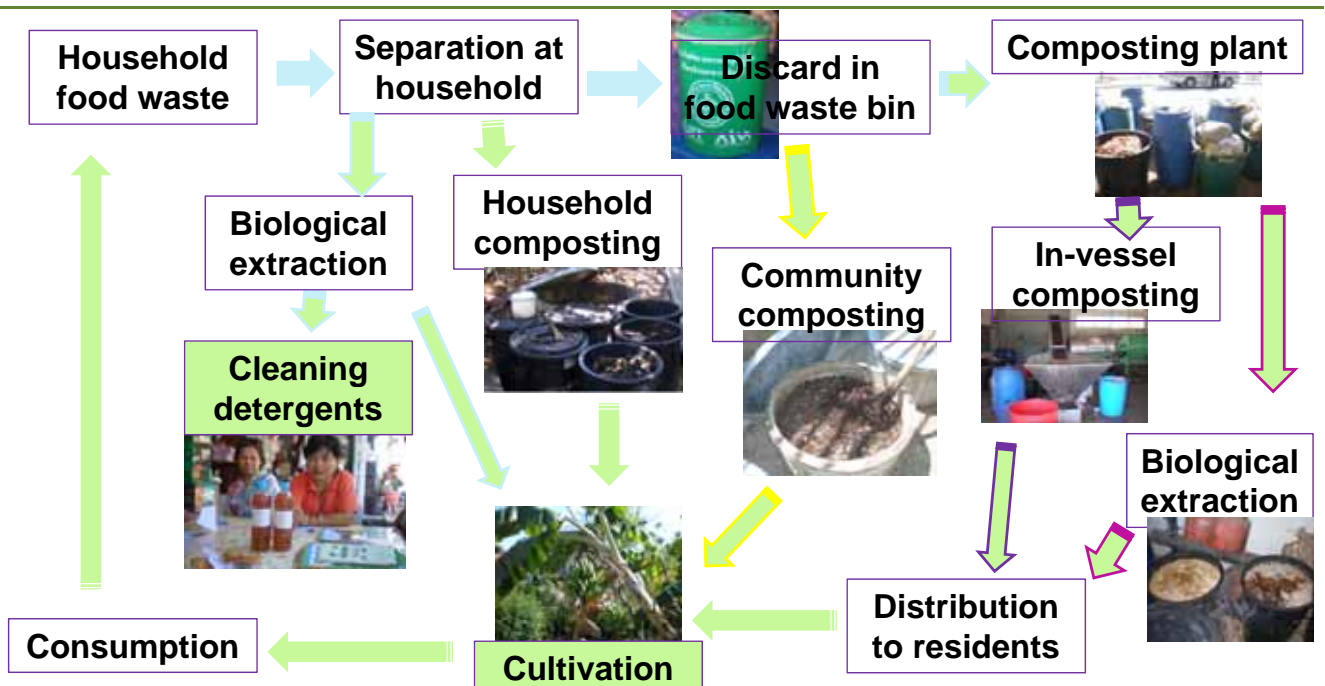
Food waste digester at Wat Pradudhammathipat School, Bangkok



Biogas project in Rayong, Thailand



Organic waste management at Kradang-Nga sub-district, Samutsongkram



Discussion and recommendations

- Successful factors for organic waste management at Rayong city and Kradang-Nga sub-district
 - Continuous awareness raising campaign for residents.
 - Active interaction between government and community.
 - Encouraging two-way communication between community and local government.
 - Involvement of community in door-to-door food waste collection.
 - Benefit sharing among stakeholders: local government, residents.
 - Ongoing exhibitions and dissemination activities for community.

Conclusion

- **Example of local government initiatives to promote 3Rs through organic waste management exist but more could be done.**
- **Independent initiatives outside of government deserve government recognition and support.**
- **Governments should promote less costly appropriate technology as well as separation at source, and involve residents throughout the entire waste management process (decision making, implementation, monitoring and evaluation).**
- **More efforts by government will mobilize local residents' participation.**

Acknowledgement

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Thank You