

South-South cooperation toward zero waste and climate change mitigation in developing Asian cities



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- IGES is a Japanese policy research institute promoting sustainable development in the Asia-Pacific region
- Have offices in Hayama, Tokyo, Kobe, Kitakyushu, Beijing and Bangkok
- The institute's research focuses mainly on environment related policies in developing countries
- IGES employs around 90 researchers
- Two groups are working closely with city development:
 - Sustainable Consumption and Production (SCP)
 - Kitakyushu Urban Center (KUC)

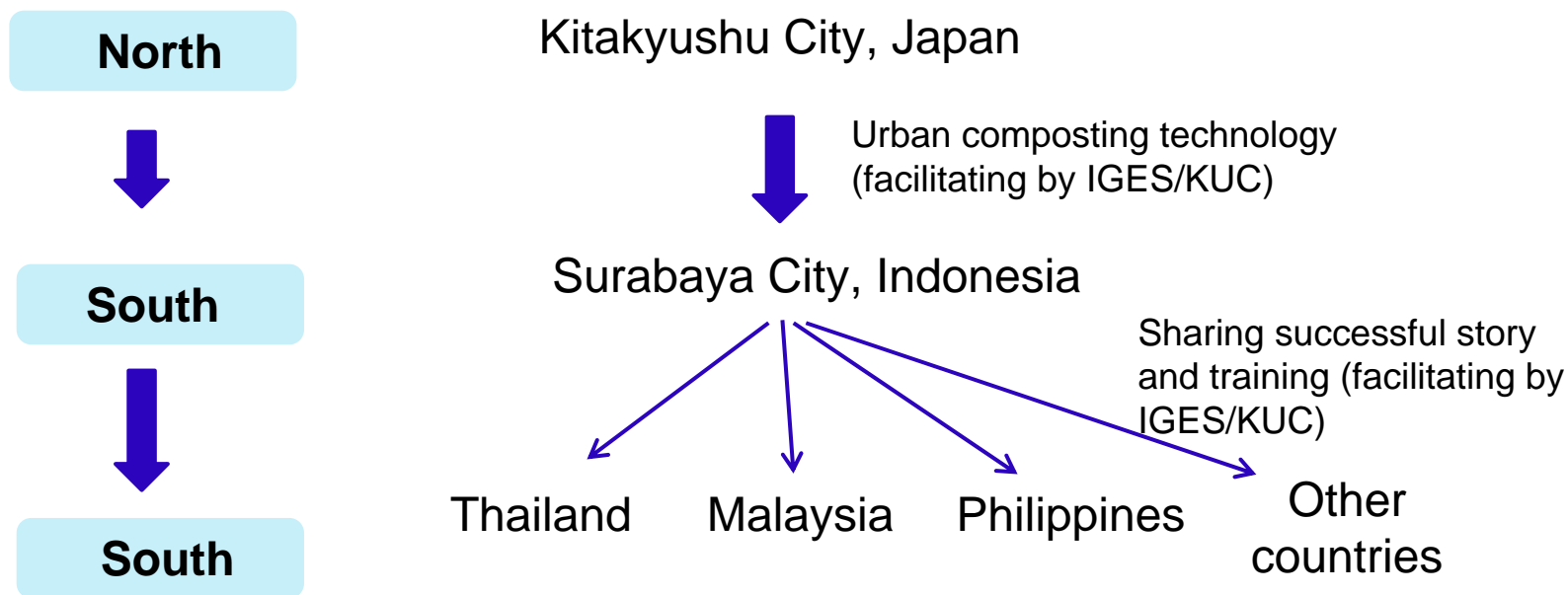


Photo: Yasuhiko Hotta

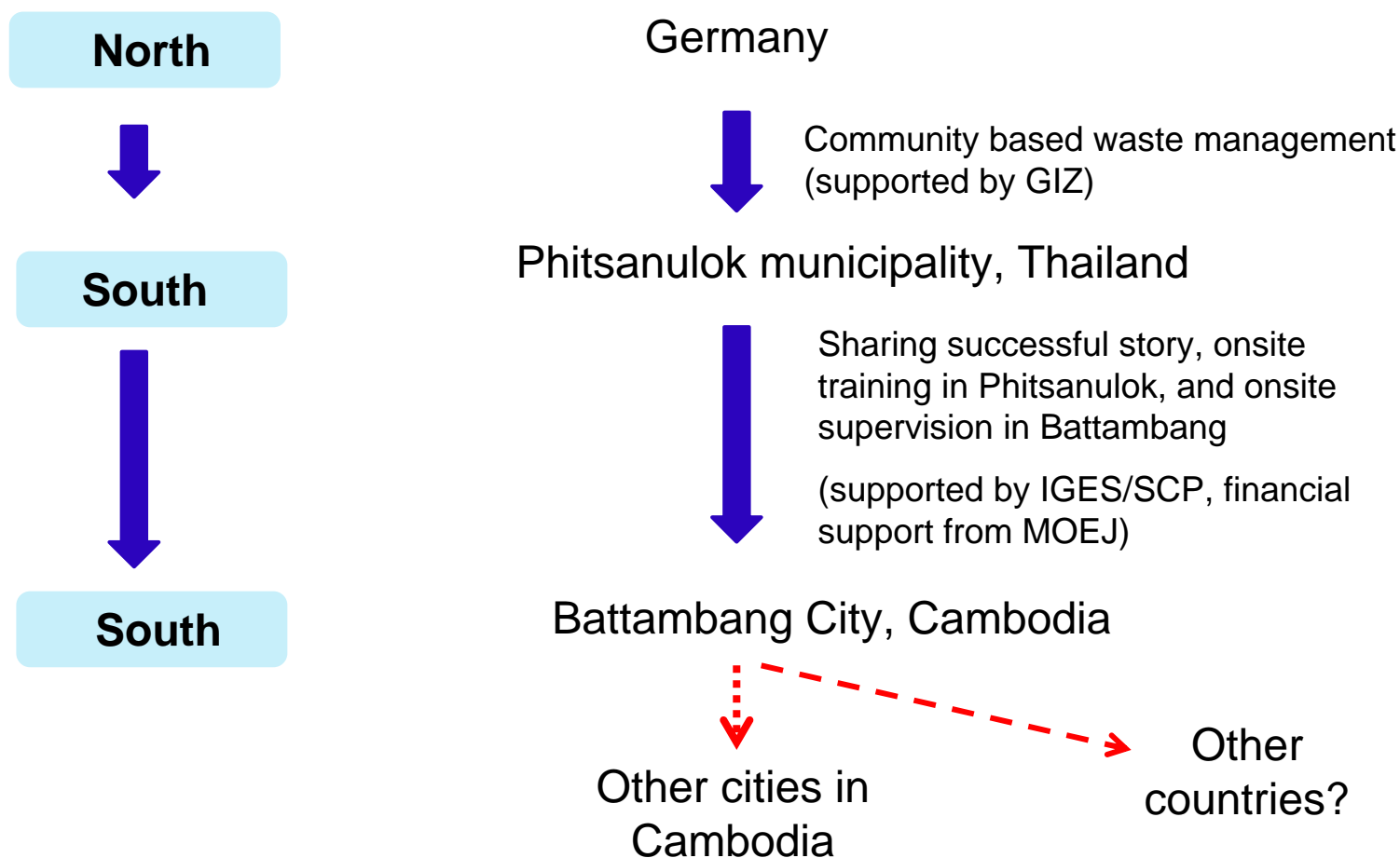
Transition from North-to-South to South-to-South cooperation on waste management in Asia

- **Typical City-to-City cooperation was in form of North-to-South especially from Japan to other developing Asian City**

Case I: Kitakyushu City's International Cooperation for organic waste management in Surabaya city (Indonesia) and its replication in Asian cities



Case II: Phitsanulok municipality and Battambang city cooperation on improvement of municipal solid waste management and climate change mitigation

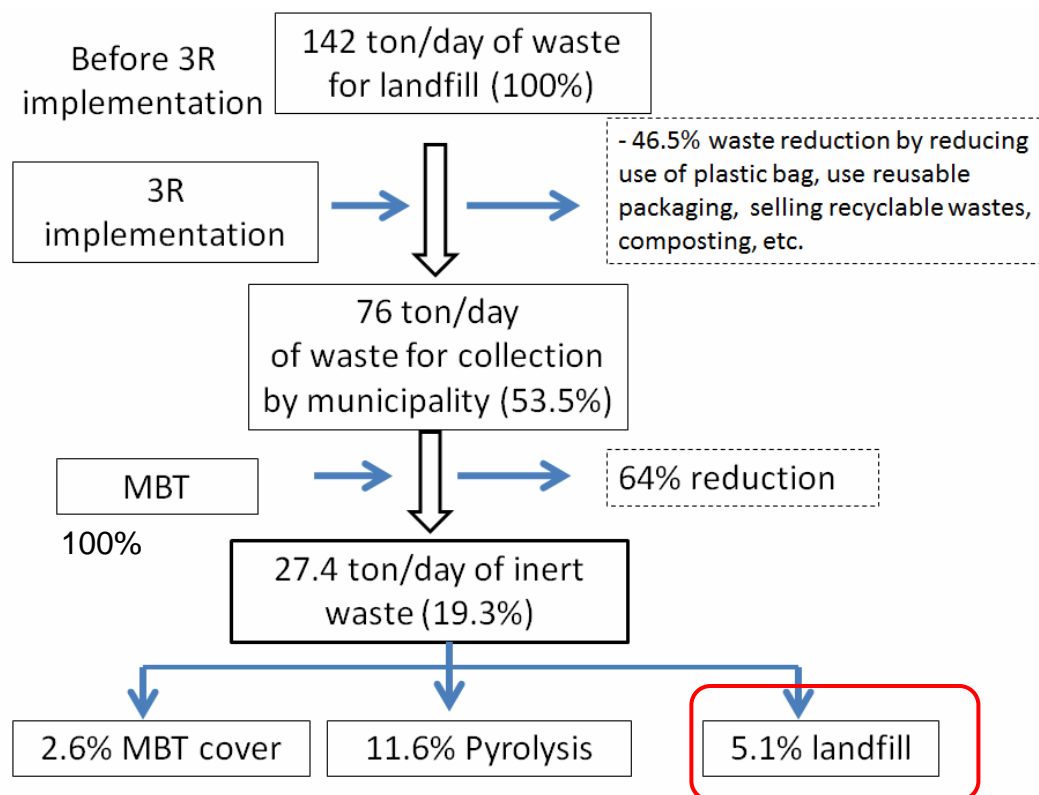


Initiatives towards city to city cooperation between Thailand and Cambodia

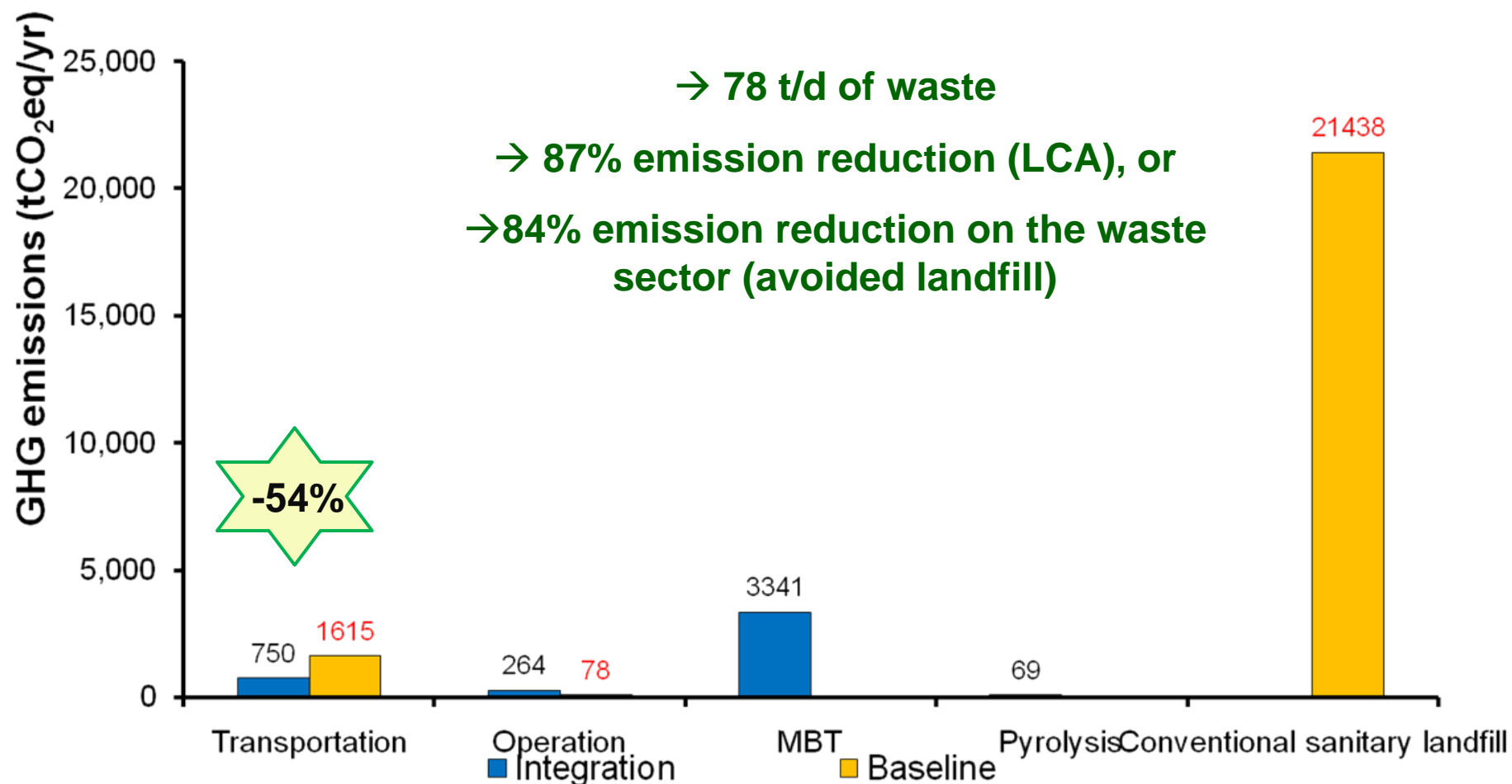
- **IGES conducted a national training workshop on promoting urban organic waste utilization for climate change mitigation in Battambang City in August 2011**
 - Introducing experiences in many cities in developing Asia
 - The Ministry of Environment of Cambodia requested for pilot project implementation in Cambodia
 - Battambang City showed an interest in implementing the pilot project
- **IGES invited an NGO (COMPED) to the national training workshop on the same topic in Thailand in January 2012**
- **IGES and COMPED visited a few good practices of solid waste management in Thailand in January 2012**
- **COMPED selected Phitsanulok as a model city for Cambodia in February 2012**

Achievement towards zero waste policy of Phitsanulok Municipality

- Apply the 3Rs concepts, public participation, and polluter pay principle to achieve zero waste landfill
- Apply mechanical biological pre-treatment for reducing quantity of waste to final disposal and separation of plastic waste for energy recovery



Reduction of GHG emissions (Lifecycle approach)



Waste management problem in Battambang City (I)



About 80-100 m³ of waste is open dumping and sometimes burning is practiced



**High percentage of organic waste
(>70%)**

Waste management problem in Battambang City (II)



High risk of heavy metal contamination to paddy fields

Waste management problem in Battambang City (III)



Less land efficiency thus new land is required for landfilling

Waste management problem in Battambang City (IV)



Less than 1 ton/day of
organic waste is
composting



goal

**Increase organic
waste to
composting facility
and reduce waste
to landfill**

Intensive training course for encouraging public participation on solid waste management

- Ministry of Environment of Japan provided financial supports
- IGES and Phitsanulok Municipality conducted an intensive training course in Phitsanulok Municipality in July 2012
- 22 participants from the City, markets, waste collection company, composting facility (NGO) and residents
- Public participation, waste separation at source, composting, and greenhouse gas emission reduction



Project implementation in Battambang

- Trained stakeholders formed a working group in Battambang City
- Active discussion to formulate the working plan according to the local conditions (partial financial support from UNESCAP)
- Drafting a local directive on waste separation at source for composting based on multi-stakeholders discussion, questionnaires surveys with vendors and residents in surrounding communities
- Implement the projects in three main markets and surrounding communities
- Awareness raising campaign by the City (involvement of university students)

Follow-up and on-site supervision by IGES and Phitsanulok Municipality



Commenting on the draft of directive for waste separation at source



Examples of content in the directive: Asking market's vendors and residents to separate compostable waste and put in plastic bag or separated containers



Increase numbers of bins for waste separation by waste collection company



- **Arrange waste and improvement of collection points and storage area**
- **Collecting compostable waste and non-compostable waste separately**



Challenges

- First public participation project in Cambodia
- Communication with and changing behaviours of all vendors and surrounding communities
- Stolen of waste bins
- Economic impacts on waste collection company

Keys to success

- **High administrative commitment from the City and support from the provincial government → Aiming for the national award on Clean City**
- **Confident of trained stakeholders**
- **Active cooperation from all stakeholders: City (high administrator), NGO (COMPED), waste collection company (CINTRI), market's operator and trained residents**
- **Strong commitment of the stakeholders (city, market operator, waste collection company, composting operator, trained residents)**
- **Regular onsite monitoring and supervision by IGES and Phitsanulok Municipality**
- **Financial support from Ministry of Environment of Japan and UNESCAP**

Yes, We Can!

