ICID2015
26th ERC & 66th IEC

CASE STUDY NAME

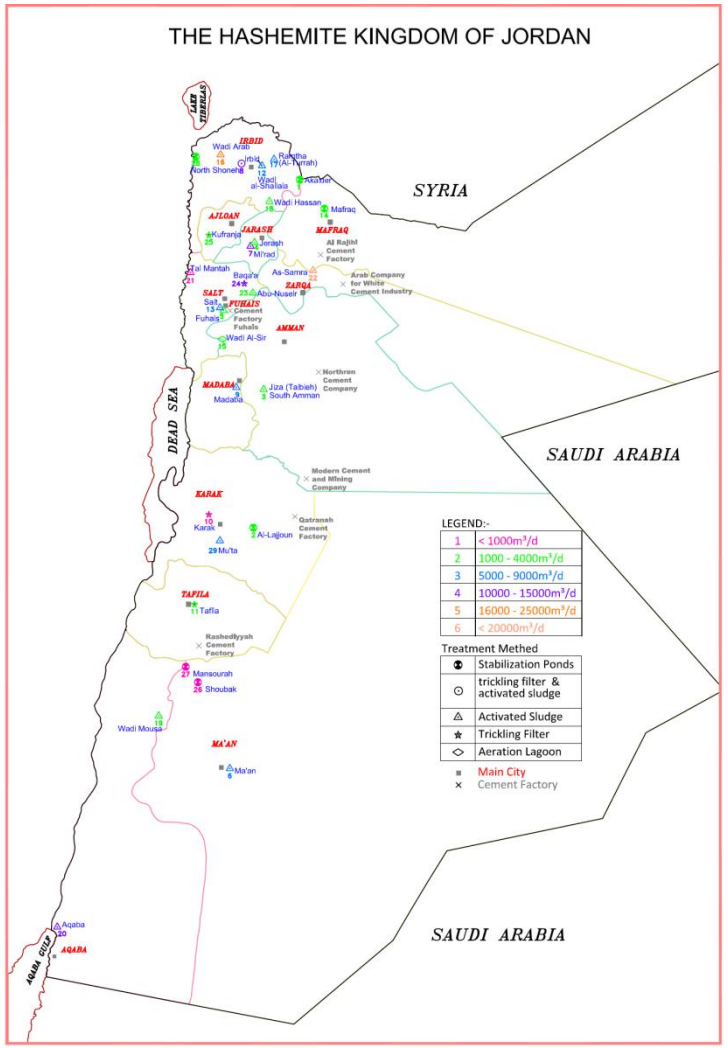
Decentralized Integrated Sludge Management (DISM)

Bassam Hayek
GIZ Jordan, bassam.hayek@giz.de

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ICID2015
26th ERC & 66th IEC

Rationales



Why?

- Sludge is being wasted in 29 WWTP
- For example, in middle governorate only, 6 WWTP generate 6000 tons of dried sludge per year
- Transported to dump sites or accumulated on site

➔ High transport costs 300,000 JOD/y

➔ Environmental hazards

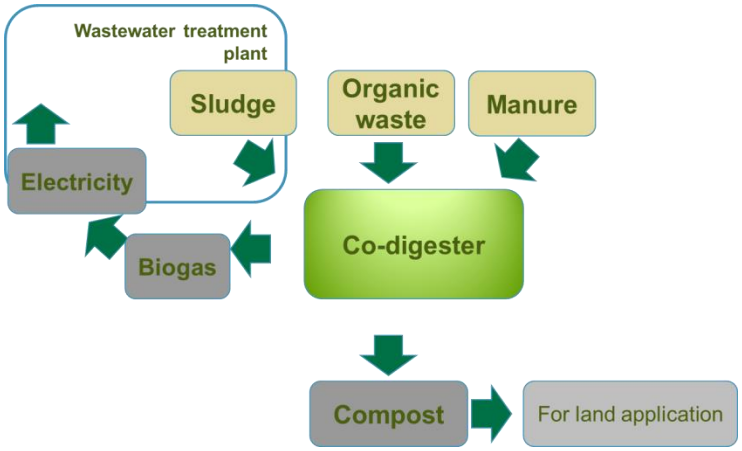
➔ Missing out valuable resource

➔ Similar situation prevail in nearly all WWTP

In small decentralized WWTP, treatment of sludge would not be feasible. Thus mixing with other sources of biomass would improve the process.

Description of the case study

Poject's name	Country	City	Start Date-End Date	Water Sources	Uses
DISM	JORDAN	KARAK (TBC)	2015 - 2019	Biosolids + RECLAIMED WATER	Fodder



Sources

Origin Mainly domestic

Sludge produced 200 kg DS/d

Uses

Crop Maize

Surface *1 ha (with farmers part'n (TBC))*

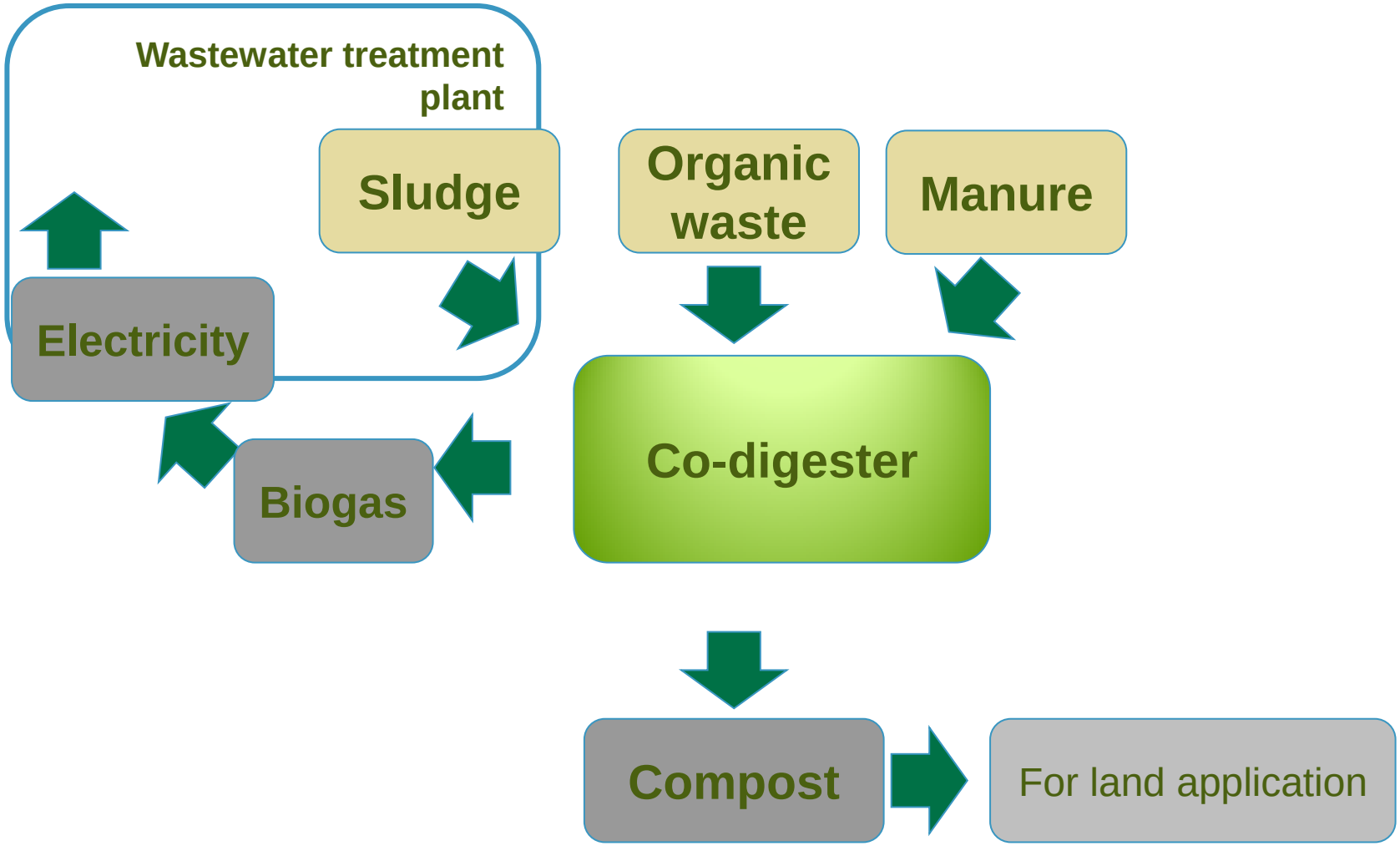
Biosolids Reuse Chain

See slide

After energy capturing, drying and then applying mixed organics product for maize production + range lands

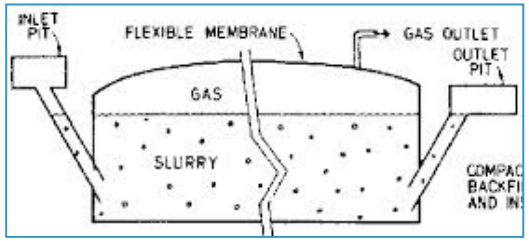
How do I illustrate the question:

Which practices and technologies to create effective, safe and cost effective water reuse chain?



How do I illustrate the question:

Which practices and technologies to create effective, safe and cost effective water reuse chain?



- Anaerobic digestion
  - Co-digestion of multiple substrates ➔ higher yield.
  - Generates biogas (CH4 and CO2)
- Generate electricity
  - From methane gas (reduce GHG)
- Generate compost
  - Fertilizer or soil conditioner
  - Giving nutrients and improve water retention in soil