



# Private sector operation model for a composting plant

Mabwepande composting facility  
Daressalaam, Tanzania

Coordinate • Collaborate • Co-create



Supported by



Co-Funded by the European Union



Implemented by



Dr. Florian Kölsch



dr. kölsch



## Dr. Kölsch Geo- und Umwelttechnik GmbH

- Germany based consulting company
- Since 2003 in international business, 50+ projects in 30+ countries, recently:
  - › MBT Gaobeidian (PRC)
  - › SSC collection and MBT Amman
  - › Daressalaam compost plant (TZ)

# Project lay out

- Market waste collection: staffed drop of points
- Transportation to plant (own truck)
- **Composting plant (18,000 t/year)**
  - Actively aerated
  - Windrow turner (upgrade: boxes)
- Institutional set up: PPP, PSP



# Inauguration



June 30, 2022



- Goals:**
- Waste reduction: 18,000 t/y organic waste
  - Emission reduction: 10,000 t CO<sub>2</sub>eq/year

# Partner and Financing



- Free and Hanseatic City of Hamburg (45 %)
  - Kinondoni Municipal Council (10 %)
  - Federal Ministry for Economic Cooperation and Development BMZ (45 %)
- Program: Communal Climate Partnerships  
SKEW (Service Agency Communities in One World)



# Market waste



Market	total waste	organic	Meat
	[t/day]	[%]	[%]
<del>Tandale</del>	<del>36</del>	<del>88</del>	<del>12</del>
Tegeta	22,3	79	6

**Kinondoni: total 179 t/day**



# Financial performance



	Expenditures				Revenues	
FY Year	Consumption	Staff	Management	Total OPEX	Sales	Balance
2021 (3-12)	36.141	8.285	25.090	69.516	13.001	-56.514
2022	82.482	16.068	35.875	134.425	19.918	-114.507
2023 (1-4)	39.348	5.554	11.311	56.213	18.696	-37.516

	Amounts input	Treatment costs
FY Year		€/t input
2021 (3-12)	713 t	79,3
2022	4165 t	27,5
2023 (1-4)	1543 t	24,3

- Unit costs incl. collection/transport
- Sales prices currently >100 €/t
- Final product in stock
- Emission reduction not monetarized

# Carbon credits



- Registration as Gold Standard project  
GS 5988 – 27 Dec 2019
- Estimated emission reduction: **7,938 t CO<sub>2</sub>eq/y**
- Real emission reduction: **2,734 t CO<sub>2</sub>eq/y**  
1 Sep 2021 – 30 Apr 2023 (20 months): 4,557 CO<sub>2</sub>eq
- Suspension of certificates (no sales)  
“prefinanced” through compensation for FHH travel (23 €/t CO<sub>2</sub>eq)  
Offers: up to 90 €/CO<sub>2</sub>eq (virtual value: 62,000 – 246,000 €/y)
- § 6 challenges (TZ government wants money)



# Operational model PSP



- Objectives of PSP
  - › Technical capacity
  - › Efficiency
  - › Exploit business synergies
- Procedural challenges
  - › Avoiding tender (scared about dumping offers)
  - › Time pressure (regarding set up of entity)
  - › Channelling subsidies from Hamburg
  - › Defining KPI and incentives

# Mabwepande Composting Management Ltd.



- Ownership: private partner (Biobuu and The Recycler)
- Limited liability company w/ minimum capital (500 €)
- Assets owned by municipality
- Private partner receives management fee + profit share
- Supervision by donor representative (consultant)
- Subsidies from national partner (municipality) via gasoline
- Potential handover: selling of shares to new operator

# MCM challenges



- Municipality afraid of lack of impact, missing revenues
- Model suitable for first-of-its-kind projects
- Conflict of interest of shareholders (competing projects)
- Confidence in reliable business relations to public sector
- Managing deficits

## Contact Details

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