

Waste to Food – Great model, challenging reality

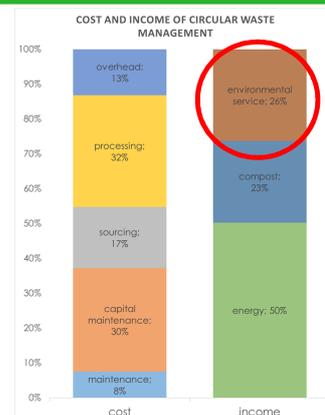
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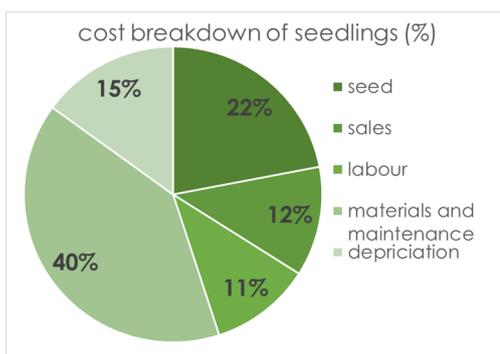
Feecal + organic waste to make Electricity, Compost and Waste Water

Is circular waste-management economically viable?

Lessons Learned: A multi-faceted income model with partly commercial and partly institutional partners makes sustainable, circular waste treatment possible. A business case is based on Levy on environmental impact (like tipping fees) together with sales of compost en energy. Differing price levels per country and region require local feasibility studies to calculate the business case



Can seedling production strenghten the business case?



Value addition to compost by using it as growing medium.

Production costs of seedling cost are 7 ct (EUR) per seedling, while growers are willing to pay 4-5 ct. Willingness to pay more is likely to increase when added value of professional seedlings is well understood by growers.

Lessons Learned: Yes, value addition is possible, but the market for seedlings is under-developed in Ghana.

Can re-use of waste-water strenghten the business case?



	pH	EC	NH4	K	Na	Ca	Mg	NO3	Cl	SO4	P
		[mS/cm]	mmol/l								
target solution	7,3	2,6	1,0	5,4	4,0	3,1	5,4	16,5	3,1	2,0	0,7
waste water	8,0	2,0	1,9	5,4	10,9	0,6	0,5	0,0	6,6	0,3	0,5
shortage (*)						1092	2190	7599		731	27
Compost 1 kg/m ²				141	52	334	157	1347		77	173
Net additional requirement (mmol/l)						1,3	3,4	10,2		1,1	

*given 5-month cultivation @ 4 liter irrigation/m²/day

Lessons Learned: Technically, Yes. Economic evaluation still under way
 Additional N, Ca, Mg and S is required (compost is rich in micro-nutrients)
 High Na-levels require occasional kation exchange in the soil

Partners:



Ministry of Foreign Affairs of the Netherlands

