



Table S1. The Swing Questionnaire: points given to each scenario were used in the calculation of the stakeholder's preference weight for the objective pointed by an arrow in the respective scenario.

SELECTING ORGANIC WASTE TREATMENT TECHNOLOGY FOR LIMBE MARKET

Swing-		Name:				Interviewer: Wrixon Mpana	ng'ombe
Meth	nod	Stakeholde	r:			Date:	
Worst Scenario:							Points:
\odot)						0
8		Technical reliability 00 days/year downtime	Social Acceptance 10/10 Potential hazards All week bad smell 20 m far from plant 1 worker/ton 0% of successful past experiences	Hygiene and health protection 1% of collected organic waste can be treated 20% wet waste weight as residue	Economic sustainability 0 income- expenditur ratio	Environmental protection e 2700 kg CO ₂ equivalent/ton 5/5 leachate risk 0% N recovered 0% Phosphorus recovered 0 kWh/ton energy produced	
Scenar	io:						Points:
\odot		al reliability ar downtime					
⊗			Social Acceptance 10/10 Potential hazards All week bad smell 20 m far from plant 1 worker/ton 0% of successful past experiences	Hygiene and health protection 1% of collected organic waste can be treated 20% wet waste weight as residue	Economic sustainability 0 income- expenditu ratio	Environmental protection 2700 kg CO ₂ equivalent/ton 5/5 leachate risk 0% N recovered 0% Phosphorus recovered 0 kWh/ton energy produced	
Scenar	io:				_		Points:
\odot		2/10 / No bad 8 100%	al Acceptance Potential hazards smell 20 m far from plant workers/ton of successful past experiences				
\odot	Techni reliabil 90 days/ downtii	l ity year		Hygiene and health protection 1% of collected organic waste can be treated 20% wet waste weight as residue	Economic sustainability income- expenditure ratio	Environmental protection 2700 kg CO ₂ equivalent/ton 5/5 leachate risk 0% N recovered 0% Phosphorus recovered 0 kWh/ton energy produced	

Scena	rio:				
			Hygiene and health protection		
\odot			100% of collected organic waste can be treated		
			0% wet waste weight as residue		
	Technical reliability	Social Acceptance	<u> </u>	Economic sustainability	Environmental protection
\odot	90 days/year downtime	All week bad smell 20 m far from plant 1 worker/ton		0 income- expenditure ratio	2700 kg CO ₂ equivalent/ton 5/5 leachate risk 0% N recovered
		0% of successful past experiences			0% Phosphorus recovered 0 kWh/ton energy produced
cena	rio:				
$\overline{}$				Economic sustainability	
\odot				39 income- expenditure ratio	
	Technical reliability	Social Acceptance	Hygiene and health protection	<u></u>	Environmental protection
	90 days/year downtime	All week bad smell 20 m	1% of collected organic waste can be treated		2700 kg C0 ₂ equivalent/ton
$\overline{\odot}$	dominio	far from plant 1 worker/ton	20% wet waste weight as		5/5 leachate risk 0% N recovered
<u>ر</u>		0% of successful past	residue		0% Phosphorus recovered
		experiences			0 kWh/ton energy produced
cena	rio:				
					Environmental protection
					0 kg C0 ₂ equivalent/ton
•					1/5 leachate risk
=					100% N recovered 100% Phosphorus
					recovered 3000 kWh/ton energy
					produced
	Technical reliability	Social Acceptance 10/10 Potential hazards	Hygiene and health protection	Economic sustainability	†
_	90 days/year downtime	All week bad smell 20 m far from plant	1% of collected organic waste can be treated	0 income- expenditure ratio	
••		1 worker/ton	20% wet waste weight as residue		

Sub-objectives for main objective: Social acceptance

Worst Scen	ario:				Points:
<u></u>					0
\otimes	Working safety	Smell impact	Job creation	Trust in technology	
	10/10 potential hazards	All week bad smell 20m far from plant	1 worker/ton	0 % successful past experiences	
Scenario:					Points:
\odot	Working safety				
	2/10 potential hazards				
	†	Smell impact	Job creation	Trust in technology	
		All week bad smell 20m far from plant	1 worker/ton	0 % successful past experiences	
		Smell impact		,	
\odot		No bad smell 20m far from plant			
	Working safety	†	Job creation	Trust in technology	
\odot	10/10 potential hazards		1 worker/ton	0 % successful past experiences	
Scenario:					Points:
<u> </u>			Job creation		
\bigcirc			8 workers/ton		
<u> </u>	Working safety	Smell impact	<u>†</u>	Trust in technology	
(3)	10/10 potential hazards	All week bad smell 20m far from plant		0 % successful past experiences	
Scenario:					Points:
(i)				Trust in technology	
				100% successful past experiences	
	Working safety	Smell impact	Job creation	<u>†</u>	
8	10/10 potential hazards	All week bad smell 20m far from plant	1 worker/ton		

Sub-objectives for (main) objective: High hygiene and health protection

Worst Scenario	:		Points:
©			0
<u></u>	Processing capacity	Residue generation	
	1% of organic waste collected treatable	20% of waste as residue	
Scenario:			Points:
Scenario.	Droceeing canacity		T OITIG.
\odot	Processing capacity		
	100% of organic waste collected treatable		
$ \bigcirc $	†	Residue generation	
<u> </u>		20% of waste as residue	
Scenario:			Points:
	· · · · · · · · · · · · · · · · · · ·	Residue generation	
		0% of waste as residue	
•	Processing capacity	<u>†</u>	
$ \odot $	1% of organic waste collected treatable		
	,		
Sub-object	ives for (main) objective: Hig	h environmental protection	
Worst Scenario:			Points:
\odot			0
	Environmental pollution	Resource recovery	
\cong	2700 kg C0₂ equivalent	0% N recovered	
\bigcirc	5/5 leachate risk	0% Phosphorus recovered	
		0 kWh/ton energy produced	
Scenario:			Points:
	Environmental pollution		
\odot	0 kg C0 ₂ equivalent		
	1/5 leachate risk		
	†	Resource recovery	
\odot		0% N recovered 0% Phosphorus recovered	
-		0 kWh/ton energy produced	
	<u> </u>		

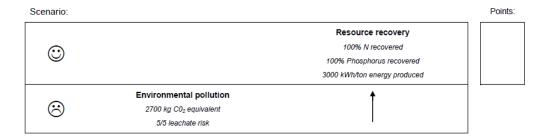
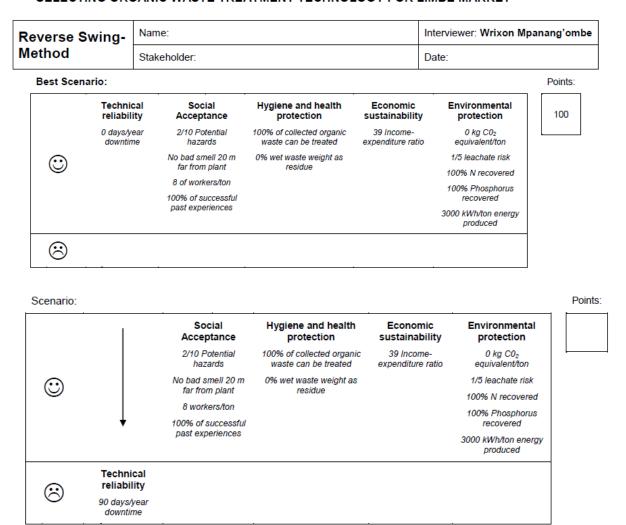


Table S2. The Reverse Swing Questionnaire: points given to each scenario were used in the calculation of the stakeholder's preference weight for the objective pointed by an arrow in the respective scenario.

SELECTING ORGANIC WASTE TREATMENT TECHNOLOGY FOR LIMBE MARKET



Points: Scenario:

Hygiene and health protection Technical Economic Environmental reliability sustainability protection 0 days/year downtime 0 kg C0₂ equivalent/ton 100% of collected 39 Incomeorganic waste can be treated expenditure ratio 1/5 leachate risk \odot 0% wet waste weight as residue 100% N recovered 100% Phosphorus recovered 3000 kWh/ton energy produced Social Acceptance 10/10 Potential hazards All week bad smell 20 m far from plant 1 worker/ton 0% of successful past experiences

Scenario: Points:

	Technical	Social	1	Economic	Environmental
	reliability	Acceptance		sustainability	protection
	0 days/year downtime	2/10 Potential hazards		39 Income- expenditure ratio	0 kg CO₂ equivalent/ton
•		No bad smell 20 m			1/5 leachate risk
\odot		far from plant			100% N recovered
		8 workers/ton	↓		100% Phosphorus
		100% of successful past experiences			recovered
		past experiences			3000 kWh/ton energy produced
			Hygiene and health protection		
\odot	1% of collected organic waste can be treated				
			20% wet waste weight as residues		

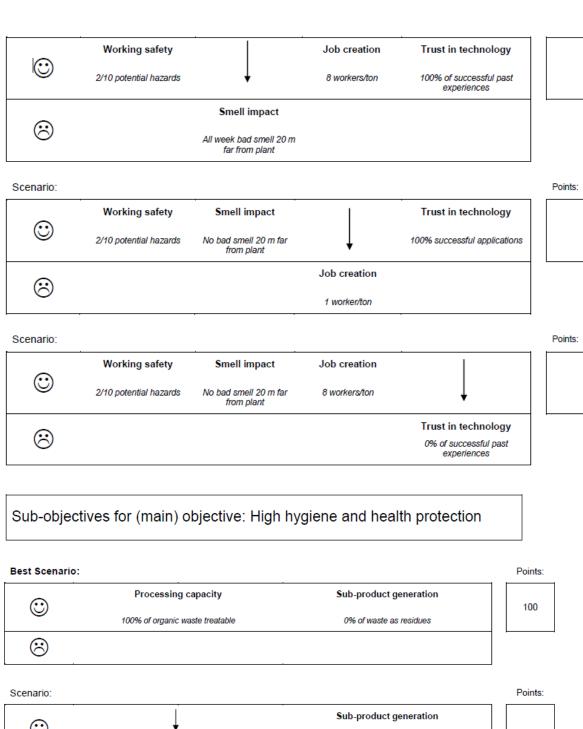
Scenario:

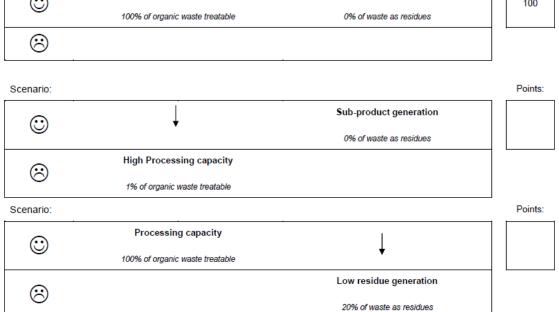
Scenario:					
	Technical reliability	Social Acceptance	Hygiene and health protection		Environmental protection
	0 days/year downtime	2/10 Potential hazards	100% of collected organic waste can be treated		0 kg C0 ₂ equivalent/ton
\odot		No bad smell 20 m	0% wet waste weight as		1/5 leachate risk
\odot	far from plant	residues		100% N recovered	
		8 workers/ton		↓	100% Phosphorus
		100% of successful past experiences			recovered
		past experiences			3000 kWh/ton energy produced
•				Economic sustainability	
\bigcirc				0 Income- expenditure ratio	



Sub-objectives for main objective: Social acceptance

0:				Points:
Working safety	Smell impact	Job creation	Trust in technology	
2/10 potential hazards	No bad smell 20 m far from plant	8 workers/ton	100% of successful past experiences	100
,			,	·
				Points:
1	Smell impact	Job creation	Trust in technology	
↓	No bad smell 20 m far from plant	8 workers/ton	100% of successful past experiences	
Working safety				
10/10 potential hazards				
	Working safety 2/10 potential hazards Working safety	Working safety 2/10 potential hazards No bad smell 20 m far from plant Smell impact No bad smell 20 m far from plant Working safety	Working safety Smell impact Job creation 2/10 potential hazards No bad smell 20 m far from plant 8 workers/ton Smell impact Job creation No bad smell 20 m far from plant 8 workers/ton Working safety	Working safety Smell impact Job creation Trust in technology 100% of successful past experiences Smell impact Job creation Trust in technology Trust in technology Smell impact Job creation Trust in technology No bad smell 20 m far from plant 8 workers/ton 100% of successful past experiences Working safety





Sub-objectives for (main) objective: High environmental protection

Best Scenario:			Points:
	Environmental pollution	Resource recovery	
\odot	0 kg C02 equivalent	100% N recovered	100
	1/5 leachate risk	100% Phosphorus recovered	100
		3000 kWh energy produced	
8			
Scenario:			Points:
		Resource recovery	
\odot		100% N recovered	
	+	100% Phosphorus recovered	
		3000 kWh energy produced/ton	
_	Environmental pollution		
	2700 kg C0₂ equivalent		
	5/5 leachate risk		
Scenario:			Points:
•	Environmental pollution	·	
\odot	0 kg C0₂ equivalent		
O	1/5 leachate risk	+	
		Resource recovery	
\odot		0% N recovered	
\bigcirc		0% Phosphorus recovered	
		0 kWh energy produced/ton	