

DANIDA

Kwaluseni Pilot Project Annexure 8 Cost Schedule for Kwaluseni Waste Management System

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KWALUSENI WASTE MANAGEMENT SERVICES

ADMINISTRATION COST

Element	No.	Rate	Per Month	Per Year
Staff:				
Supervisor	1	700.00	700.00	8400.00
PR Clerk	1	500.00	500.00	6000.00
Office:				
Electricity & Water			0.00	0.00
Stationery			50.00	600.00
Telephone/MTN Service			300.00	3600.00
Sundries			200.00	2400.00
Maintenance:(3)				
Office	12 months		25.00	300.00
Workshop			0.00	0.00
Tools			0.00	0.00
Equipment			0.00	0.00
Protective Clothing 4):	3	120.00		360.00
Insurance:				
Public liability & staff			200.00	2400.00
Equipment theft & write-off(2)			300.00	3600.00
Bank Charges			140.00	1680.00
Post Office			200.00	2400.00
Sub-total			2615.00	31740.00

Proposed Assumptions

1. Existing Inkhundla Centre staff will undertake part of the management and administration.
This budget provision is meant to cover "additional" (part-time) managerial and administrative operations required to manage the waste collection system
2. No theft and no write-offs liability linked to equipment and materials is budgeted for.
3. Office maintenance cost being covered by the Inkhundla Centre
4. Overalls, shoes and gloves to be provided to collectors.

KWALUSENI WASTE MANAGEMENT SERVICES

COLLECTION COST

Element	No/mth.	Rate	Per Month	Per Year
Staff:				
Driver	0	0.00	0.00	0.00
Collection staff (1)	2	500.00	1000.00	12000.00
Sorting staff (1a)		0.00	0.00	0.00
1 ton LDV:				
Fuel (800 km/month)	1			0.00
Maintenance				0.00
Trailer				0.00
MV Insurance				0.00
Consumables:				
Refuse bags(purchasing)	5040	0.50	2520	30240.00
Maintenance:				
Bins (2)	200	0.20	40.00	480.00
Skips		0.00	0.00	0.00
Carts(2)	3	8.00	24.00	288.00
Contracts:				
Community Collectors(re:above)	0	500.00	0.00	0.00
Transport Contractor (3)	1	159.09	3499.98	41999.76
Sub-total			7083.98	85007.76

Proposed Assumptions

(1) There will be 3 community collectors collecting with hand pulled carts.

They will be employed/contracted by the Inkhundla (Waste Management Ass.) for a specific area.

They will each have approx. 66 bins twice per week or 132 bin lifts to empty or 26 bin lifts per working day.

The collectors will remove 3 full bags from every bin twice a week.

(1a) No recycling has been planned for in this proposal so no sorting staff is needed.

(2) Assuming that bins and collection carts will be owned by the Inkhundla/Waste Man. Association.

(3) The Contractor will take waste from 2-4 community collection points (skip, container or bunker)

to the Matsapha Landfill. This figure may be at the low end of the real costs.

KWALUSENI WASTE MANAGEMENT SERVICES

DISPOSAL SITE COST

Element	Tonnage	Monthly Rate	Year
Disposal Tariff	11.5	483.00	5796.00
Sub-total		483.00	5796.00

Proposed Assumptions

Based on waste survey, Piggs peak rates (modern landfill) adjusted to Matsapha landfill conditions

KWALUSENI WASTE MANAGEMENT SERVICES

CAPITAL (INVESTMENT) COST

Element	No.	Rate	Total
Offices &Facilities	1	0.00	0.00
Collection Bunkers	2	5324.55	10649.10
Bundu Bailers	1	0.00	0.00
1 ton LDV	1		0.00
Tow Bar etc.	1		0.00
Trailer	1		0.00
Skips (1)			
Container(1)			
Bunker(1)	0	0.00	0.00
Other intermediate storage device			
Carts(2)	3	5000.00	15000.00
Bins (3)	200	85.00	17000.00
TOTAL CAPITAL(investment)			42649.10

Cost of capital (interest)(4)	5970.87
Equipment depreciation (5)	8529.82
TOTAL	14500.69

Proposed Assumptions

1).2-4 community based storage facilities will be needed. That could be either skips, containers, bunkers or similar. Precise number will follow the waste survey.

2) 3 hand pulled carts are needed and one reserve cart has been budgetted for

3) . 200 community based bins/drums (210 litre) will be placed on selected plots in Chief Kwaluseni covered by the system. It has been assumed that a household produces 7-12 kg of waste/week which is 1 plastic bag per week. 4 plastic bags per week should go into the 210 ltr bin/drum meaning that 4 households should be able to share a bin/drums. With 200 bins/drums placed in the community, up to 200×4 households = 800 households of 6 persons each would be covered.

4) This is the estimated cost that must be paid for interest, if the Kwaluseni Community need to take a bank loan to finance the initial capital costs of 42,000 Emalangeni and to pay the loan back over a 6 year period. A 14 % interest rate has been applied.

5) Depreciation is the cost of wearing and tearing of the bins/drums, carts and skip/container/bunker. It is estimated that all this would have a life span of 5 years after which new equipment is needed. No interest or price escalation has been calculated on the equipment over the 5 years, so this cost would have to be covered from the profit gained

KWALUSENI WASTE MANAGEMENT SERVICES

BALANCING COST AND INCOME

CAPITAL COST FOR EQUIPMENT	
Carts	15000.00
Bins	17000.00
Collection Points	10000.00
TOTAL	42000.00

OPERATIONAL/RUNNING COST	
Administration Cost	31740.00
Collection Cost	85007.76
Disposal Cost	5796.00
Interest and Depreciation Cost	14500.69
TOTAL	137044.45

Cost per Bin/month (200 Bins)	57.10
Cost/Bin/household/month (8.8 households per plot)	6.49

REVENUE			
		80.0	
Bin Service	200	0	192000.00
	504		
Refuse Bag Sales	0	1.00	60480.00
TOTAL			252480.00

Gross Profit per year (3):	
60 % fee collection rate	38635.55
65% fee collection rate	48235.55
70% fee collection rate	57835.55
75% fee collection rate	67435.55
80% fee collection rate	77035.55
85% fee collection rate	86635.55
90% fee collection rate	96235.55
95% fee collection rate	105835.55
100% fee collection rate	115435.55

Proposed Assumptions

1. It has been estimated that only 75% of the waste service fee due can be recovered and that a fee in/charge of 50 Emalangeni per month (12,50 E/household) would therefore be realistic
2. Only plastic bags bought through the Solid Waste Association will be collected. A price of 0,75 Emalangeni will be charged per bag. One bag per household per week is needed/sold. It has been assumed that only 75% of the bags will be sold the first year.
3. This profit can be utilized to expand the system or be kept to cover unforeseen expenses.