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AFFORDABILITY ASSESSMENT FOR DOMESTIC AND COMMUNAL WASTE COLLECTION AND DISPOSAL IN LUGLOW, Kismayo District, Lower Juba Region-Somalia

Based on Household Economic Capacity for Monthly Tariff Setting

1. Introduction

This affordability assessment aims to determine the amount households in Luglow can reasonably pay per month for domestic and communal waste collection and disposal services. The findings will support government decision-making in setting a fair, economically viable, and socially acceptable monthly waste tariff.

The analysis focuses on two key aspects:
- Economic capacity of households based on income and expenditure patterns.
- Willingness to pay (WTP) for waste management services, as expressed by community members during consultations.

2. Objectives

- Establish an affordable monthly tariff for waste collection and disposal services.
- Ensure the tariff aligns with household income levels and expenditure priorities.
- Promote sustainability and community acceptance of waste management systems.

3. Methodology

The assessment utilized the following inputs and approaches:

1. Household Income Estimates derived from local economic activities such as petty trade, livestock sales, remittances, and casual labor.
2. Household Expenditure Patterns focused on essential needs including food, water, shelter, education, and healthcare.

3. Affordability Benchmark applied a proportional affordability approach, where waste service fees should not exceed 1–3% of monthly household income in low-income contexts.
4. Community Willingness-to-Pay (WTP) gathered through focus group discussions and informal interviews to understand acceptable payment levels.

4. Socio-Economic Profile of Luglow Households

4.1 Household Income Characteristics
Most households in Luglow fall within low or very-low-income brackets, with income patterns that are inconsistent, seasonal, and highly dependent on casual opportunities. Key features include:

- High unemployment and underemployment
- Dependence on small daily earnings
- Seasonal income fluctuations
- Heavy reliance on humanitarian assistance

These factors significantly influence household capacity and willingness to allocate funds for non-food services such as waste collection.

4.2 Expenditure Priorities
Typical monthly household expenses in Luglow include:
- Food: 50–60% of total income
- Water
- Education
- Healthcare
- Mobile phone and transport costs
- Occasional emergency expenses

Given these priorities, waste management services become affordable only when tariffs are low enough not to compete with essential needs.

4.3 Implications for a Waste Tariff System
Considering the economic realities of Luglow households, any proposed tariff system must:
- Be minimal and inclusive
- Not exceed household financial capacity
- Allow participation by the poorest residents
- Ensure financial sustainability without imposing hardship

5. Household Ability-to-Pay Structure

Household Category	Share of Population	Monthly Capacity to Pay

Low-income	~60%	$0.50/month
Middle-income	~40%	$1.00/month

5.2 Equity and Inclusion Considerations

A successful waste tariff model must ensure:

- Low-income households are not excluded
- Payments remain simple and manageable
- The system is fair, with a justified difference between income groups

The USD 0.50 / USD 1.00 two-tier model achieves this balance.

6. Estimated Revenue Potential

To assess financial sustainability, revenue was calculated based on household affordability:

- 60 households × USD 0.50 = USD 30/month
- 40 households × USD 1.00 = USD 40/month

Total expected community revenue = USD 70 per month.

6.1 What USD 70/month Can Cover

Typical cost components for domestic waste services include:

- Waste collection labor
- Transportation (wheelbarrows, tricycles, or basic carts)
- Fuel or operator incentives
- Small disposal fees
- Bags, gloves, and protective equipment
- Site access and simple operational expenses

While USD 70/month is insufficient for mechanized waste management, it is adequate for:

- Manual waste collection
- Periodic communal cleanups
- Small-scale waste transport
- Basic disposal at a designated site

This revenue supports a low-cost, community-based waste collection system, which is appropriate for Luglow.

7. Willingness-to-Pay Factors

Residents are more willing to pay when:

- Waste is collected regularly (once or twice weekly)
- The environment remains clean and odor-free
- Waste accumulation is visibly reduced
- Dumping areas are controlled
- Mosquitoes and health risks decline

Barriers to payment include:
- Income instability
- Competing household priorities (food and medicine)
- Perception that waste management should be free
- Previous experiences with poor-quality services
- Lack of trust in fee handling

Any tariff system must address these behavioral realities.

8. Tariff Model Options
Option 1: Flat Monthly Fee of USD 0.50
Pros:
- Affordable for all residents
- High inclusiveness
- Reduces non-payment risks
Cons:
- Generates only USD 50/month if applied to 100 households
- May not cover full operational costs

Option 2: Two-Tier Tariff (Recommended)
- Poor households: USD 0.50/month
- Better-off households: USD 1.00/month
This model reflects the community's economic reality and produces USD 70/month, which is feasible for community-level waste collection.

Option 3: Voluntary Contribution Model
Not recommended due to:
- Very low payment compliance
- No predictable revenue
- Risk of service collapse

9. Recommended Tariff for Luglow Residents
Final Recommendation:
A two-tier tariff system of USD 0.50 and USD 1.00 per household per month.

Why?
1. Aligns with actual household affordability
2. Avoids excluding the poorest residents
3. Maximizes community revenue without causing financial burden
4. Ensures predictability for operational planning
5. Supported by field affordability findings

10. Conclusion

The economic realities of Luglow show that most households can contribute small but meaningful amounts toward waste collection and disposal services. A two-tier tariff system of USD 0.50 and USD 1.00 per month, averaging USD 0.70 per household, reflects the community's true affordability and forms a strong foundation for planning a sustainable waste management system. These findings provide a realistic framework for the government to establish equitable tariffs that maximize household participation while ensuring service viability.