

Terms of Reference: Feasibility Study for Waste 4 Value Somalia

1. Background

Norwegian Church Aid (NCA) has since 2019 developed and tested the Waste 4 Value (W4V) model in Ethiopia. The model transforms waste into economic, social, and environmental value through market-based and locally owned circular economy solutions. The approach combines waste collection, sorting, aggregation, recycling, upcycling, community awareness, private sector engagement, policy dialogue, and enterprise development to generate green jobs and reduce environmental pollution. The model is tested in both humanitarian settings (refugee camps) and in urban settings.

Following successful piloting in Ethiopia, NCA is currently scaling the model to additional countries (currently Tanzania and Pakistan). A central objective of the scaling initiative is to develop context-adaptive models that can be replicated across NCA country programmes while generating evidence on financially sustainable and inclusive circular economy solutions.

As part of this transition to scale, NCA Somalia seeks to assess the potential for introducing the W4V model in Somalia and identify opportunities to support sustainable waste management, recycling, upcycling, green jobs and circular economy development.

Somalia context and justification. Somalia's protracted displacement, rapid growth of underserved urban and peri-urban settlements, and limited municipal waste services create interconnected environmental, public-health, protection and livelihood challenges. A locally adapted W4V model can support safer neighbourhoods and displacement sites, create dignified economic opportunities for displaced people and host communities, and strengthen cooperation between communities, municipalities and private-sector off-takers. The initiative will reinforce NCA Somalia's humanitarian and development work by linking WASH, protection, peacebuilding and food security/livelihoods programming with environmental sustainability, market-based recovery, youth and women's economic inclusion, and stronger local systems. It should complement rather than displace existing informal waste workers and enterprises.

2. Purpose of the Study

The purpose of the study is to determine the feasibility of implementing the W4V model in Somalia and provide practical recommendations for how NCA can support circular economy development through a locally adapted W4V approach.

The study shall identify viable waste value chains, assess market opportunities and constraints, map ecosystem actors, analyse business opportunities, and determine what adaptations would be required to implement and scale the model in Somalia.

The study will apply a humanitarian-development-peace nexus lens and recommend a conflict-sensitive, inclusive and commercially realistic pilot model suitable for both urban and rural displacement settings.

Geographical Scope

The study will be undertaken in Mogadishu and Garowe, including relevant urban, peri-urban and displacement-affected locations within these areas. The consultant shall conduct field data

collection, stakeholder consultations, market assessments and actor mapping in both locations and compare their suitability for piloting the Waste 4 Value model.

3. Objectives

The study shall:

- **Objective 1:** Assess the current waste management system in Somalia.
- **Objective 2:** Map actors across the waste and circular economy ecosystem.
- **Objective 3:** Conduct market and value chain assessments of three priority waste streams: plastic waste, organic waste, and one additional waste stream selected during the inception phase based on its market potential and capacity to generate safe, dignified and sustainable income opportunities for marginalised groups, including internally displaced persons (IDPs), women and youth.
- **Objective 4:** Assess technical, economic, environmental, social and institutional feasibility for W4V implementation and how W4V can complement NCA Somalia's WASH, protection, peacebuilding and food security/livelihoods portfolio and contribute to durable, locally led solutions for displaced and host communities.
- **Objective 5:** Rank and recommend potential pilot locations and partnership arrangements using agreed selection criteria.
- **Objective 6:** Provide recommendations for an adapted Somalia W4V costed model, risk-informed Phase 1 pilot design with measurable commercial, environmental, social and institutional results and roadmap for its implementation.

4. Scope of Work

A. Waste Management System Assessment

The consultant shall assess:

- Waste conditions and service gaps in displacement sites, host communities, markets, schools, health facilities and other high-density locations.
- Existing waste management systems and practices.
- Municipal and government roles and responsibilities including differences in mandates, capacity and coordination across federal, state and municipal authorities, including practical implications for permits, land, taxation and service agreements.
- Waste collection, transport and disposal systems.
- Existing recycling and upcycling initiatives.
- Regulatory and policy frameworks (institutional and legal)
- Environmental and public health challenges related to waste.
- Assess gender and protection risks associated with waste collection, unsafe disposal, child labour, harassment, hazardous materials and occupational exposure.

B. Mapping of circular economy and value chain actors

Conduct a comprehensive mapping of:

Public sector	Financial sector
• National government institutions • Municipalities • Environmental authorities	• Banks • MFIs • Savings groups

Waste management agencies	- Impact investors - SME financing providers
Private sector - Waste collectors - Aggregators - Recycling companies - Upcycling enterprises - Manufacturers using recycled inputs - Buyers and off-takers - Logistics providers - Women- and youth-led enterprises - Diaspora-linked investors	Civil society and development actors - NGOs - CSOs - UN agencies - Donor programmes - Research institutions - Existing informal or formal waste worker structures / organisations - Displaced-person-led organisations - Community committees - Camp/settlement leadership and

The mapping should analyse:

- Functions performed
- Geographic coverage
- Existing partnerships
- Capacity and constraints
- Potential collaboration with NCA
- Influence, incentives, accountability, safeguarding capacity and willingness to enter commercially viable partnerships.

C. Value chain and market study

For priority waste streams identified during inception, assess:

Supply side - Volumes available - Seasonality - Collection systems - Current disposal pathways - Existing informal and formal value chains	Commercial analysis - Prices at different value chain levels - Operating costs - Transport costs - Processing requirements - Profitability potential - Market barriers
Market side - Current buyers / off-takers of waste for circular purpose - Processors - End markets - Market demand trends - Competition within the sector (we do not want to compete with existing markets but rather take advantage of and fill gaps)	

The study shall assess three priority waste streams:

- Plastic waste
- Organic waste, including composting and other commercially viable uses
- One additional waste stream, identified during the inception phase and agreed with NCA

The third stream shall be selected based on waste availability, market demand, technical and commercial feasibility, environmental benefits, and potential to create safe, dignified and sustainable

income opportunities for marginalised groups, including IDPs, women and youth. It may include paper and cardboard, metals, glass, or another locally relevant material.

For each stream, the consultant shall:

- Map material flows from source to end market and identify opportunities for collection, sorting, aggregation, recycling and upcycling.
- Verify waste volumes, prices, quality requirements and buyer specifications through triangulation.
- Assess market accessibility and calculate indicative unit economics, break-even points, working-capital requirements, and sensitivity to changes in transport, electricity, fuel and market prices.
- Identify business and employment models for marginalised people, that strengthen existing actors, fill demonstrated market gaps, and create accessible income opportunities without displacing or undermining existing informal waste workers and enterprises.

D. Feasibility assessment

Assess minimum three waste streams:

Economic feasibility • Viable business models • SME opportunities • Revenue potential • Financial sustainability	Institutional Feasibility • Government support (government engagement and willingness to provide physical space for SMEs / groups) • Policy environment • Potential partnerships
Technical Feasibility • Technologies available (shredders, bailers, composting (black soldier fly or other techniques), etc.) • Equipment requirements • Infrastructure needs • Infrastructure reliability, including electricity, water, storage, road access, spare parts, maintenance capacity and end-market logistics.	Social feasibility • Women and youth employment opportunities and willingness to engage • Social taboos related to waste management • Inclusion of vulnerable groups • Community acceptance • Conflict sensitivity including land tenure, security and access, risk of elite capture, and equitable benefit-sharing between displaced and host communities.
Environmental feasibility • Pollution reduction potential • Climate and environmental benefits • Occupational health and safety, hazardous-waste exclusion/management, environmental and social safeguards, and safe operating procedures. • Climate relevance, including avoided open burning and dumping, reduced blockage of drainage, and feasible methods for estimating emissions and pollution reductions.	

E. Adaptation of the Waste 4 Value model to Somalia

Identify transferable lessons from the existing W4V country model and experience in Ethiopia, Pakistan and Tanzania.

Based on findings, analyse:

- Which elements of the W4V model can be replicated directly.

- Which components require adaptation.
- Which waste stream value chains are most promising from an economic and practical point of view in Somalia.
- Appropriate implementation partnerships.
- Financing requirements.
- Capacity building requirements.
- Policy engagement priorities.
- Risks and mitigation measures.

The study should explicitly examine how the W4V model can be adapted to Somalia's market conditions, regulatory environment, urban context, in humanitarian settings and private sector ecosystem. The adapted model should define viable roles for NCA, local partners, municipalities, communities and private actors, propose governance and revenue-sharing arrangements, specify capacity-building and financing pathways, and identify minimum conditions that must be met before investment. Recommendations must distinguish between commercially viable activities, public-good functions requiring subsidy, and activities that should not proceed because of safety, market or environmental risks.

5. Key Research Questions

1. In addition to plastic and organic waste, which third waste stream offers the strongest combination of commercial viability, environmental value and potential to generate safe, dignified and sustainable income opportunities for marginalised groups, including IDPs, women and youth?
2. Which actors currently operate in the waste value chains?
3. What are the current prices and margins across the value chains?
4. Who are the existing and potential off-takers?
5. What business opportunities exist for women and youth?
6. What financing barriers and opportunities exist?
7. What policy and regulatory constraints exist?
8. What adjustments would be required to implement W4V successfully in Somalia?
9. What partnership model would maximise sustainability and scale?
10. How can the model reinforce NCA Somalia's existing humanitarian and development programmes, community-engagement, local-partner and private sector systems?
11. What safeguards are required to ensure safe, dignified and voluntary participation, including prevention of child labour, sexual exploitation, harassment, abuse and exposure to hazardous waste?
12. Which location offers the best combination of need, commercial potential, security/access, municipal commitment, land and infrastructure, partner capacity and prospects for scale?
13. What proportion of each proposed business model can be sustained by market revenue, and which public-good costs will require grant or municipal support?

6. Deliverables

1. Inception Report, including the methodology, stakeholder-consultation plan, and evidence-based recommendation for the third waste stream to be assessed, for approval by NCA.
2. Stakeholder and ecosystem mapping
3. Waste value chain and market assessment report
4. Feasibility study report

5. Presentation of findings
6. Somalia W4V roadmap (3-5 years) with a costed Phase 1 pilot design, including target location and groups, partnership and governance model, equipment and infrastructure specifications, operating model, financing plan, risk register, safeguards, results framework and exit/scale criteria.
7. Clean datasets, interview/consultation lists, market-price evidence and calculation tools used for the commercial and feasibility analysis, with personal data appropriately protected.
8. An executive decision brief (2 pages max) summarising the recommended go/no-go decision, preferred location, priority waste streams, investment envelope and immediate next steps.

7. Expected Recommendations

The final report should provide:

- Recommended waste streams for intervention.
- Recommended geographic areas.
- Recommended business models.
- Required investments.
- Partnership strategy.
- Implementation roadmap.
- Pilot design for Phase 1.

Recommendations shall be prioritised, costed and sequenced, and shall clearly state assumptions, evidence gaps, minimum enabling conditions, risks and mitigation measures. The final feasibility conclusion should provide a clear go, conditional go or no-go recommendation for each shortlisted waste stream and proposed location.

8. Methodology, Ethics and Quality Standards

The consultant shall use a mixed-methods and participatory approach combining desk review, key-informant interviews, focus groups, direct observation, waste-flow/volume estimation, buyer and price verification, and commercial modelling. Data shall be disaggregated by sex, age, displacement status and disability where appropriate, safe and relevant. Field data collection and stakeholder consultation shall be conducted in both Mogadishu and Garowe.

The assignment must follow informed consent, confidentiality, do-no-harm, conflict sensitivity, safeguarding, prevention of sexual exploitation and abuse, child protection, safe waste handling and NCA data-protection requirements. Findings shall be triangulated, limitations clearly stated, and draft recommendations validated with relevant authorities, private sector actors, waste workers, displaced and host communities, and NCA/partners.

9. Timeline

The study is expected to be conducted over 12 weeks.

Phase	Activities	Duration
Inception	Desk review, methodology, stakeholder identification, inception report	2 weeks

Data collection	Field visits, stakeholder consultations, market assessments, actor mapping, value chain analysis in Garowe and Mogadishu	3 weeks
Analysis	Data analysis, feasibility assessment, adaptation analysis	4 weeks
Reporting	Draft report, validation workshop, final report and roadmap	3 weeks
Total		12 weeks

10. Required Consultant Profile

The firm/team should demonstrate relevant experience in Somalia or comparable fragile and displacement-affected settings; circular economy and solid-waste systems; market systems and SME finance; financial modelling; environmental and social safeguards; gender, protection and inclusion; and participatory research. The team must have strong Somali field capacity, appropriate language skills, access and security arrangements, and the ability to engage government, municipalities, communities, informal workers and private off-takers. Proposals should include a clear methodology, workplan, team roles, quality assurance process and examples of comparable assignments.