# Nutrient cycle through composting and banana processing – Policy Brief


## Summary

**In Ethiopia, there are several policies and legal frameworks that support municipal solid waste management. However, there is a disconnect between waste management policy and practice. This disconnects results in poor waste management, inadequate data recording, and unsustainable business models for organic waste composting.**

**To address these challenges, the recycling of organic waste through composting, awareness-raising campaigns, context-specific policies, and the establishment of quality testing facilities are proposed. On the other hand, food processing can improve food security, create no-agricultural jobs, and improve the introduction of new high-quality foods.**

**The RUNRES project supported both nutrient recycling through composting of organic household waste and a small-scale banana processing business in Arba Minch. However, the latter faces challenges such as delays in market approval and weak entrepreneurial management skills. To unlock the full potential of food processing, we recommend policy actions, including the establishment of dedicated regulatory agencies, the promotion of technology-based solutions, the provision of financial literacy programs, and public-private dialogue and collaboration.**


## Recommendations

- **Policies for safe and optimized organic waste recycling:** We recommend formulating and implementing policies for a circular nutrient economy at various administrative levels that promote the separation of waste fractions, subsidise the collection of household waste and support the recovery nutrient. This also includes developing facilities to test compost quality and standards, as well as standards and market guidelines for compost. Awareness-raising campaigns should support these activities and are part of the policies.
- **Promoting public-private partnership:** We propose coordinated public-private efforts to improve the food processing sectors. This requires policy instruments that regulate the quality assessment of products, technology-based solutions for application and approval, the development of financial literacy programmes, and platforms market linkage.

## Introduction

Circular economy represents an alternative to the linear 'produce-consume-dispose' model which has significant environmental impacts. The circular economy model keeps resources in the economy for as long as possible. This can be achieved through better product design, maintaining and extending the lifespan of products, using waste as a resource and cooperating across the value chain. RUNRES promotes the recycling of organic waste by implementing and scaling viable and acceptable innovations such as composting and food processing. This nutrient cycle improves agricultural production and benefits smallholder farmer, thus contributing to food security, and human and environmental health in city regions.

## The problem

70% of the organic solid waste that can be converted to soil amendments is not yet being utilised. Due to poor solid waste management, this waste accumulates in cities, while the excessive nutrient mining reduces productivity in rural areas. On the other hand, Ethiopia is importing increasing amounts of fertilizer to produce enough food for its growing population. This is placing a heavy burden on the economy, as fertilizer has to be heavily subsidized. Small-scale food processing also faces numerous challenges in production and market entry, including access to finance, a lack of infrastructure, weak entrepreneurship and insufficient managerial capacity.

The Ethiopian government has established policies for solid waste management, which includes the national integrated urban sanitation and hygiene strategy, the proclamation on solid waste management, and the proclamation on environmental pollution control. However, there are challenges such as:

- **poor waste segregation**
- **inadequate waste data recording**
- **lack of sustainable business models and financial support**
- **lack of infrastructure for compost distribution**

Even households that are connected to the waste collection service dispose of their waste illegally to reduce service payment. There are only a few initiatives that implement the 3R (reduce, reuse, recycle), and circular economy models are still in their infancy.

More than 50% of households in Arba Minch do not use public waste disposal service. This indicates poor coverage of solid waste disposal services, although there are 19 formally registered micro and small enterprises operating in the waste management sector. This implies improper waste disposal and leads to:

- **environmental pollution**
- **human health risks**
- **infrastructure destruction via flood filling drainage cannels**

Most organic solid waste generated by urban dwellers are moist and biodegradable; it decomposes immediately after disposal. As it decomposes, it releases foul odour and become a hot bed for pathogens and vectors.


70% of organic waste not yet utilised

> 50% of households in Arba Minch do not use waste collection services

(organic) circular economy in its infancy

lack of appropriate policies to foster composting and food processing

## Solution and Policy Implication

To improve this situation, the RUNRES project piloted circular economy in Arba Minch to recycle organic solid waste through composting and banana processing.

The innovations introduced by RUNRES are a strong motivation for people to get involved in waste management and processing. If many people are interested in waste management and making a living out of it, i.e. running a business, policy makers will be forced to improve policies and regulation.

To improve waste management in Arba Minch and elsewhere, we recommend the following solutions:

- **continuous awareness campaign** on waste management and adaptation of existing policies to the local context
- **declaration of rules and regulations** for solid waste disposal, monitoring the progress and taking legal actions
- **definition of business rules**, establishing quality testing facilities, and standardizations of compost as a soil input
- **promotion of public-private collaboration** to ensure that regulatory policies align with the needs of the waste sector

The processing of agricultural products has the potential to add value and contribute to employment and food security. Ethiopian government has identified the food processing industry as one of the vehicles to accelerate economic growth and create jobs.

Realising the full potential of food-processing, requires a coordinated effort form the public and private sectors, as well as from and donors, to channel investment into the establishment of competitive food processing companies.

Based on our circular experience in piloting circular economy projects, we propose the following policies to overcome the challenges and promote the growth of the food-processing sector in Ethiopia.

- **establishing dedicated regulatory authorities** at different levels of government and promote the use of technology-based solutions for the application and approval process
- **developing clear and transparent policies** for conformity assessment, product quality monitoring, and market admission.
- **designing and providing financial literacy programmes and capacity building** for entrepreneurs so that they can use recourses effectively.
- **establishing market linkage platforms** to connect food processing entrepreneurs with domestic and international buyers.
- **promoting dialogue and collaboration** between the private and public sectors, to align regulations with the needs of the food processing sector.

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