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# A BLUEPRINT FOR CIRCULAR CITIES:

Policies, Systems, and Guidelines  
for Solid Waste Management in the  
Rapidly Urbanising Mekong Region

SUMMARY

**The Urban Mekong Corridor Initiative (UMCI) links rapidly urbanising towns and cities to promote inclusive green development, comprehensive economic planning, and environmental sustainability. By leveraging key urban, regional, and financial partnerships, the initiative aims to foster economic and social equity collaboration while ensuring long-term environmental resilience.**



For cities along the Mekong River, solid waste management (SWM) is a shared, significant challenge. Waste pollution not only harms local environments, but also has transboundary impacts, polluting the Mekong River – a critical lifeline for the region – and extending into the ocean, affecting several Association of Southeast Asian Nations (ASEAN) countries.

Sustainable SWM relies on applying circular economy approaches to waste management and fostering behavioural change within local communities. Any SWM planning must address

the challenges posed by rapid urban population growth, alongside shifting consumption patterns and economic growth.

This brief provides an overview of a blueprint, developed for the UMCI by experts with specialised knowledge of the Mekong Corridor, that is tailored to the unique realities and circumstances of its cities. The blueprint serves as a dedicated guide for all urban stakeholders along the Mekong River Corridor to support their efforts in SWM planning, decision-making, and engagement with development partners.

## **SWM Challenges in the Mekong River Corridor**

The Mekong River Corridor's SWM challenges are multifaceted and urgent, driven by a combination of governance and policy gaps, rapid urbanisation, insufficient infrastructure, limited operational human and financial capacities, and rising socioeconomic and environmental pressures.

The increasing volumes and complexity of waste streams exacerbate the region's challenges.

Fragmented legislation, challenges in urban planning, and limited private sector investment further complicate efforts to implement effective and sustainable SWM practices. Limited local budgets result in inadequate service coverage and infrastructure maintenance. The prevalence of open dumpsites, limited recycling and reprocessing infrastructure and services, and hazardous conditions for informal and formal sector workers highlight the critical need for comprehensive reforms.

# The Circular Economy and Waste

**Addressing SWM challenges in the Mekong River Corridor requires a concerted effort to integrate circular economy principles, enhance public awareness, strengthen enforcement, and develop sustainable, long-term solutions.**

Existing SWM systems primarily follow a linear approach of collection and disposal, an outdated model that restricts potential revenue streams and hampers the efficient use of resources.

The circular economy provides a comprehensive approach to SWM by focusing on sustainability and how to best use resources. It aims to eliminate waste and pollution, keep products and materials in use for as long as possible, and help nature recover. This shift promotes efficient use of resources, encourages innovation, and strengthens communities, leading to sustainable growth and a healthier environment.

**A circular economy approach to SWM has two main elements:**

- A **biological cycle** that emphasises the transformation of organic waste into valuable resources. This process fosters sustainability by promoting the recovery of nutrients and enhancing soil health. By effectively managing organic waste through methods such as composting and anaerobic digestion, communities can reduce environmental impacts, support local agriculture, and create opportunities for economic growth, ultimately turning waste into a resource rather than a burden.
- A **technical cycle** focused on maximising the lifespan and value of non-biodegradable materials through repair, reuse, remanufacture, and recycling. By designing durable, easy-to-repair, and recyclable products, the technical cycle reduces the need for virgin materials and minimises waste.

## Approaching Waste Management as a System

A key challenge for improving SWM in the Mekong River Corridor is determining where to allocate investments most effectively and identifying the necessary infrastructure and services for long-term sustainability. Instead of targeting specific parts of the waste supply chain in isolation, such as landfills, an integrated, systems-based approach is essential to effectively address the complexities of the entire waste management process.

A holistic strategy emphasises waste reduction, increased recycling rates, and optimised resource recovery throughout the entire supply chain. This approach builds resilience and sustainability into SWM systems by addressing all critical elements, including comprehensive infrastructure development, service and operational efficiency and effectiveness, and public awareness and engagement campaigns.



## Activities for a Systemic Approach to Waste Management

With their on-the-ground expertise, local governments can actively contribute to developing national legislation to ensure it is practical and regionally relevant. National governments can ensure that local policies align with broader regulatory standards and policies.

### Legislation

National laws set frameworks and standards, while local laws focus on implementation and enforcement. Collaboration between government levels ensures effective regulatory compliance and policy alignment. Target areas include policy instruments, such as regulations or bans, and financial instruments that incentivise or penalise, such as subsidies, taxes, or fees. Information tools are vital for successful policy implementation.

### City-level strategies

These strategic documents guide how a community manages its waste from generation to disposal. They should include key components such as waste collection, transportation, segregation, recycling, and disposal.

### Essential data

Effective waste management, including developing regulations and strategies, requires accurate measurement. Knowing the types, quantities, and sources of waste and how they are disposed of is crucial for supporting regulations. Improving data quality, transparency, and sharing information fosters accountability, enhances decision-making, and drives progress toward sustainable waste management practices.

### Enforcement

Essential to ensuring compliance, enforcement helps guarantee public participation in waste

collection schemes, prompt service payments, segregate waste at source, and prevent illegal dumping and burning. Effective enforcement includes penalties for non-compliance and mandatory participation in waste programmes. Combining awareness efforts with enforcement creates an accountable and structured system that encourages responsible waste management while discouraging harmful practices.

### Public-private partnerships (PPPs)

Many cities globally and regionally have engaged in PPPs to improve their waste management systems, covering areas such as waste collection, transportation, processing and disposal, and the construction or management of sanitary landfills. Beyond the private sector, waste management partnerships can include social enterprises, forming public-private-social partnerships. Integrating the informal sector reduces the burden on formal waste systems by lowering labour, transport, and landfill costs.

### Coordination between stakeholders

An effective, sustainable SWM system requires collaboration across various stakeholders (government, private sector, industry bodies, the public, NGOs, CSOs, research institutions, and development agencies). This needs clear communication channels, well-defined roles, and joint planning. Regular meetings, task forces, data sharing, and technology can enhance transparency, collaboration, and project tracking. Capacity building and community engagement ensure broader buy-in, strengthening the overall SWM system.

# An Operational Blueprint for a SWM System

In addition to enhancing the overall waste management system, it is equally important to focus on improving each stage of the waste supply chain in Mekong River Corridor cities and towns. This chain can be broken down into five main stages: waste generation,

collection, sorting, processing, and disposal. When developing these stages, it is essential to maintain the system's integrity as a whole, ensuring that any changes in one part consider the impacts on all other stages to keep the system efficient and effective.

**Figure 1:**  
The Main Stages of a SWM Supply Chain



While the capital costs for developing waste management infrastructure are often covered by international development funding, the biggest challenge for individual cities is the long-term operation of these facilities and services. Furthermore, SWM is still a relatively new and evolving discipline within the Mekong River Corridor, with a shortage of experienced professionals.



# The Critical Role of the Informal Sector

Informal workers depend on waste management for their livelihoods. Formalising their contributions involves recognising their value, providing proper training and personal protective equipment (PPE), promoting a supportive work environment, and providing fair compensation.

**It is also an opportunity to empower women, who are a vital part of informal waste picking, and involve them in decision making. Additionally, special attention should be given to the involvement of children, who are sometimes found working in this sector, to prevent child labour and ensure access to education and other protections.**

The informal sector plays a crucial role in waste management across the Mekong River Corridor. Many workers, particularly women from vulnerable backgrounds, engage in low-paid, labour-intensive jobs with limited rights and protections. Groups involved in informal waste collection include street material and landfill waste pickers and waste collection crews who sort recyclables for additional personal income while undertaking their formal job of collecting disposal waste.

The informal sector often leads to inefficient collection practices, low recycling rates, material leakage, and low-quality material streams. Street collectors may leave waste scattered, and collected recyclables are often contaminated, reducing their value. Informal workers, especially women, face unsafe working conditions, health risks, harassment, and limited access to resources.

Despite these challenges, the informal sector can reduce waste management costs by decreasing the volume of waste handled by formal systems. Integrating informal workers into formal waste

management systems has proven beneficial, improving livelihoods and boosting recycling rates. Formalising this sector through cooperatives or social enterprises enhances working conditions, offers social protections, and provides training.

Such formalisation should be participatory, involving stakeholders to address the needs of informal workers on income, flexibility, and empowerment. To attract and retain employees, waste companies should offer fair wages, health insurance, paid leave, training, and retirement plans, along with good working conditions including breaks, rest areas, and welfare facilities like showers, especially in the hot climates of the Mekong River Corridor.



**By prioritising the welfare and safety of informal workers, we can mitigate risks and create a more secure working environment while working towards the long-term goal of providing safer and alternative employment opportunities.**

# A Call to Action

Cities in the Mekong Corridor have a unique opportunity to lead the way in sustainable waste management aligned with circular economy principles.

By embracing innovative waste management practices, these cities can enhance public health and environmental quality while empowering their communities. When waste is managed effectively, it transforms into a resource, creating

a cleaner, more vibrant environment for all residents.

By prioritising sustainable waste management, cities can create job opportunities and stimulate economic growth while encouraging community participation. Residents will feel empowered to contribute to a healthier environment, leading to improved quality of life and stronger community ties.



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