DG INTPA F.4
UDTF
Urban Development Technical Facility

International Partnerships

Webinar. Planning for Solid Waste Management & Circular Economy

Urban Development Technical Facility

INTPA F.4 | November 2025

Funded by the European Union

WEBINAR SERIES ON SOLID WASTE MANAGEMENT AND CIRCULAR ECONOMY

Webinar 1. Plastics

Webinar 2. Large investments

Webinar 3. Private sector engagement

Webinar 4. Planning

Webinar 5. Costing

F4 UDTF missions on SWM&C

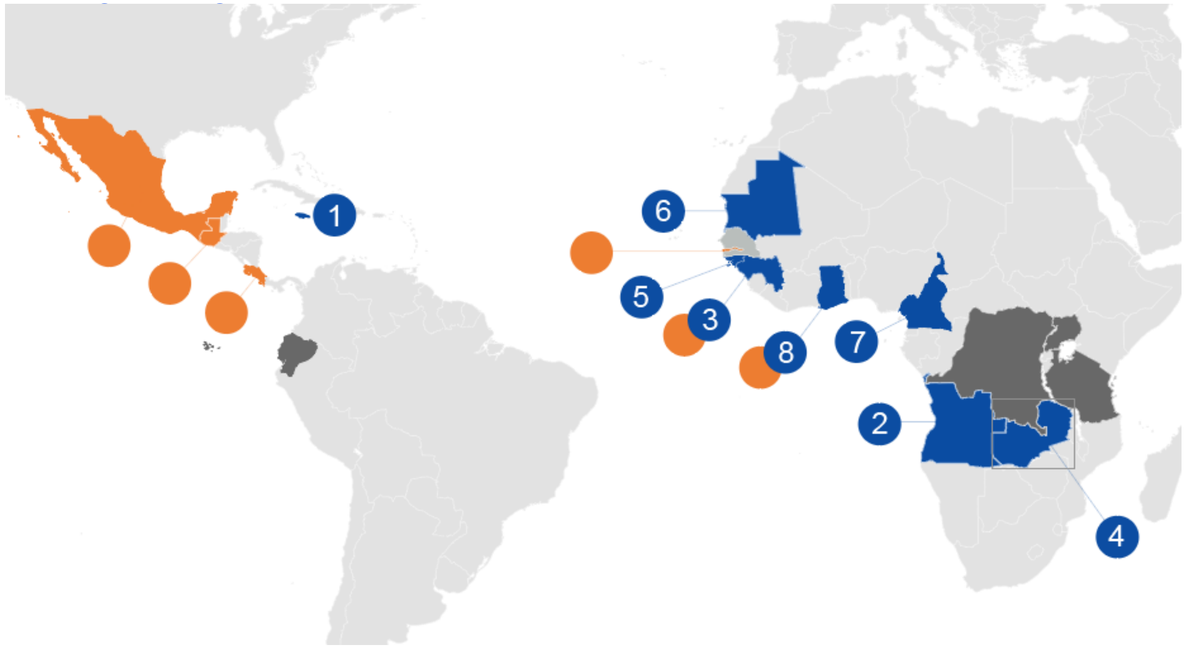
INTPA F4 has been supporting EUDs and partner countries in **planning, implementing**, and evaluating **programmes and projects in SWM&C in cities, along with other European partners.**

1 - Jamaica 01–03 / 2023
- Diagnostic for AD preparation.
- Recommendations for a call for Proposal addressed to NGOs and other local stakeholders engaged in SWM&C.

2 - Angola 02-04 / 2023
- Diagnostic for Action Document preparation
- Recommendations for the improvement of SWM and the adoption of a circular economy

3 - Guinea Conakry 04-06 / 2023
- Quick assessment of current program through stakeholders' workshop.
- Provided the EUD with main elements to draft a new AD to continue support to the SWM sector in grand Conakry.

4 - Zambia 07-09 / 2024
- Engagement and training for private sector – circularity and waste valorisation



On-going and in preparation:
9. Ghana: SWM&C diagnosis, mapping of private sector.
10. Guinea Conakry II: Recommendations to develop key recovery value chains. Waste characterisation update.
11. Gambia: SWM&C system recommendations for secondary cities.
12. Mexico: Support to Circular economy eco-park

5 - Guinea Bissau 05-07 / 2023
- Diagnostic for program definition
- Contribute to establish a more efficient SWM system and the promotion of circular economy practices in Bissau municipality.

6 - Mauritania 01-04 / 2024
- Support the Ministry of Environment in implementing its new SWM Law.
- Diagnosis of the City's SWM&C system.
- Comparative study or SWM systems in comparable contexts.

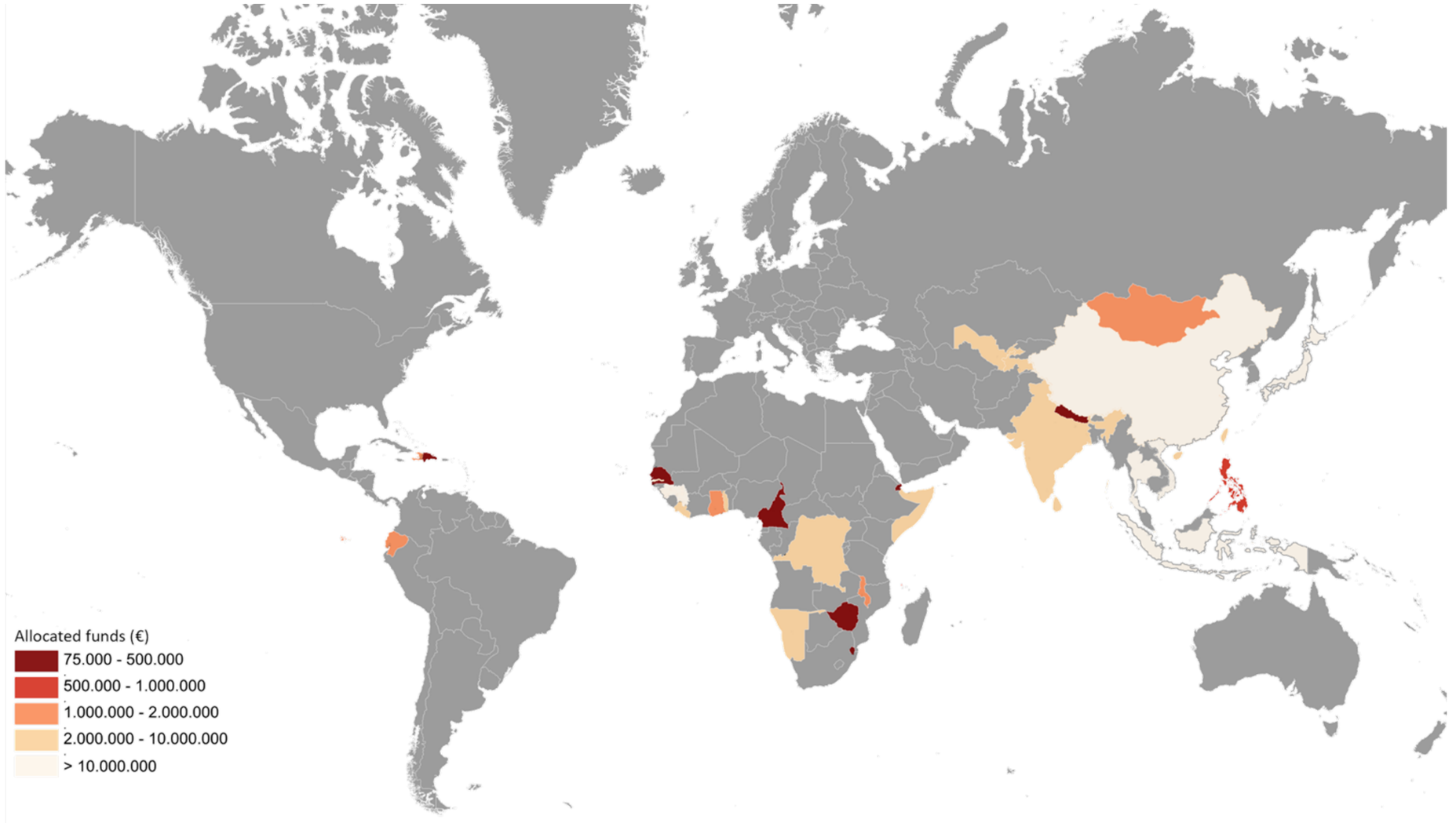
7 - Cameroon 10/2024-01/2025
- Formulation of SWM action focused on plastic waste to reduce marine and river pollution.
- Recommendations for the SWM&C system.

8 - Ghana 10/2024-01/2025
- Diagnosis of instruments to finance and operate urban services, including SWM.

Overview of INTPA SWM&C projects

Many EUDs have waste management and circularity projects in their plans and project portfolios.

Cameroon
China
Comoros
Congo D.R.
Djibouti
Dominican Rep.
Ecuador
Eswatini
Gambia
Ghana
Guinea, Rep.
Haiti
India
Indonesia
Japan



Liberia
Malawi
Mongolia
Namibia
Nepal
Philippines
Senegal
Singapore
Somalia
Sri Lanka
Tajikistan
Thailand
Togo
Vietnam
Zimbabwe

Global Gateway

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PLANNING FOR SOLID WASTE MANAGEMENT & CIRCULAR ECONOMY

Bernhard Schenk
Solid Waste Management Advisor
November 12, 2025

Question

Which of you have at this moment an ongoing SWM project or are designing an action plan on the sector?

Table of Contents

Global Gateway

1. CONCEPTUAL INTRODUCTION

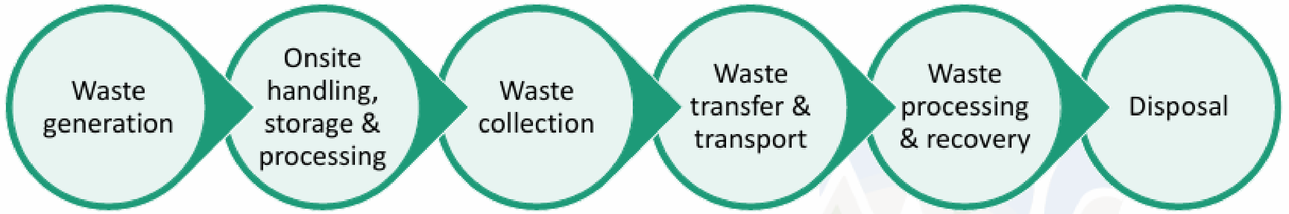
What is a planning framework, why is it necessary and what are the benefits?

SWM Planning Framework – Strategic Guidance to solve a problem

Waste incinerator Reppie/Addis Ababa

Why is Planning necessary

- Strategic planning is necessary to ensure that SWM services
  - keep pace with demand,
  - are appropriate to needs, and
  - are cost-effective.
- Planning is a process and not an event:
  - constant evaluation of the performance of a plan in meeting its objectives
  - regular revision of planning cycles.



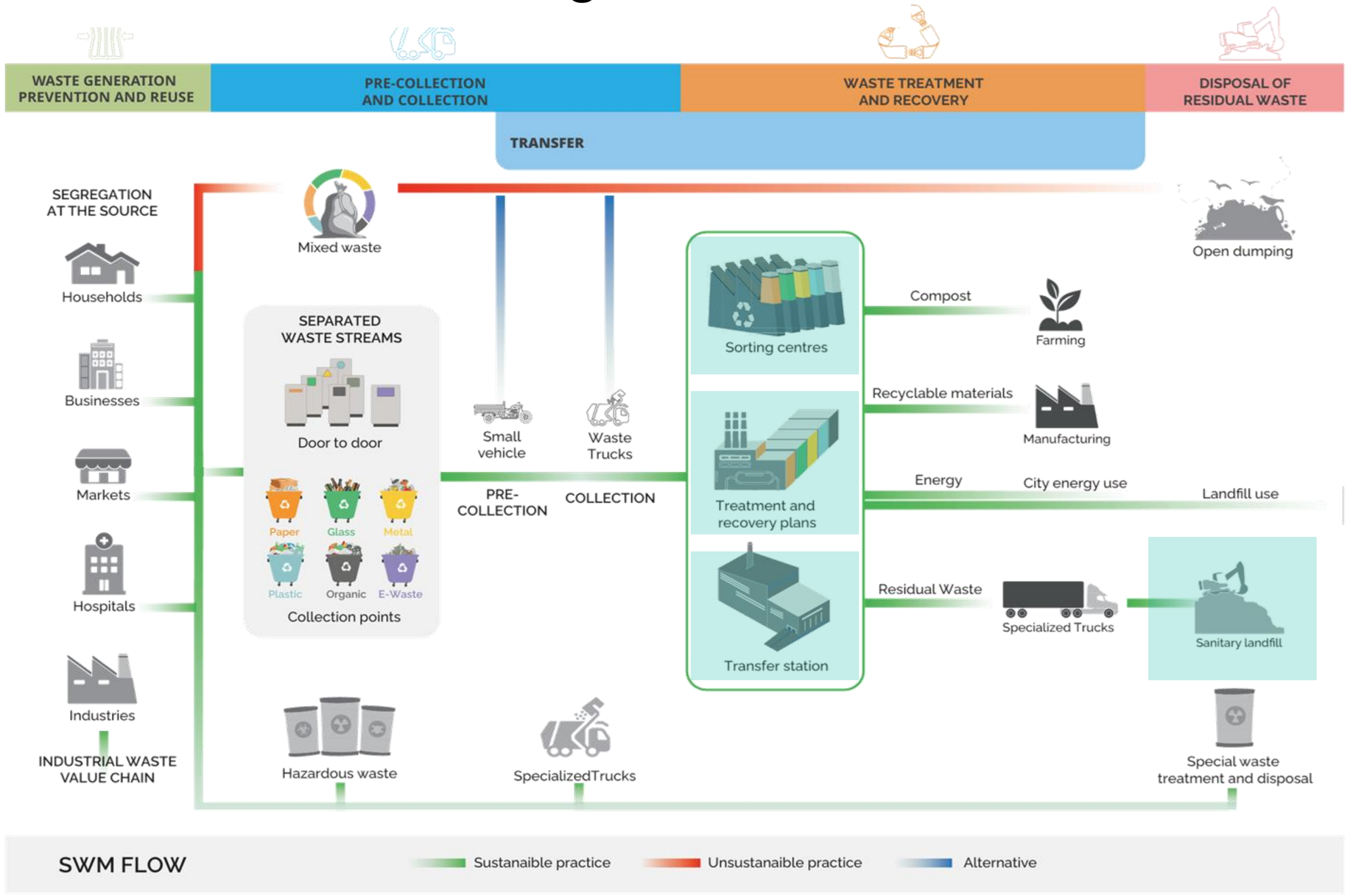
Waste Value Chain – Integrated SWM

Linear unsustainable current practice in many countries of the global south

Integrated SWM:

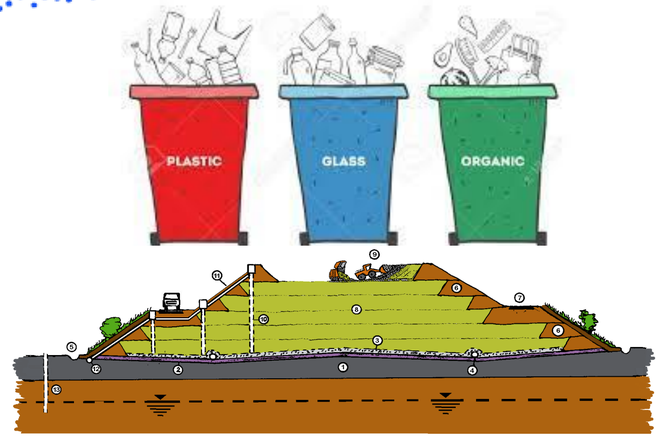
- Complex system of different services
- Covering whole value chain
- Strengthening regulatory and executive body

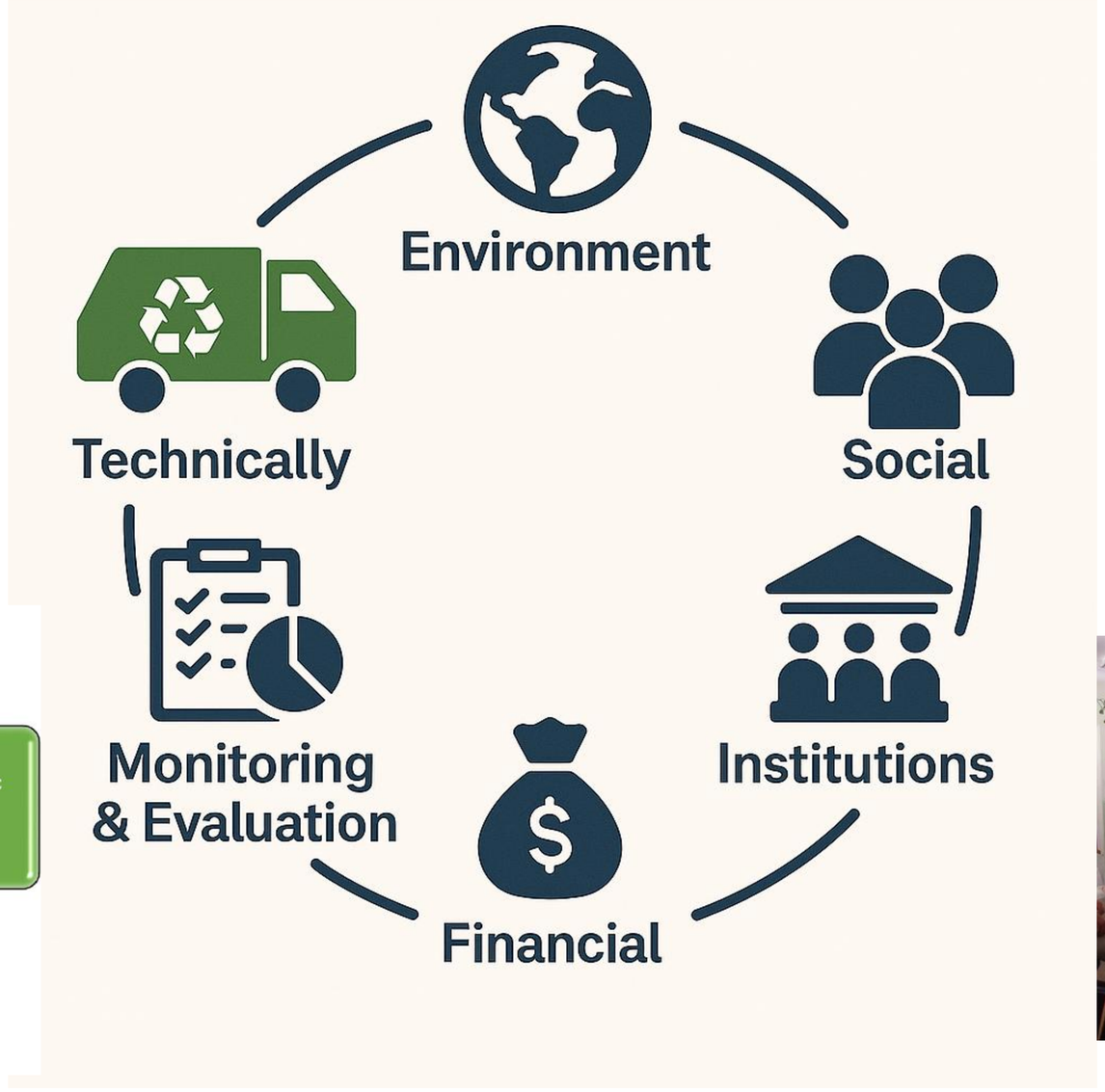
=> highlights the importance of SWM Planning.

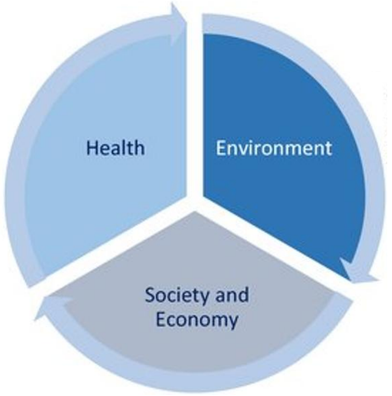


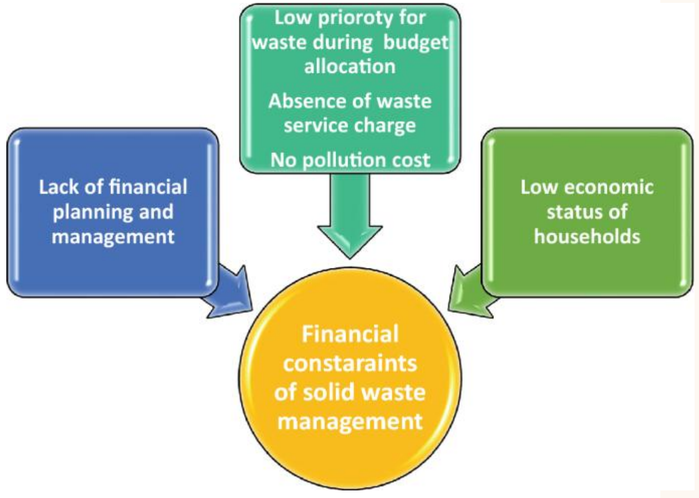
Source: INTPA F4, UDTF (2024). SWM Practical Advice Paper.

Elements of ISWM to be included in SWM Planning Process









Elements of ISWM to be included in SWM Planning Process

Moving towards Circular Economy

- Understanding of all mechanisms of ISWM (technical, financial, institutional or E&S)
- A clear perception of what needs to be done to reduce waste going to landfill and recover as much as possible

A Planning Framework is required to put all the elements at the right place and time

Benefits of Establishing a SWM Planning Framework

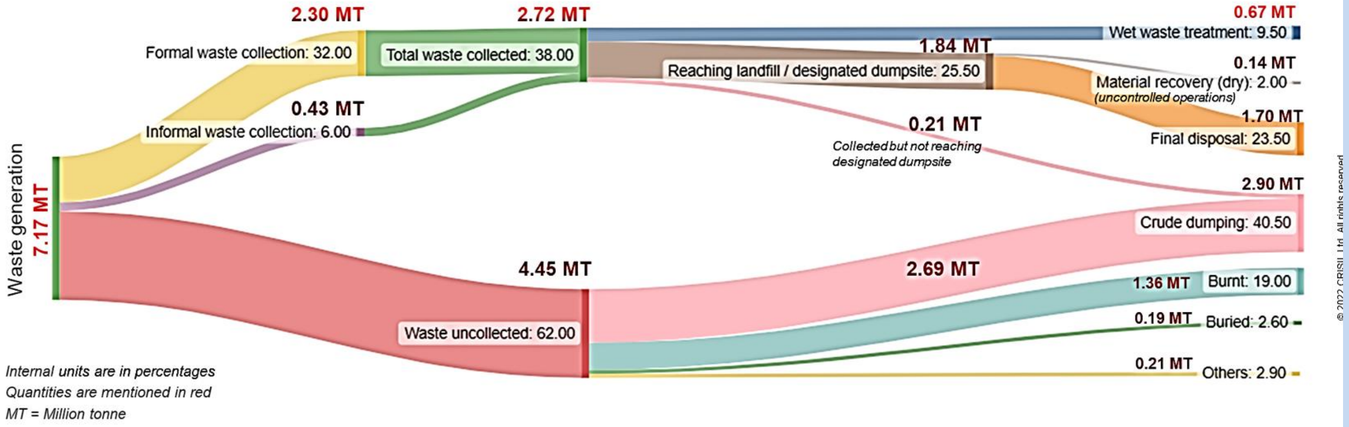
Example of Ghana shows how the implementation of improved

- Institutional
- Technical and
- Financial

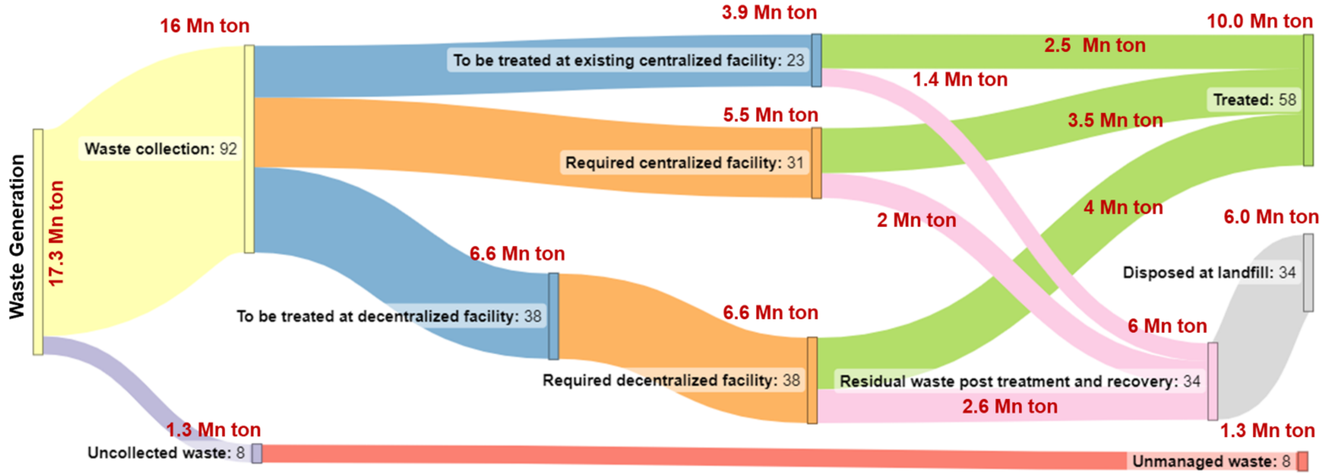
structures lead to

- ➢ higher service levels,
- ➢ higher recovery rates for recyclables and organic material and
- ➢ less waste being disposed at uncontrolled dump sites.

Existing waste flow in Ghana



Projected waste flow in Ghana (2050)



Key message:

SWM Planning is an integral part of ISWM, implementation of projects without it are most likely doomed to fail!

Question:

Please choose what elements of ISWM should be included in Planning?

a) Only selected elements of the waste value chain
b) Including Institutional and Financial issues
c) All elements of value chain + b)

2. DEVELOPMENT OF PLANNING FRAMEWORK

2.1 Problem analysis

2.2 Principal aspects to be considered for establishing a Planning Framework

2.3 Process of SWM Planning

2.4 Results of Planning Process

2.1 Problem analysis

Problem analysis

Todays challenges underline the need for proper SWM Planning

- growing population / consumption
- rising energy demand
- growing waste amounts
- growing emissions

⇔

- land and material shortage
- depletion of the natural resources
- pollution of the environment
- climate change

- ➢ Economic / cost implications
- ➢ Social (fairness) implications
- ➢ Political implications (risk of crisis, tensions, wars)

⇒ Given the complexity of the Background without proper Planning cost-efficient Provision of Services cannot be provided

Technical Situation in SWM - Overview of main issues

Lack of SWM Planning leads to

- Low quality basic services such as improper collection and transport not covering the waste generated
- Lack of separation at source and as such low recovery rates for recyclables or organic material
- Unacceptable disposal practices with uncontrolled dump sites

Source: 2018, World Bank „What a Waste 2.0“

Institutional Situation in SWM - Overview of main issues

- **70 %** of waste services provided directly by local public entities, **30%** by intermunicipal arrangements or various private or public-private entities
- **2/3 of countries** have targeted legislation and regulations for SWM, though enforcement may vary.
- **Mainly lack of data recording and utilization** for SWM planning purposes
- Priority of SWM and **capacities at municipal level mostly low and thus lack of staff and funding**
- ISWM is **strongly dependent on political will** instead of purely service oriented

Source: 2018, World Bank „What a Waste 2.0“

Institutional Situation in SWM - Case Malawi/Blantyre

- **Responsibility for SWM is under the Department of Health and Social Services in the Cleansing Section and the Environmental Section in terms of:**
  - Service for collection and transport of waste
  - Disposal operation at the existing dump site

- **Responsibility for trucks and drivers is within the Administrative Department´s Transport section**

⇒ The split of responsibilities results in inefficient availability of equipment and service provision

⇒ In addition the Cleansing section lacks administrative staff for Financial management, Planning, Monitoring and Evaluation

Financial Situation in SWM - Overview of main issues

- In countries of Global South mostly **services not billed adequately** (if at all)
- No cost statements possible
- **Potential income disappears** in the "black hole" of overall municipal budget
- Awarding of service contracts to private companies often
  - non-transparent and
  - not in line with the proper costing (too high for collection, too low for landfill)
- Cost of SWM not fully covering all needs (costs for O&M after end of lifetime for landfills, reinvestment costs, environmental and employee protection measures not or not fully included)

Source: 2018, World Bank „What a Waste 2.0“

Question 1

How is SWM financed in your partners countries?

A. Investments with national transfers and Operations by municpality?
B. Both investment and operations by municipality own funds?
C. Both investments and operations by national government?
D. Mixed public and private financing

Question 2.

Is operation budget calculated according to planning of required services (demand assessment) or using last year budget?

A. Planning
B. Last year budget
C. I don’t know
D. Others. Please specify

2.2 Aspects to be considered for SWM Planning

Different SWM Planning Levels

- **National Level:**
  - **Legal Framework, policies, strategies**
  - Development of regulations **for EPR, fee regulation, financing mechanisms**

- **National/Subnational Level**:
  - **Master Plan** for general framework of ISWM (kind of and number of treatment and disposal facilities and catchment area), investment plan
  - **Legal framework** waste treatment and/or disposal strategies, responsibilities of SWM, E&S and monitoring mechanisms, environmental permitting and control

- **Municipal Level:**
  - **Municipal by-laws** (roles and responsibilities of waste generators, service providers, processes, ownership, fines and incentives)
  - **Municipal Solid Waste Plan** (baseline analysis, target setting, key performance indicators, option analysis, short/medium/long term measures, financing plan)

Different Levels of SWM Planning
Example: SWM Master Plan Albania

- **Definition of Waste Zones:**

  Waste zones based on administrative structure, geography, population and waste figures, road distances

- **Baseline analysis:**

  Technical, financial, institutional, E&S issues assessed, waste composition, generation and quantity projection, gaps and deficits

- **Definition of appropriate technologies to achieve EU SWM Targets**

  Proven and available SWM treatment and disposal technologies,

- **Recommendation of ISWM concept for each waste zone**

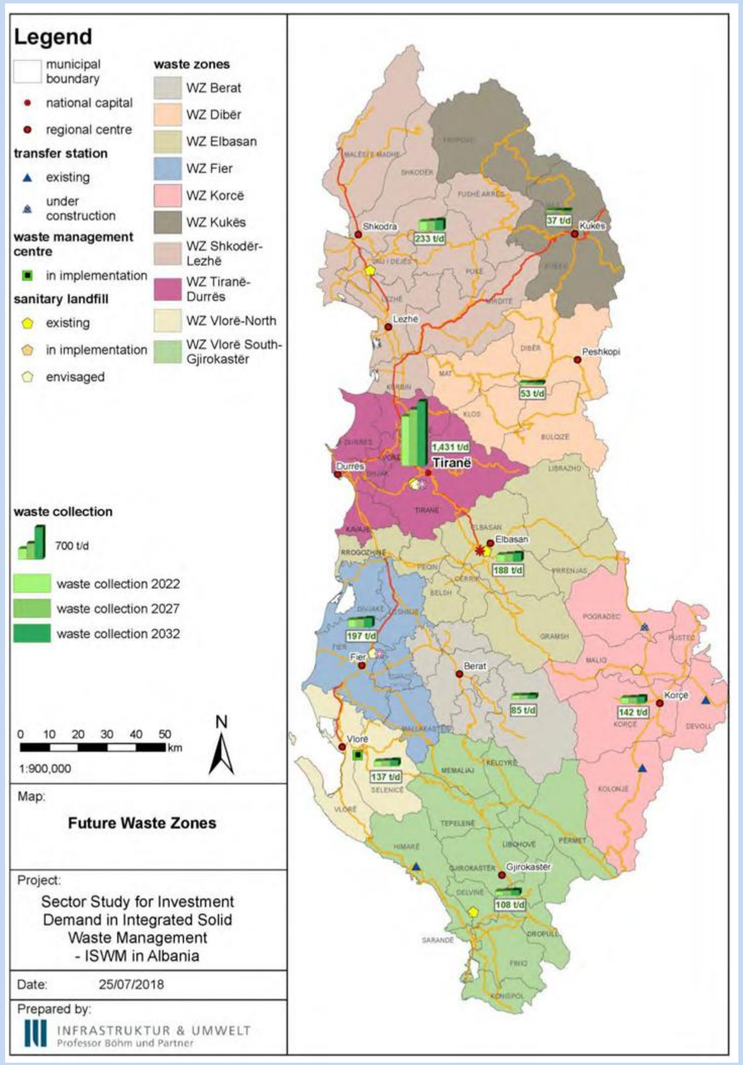
  ISWM concept according to Value Chain, institutional setup (with local and regional tasks)

- **Investment Plan**

  Short/medium/long term investment and financing plan for the whole country and each waste zone

Levels where SWM Planning is required

Example: SWM Master Plan Albania



Investment costs for regional facilities	WZ Berat		Currency EUR
Regional Facilities	**Phase 1**	**Phase 2**	**Phase 3**
Long Distance Transport			
Ramp type transfer station	400,000		
Ramp type TS with compaction			
Waste Treatment			
Dirty MRF			
MBT with AD			
MBT with stabilisation			
MBT with composting		5,067,000	
Anaerobic Digestion (AD)			
Moving grate incineration			
Waste Disposal			
Controlled Landfill			
Sanitary Landfill	3,673,000		2,131,000
Total Investment Costs for Regional Facilities	**4,073,000**	**5,067,000**	**2,131,000**

Setting Objectives

- Political decisions follow **top down approach**
  - the national SWM strategy and legal stipulations
  - the local objectives and visions

- Local leaders/municipal administrations have to define well what the **objectives** of a Planning Framework shall be

Process has to be participative

- Stakeholder Mapping
  - Political and administrative representatives
  - Waste management actors (collectors, recyclers, facility operators)
  - Industry/industrial and commercial (tourism!) organisations
  - Sector associations/councils
  - NGOs
  - Sector experts (waste, logistics, finance, health)
  - Others
- Workshops
- PR campaigns
- Sensibilization

Cross cutting issues - Relationships with other planning instruments

SWM Planning has an influence on cross cutting issues such as:

Climate change
by reducing CO_2 emissions through CH_4 capture

Circular economy and resource efficiency
including extended producer responsibility, pay-as-you-throw, and industrial symbiosis

Social inclusion
through integration of informal workers, gender equality, and job creation in circular economy value chains

Financial sustainability
through tariff design, PPPs, cost recover and leveraging circular business models

SWM planning is linked with other municipal activities and planning work:

Other elementary planning principles

- Realism

  ⇒ *don‘t be too overambitious*

- Prudence

  ⇒ *don‘t plan without to analyse and understand first*

- Accuracy

  ⇒ *plan with care but don‘t go beyond the necessary level of precision*

- Transparency

  ⇒ *don‘t be ignorant of public concern and opinion*

- Economic sense

  ⇒ *always be aware of the costs (eventually everybody has to pay for it)*

Key messages:

- SWM planning is necessary for all kinds of projects on all governance levels and covering all important sectors!
- The planning process needs to be well prepared, financed, participatory, high on the political agenda!

Question:

What do you think are most important aspects to be considered for development of Planning Framework?

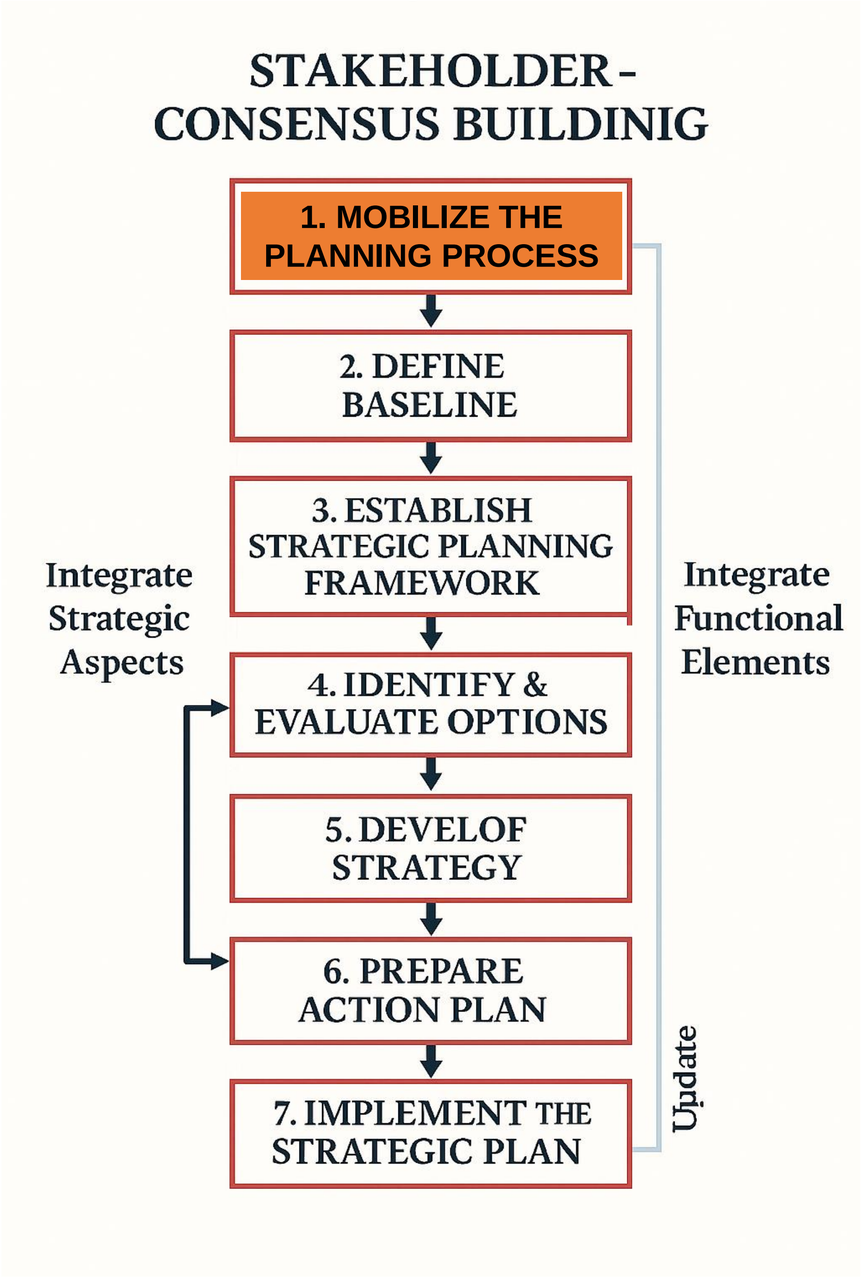
A. Setting policy objectives
B. Participatory approach
C. High commitment from political level
D. Expert support for preparation of analytical work

2.3 Process of SWM Planning

Step 1:

Mobilizing the Planning Process

- Period 3-6 months
- Stakeholders:
  - The department leading the plan
  - Steering Group Members
  - Working Group Members
  - Facilitators/Consultants



Mobilizing the Planning Process

Who are the Stakeholders to be involved?

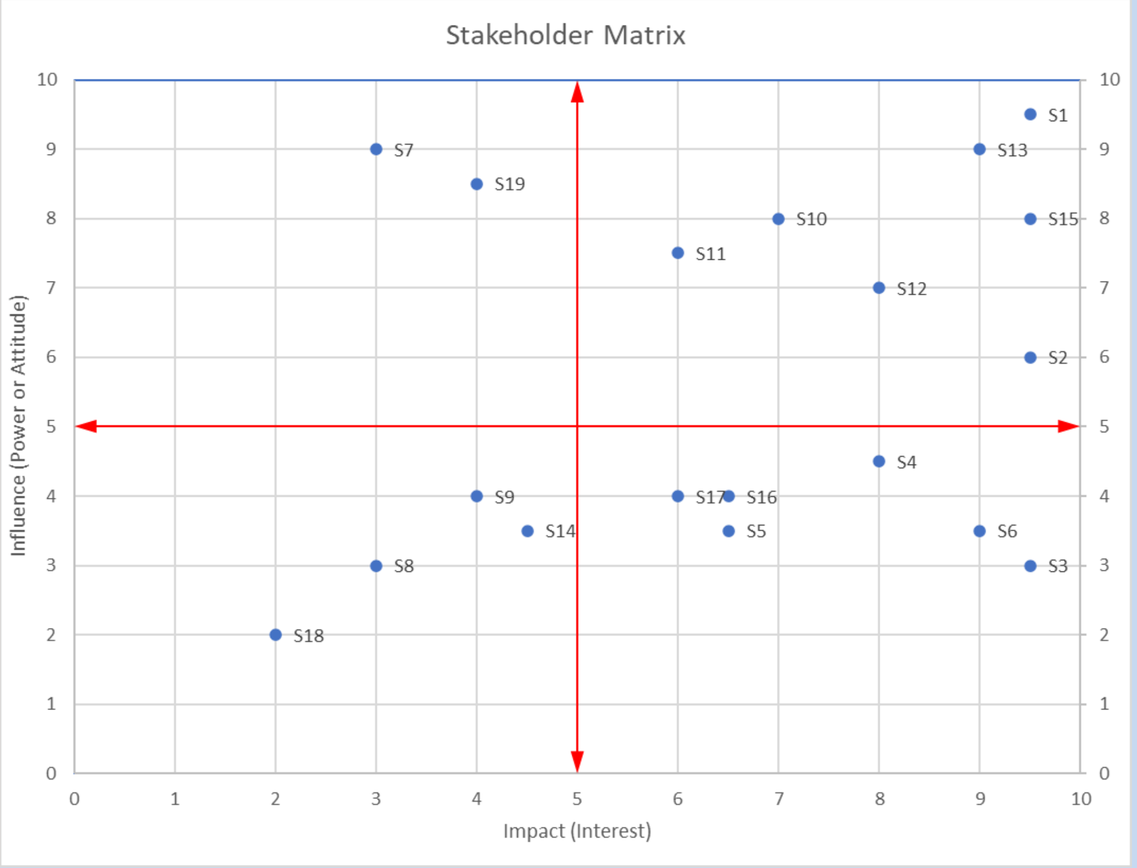
⇒ Stakeholder Mapping

	WEAK INFLUENCE	STRONG INFLUENCE
STRONG INTEREST	Stakeholders in this segment may prove helpful if they become supporters of the project/program.	Stakeholders in this segment must be accommodated.
WEAK INTEREST	Stakeholders in this segment will have little or no affect on the project/program.	Stakeholders in this segment may become dangerous or very supportive to project/program if they become interested.

Mobilizing the Planning Process

⇒ Stakeholder Mapping / case study in Malawi

Stakeholder Name	Stakeholder Code	Impact (Interest)	Influence (Power or Attitude)
Lilongwe City Council	S1	9.5	9.5
Project Affected Persons (PAPs)	S2	9.5	6
Ministry of Local Governement	S3	9.5	3
PWOs (Collectors, Recyclers)	S4	8	4.5
Reaserachers & Academia (MUBAS, MUST, NCST etc)	S5	6.5	3.5
NGOs (Waste Advisor, WaterAid, etc)	S6	9	3.5
Parliamentary Committee on Natural Resources	S7	3	9
National Construction Industry Council	S8	3	3
Malawi Engineering Institution	S9	4	4
Malawi Environemntal Protection Agency	S10	7	8
Ministry Of Water and Sanitation	S11	6	7.5
Water Resources Authority	S12	8	7
Lilongwe Water Board	S13	9	9
Roads Authority	S14	4.5	3.5
Lilongwe District Council	S15	9.5	8
Private Businesses (shops etc	S16	6.5	4
Residents	S17	6	4
Scavengers	S18	2	2
Environmental Affairs Department	S19	4	8.5



Mobilizing the Planning Process – Operational Arrangements

Internal conditions:

- Political commitment and support of the City Council
- Realistic target funding
- Strong project co-ordinator
- Well-defined and agreed-upon methodology and output
- Data Availability
- Logistical support by the City Council (meeting rooms, communication)

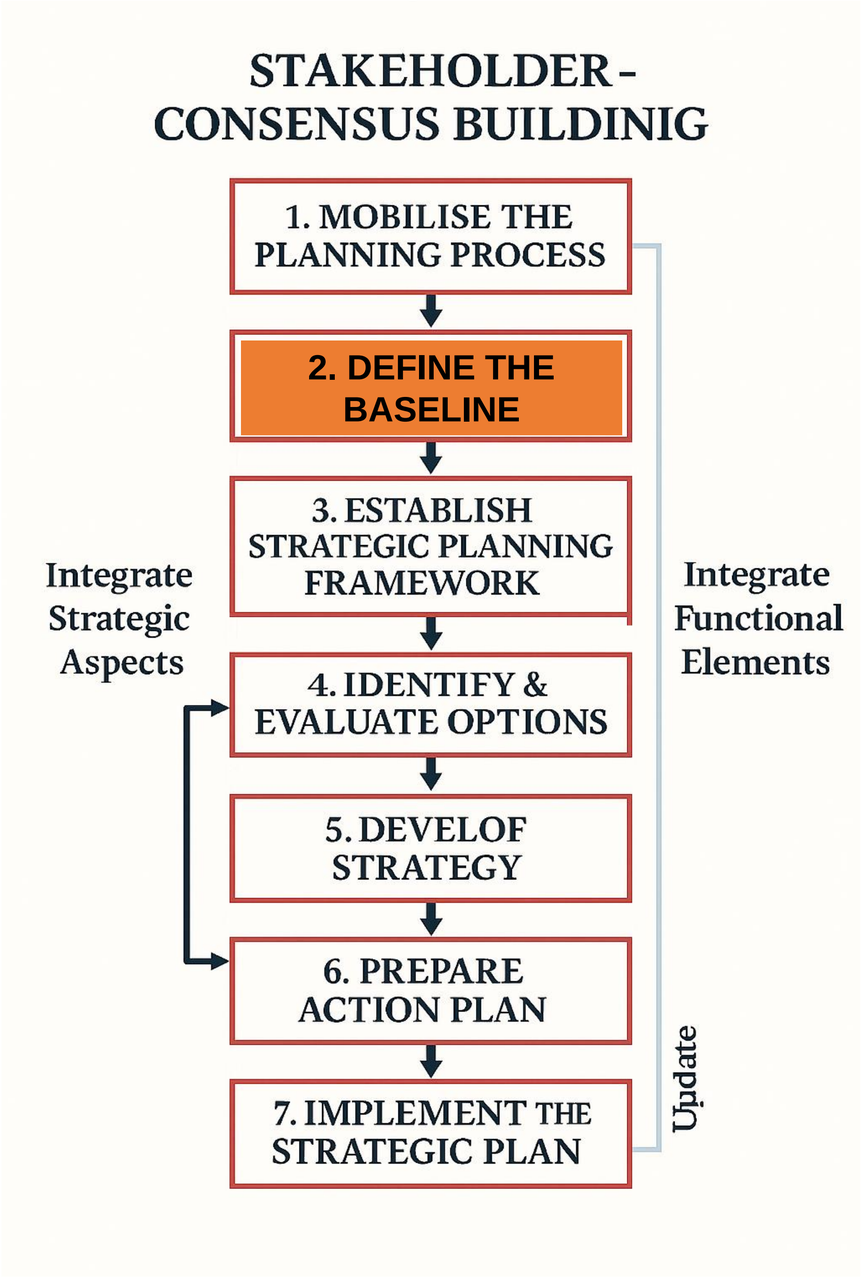
External Conditions:

- Interest and active involvement of stakeholders
- Professional facilitator
- Involvement of technical experts throughout the process, and particularly for the appraisal of options, economic and technological assessment

Step 2:

Define the Baseline

- Period 1-3 months (up to 9 months to cover seasonal variations)
- Stakeholders:
  - The MSW department or equivalent
  - Working Group Members
  - Facilitators/Consultants

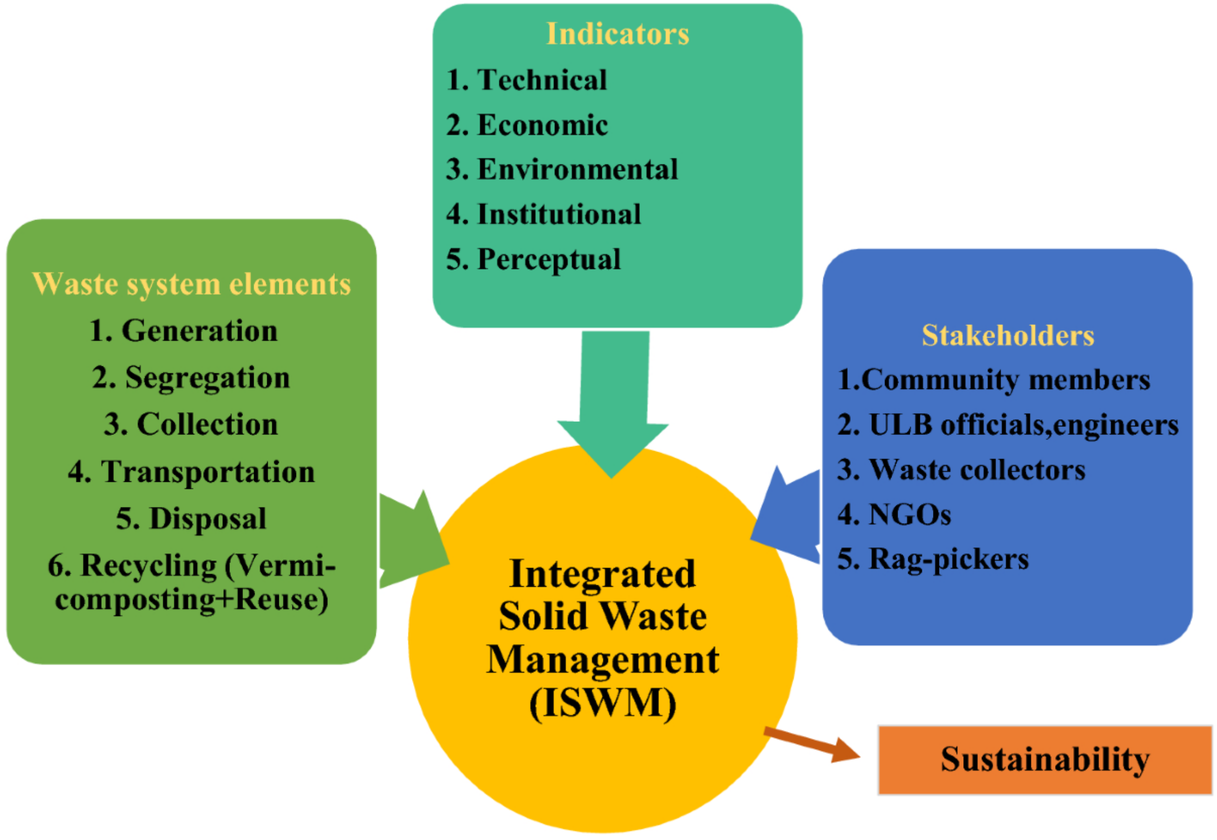


Defining the Baseline

Thorough understanding of the existing situation of SWM :

Main aspects to be addressed are:

1. General guidance on data collection
2. Measurement of waste quantities and waste composition
3. Reviewing waste management operations
4. Predicting future capacity requirements.
5. Understanding shortfalls and constraints

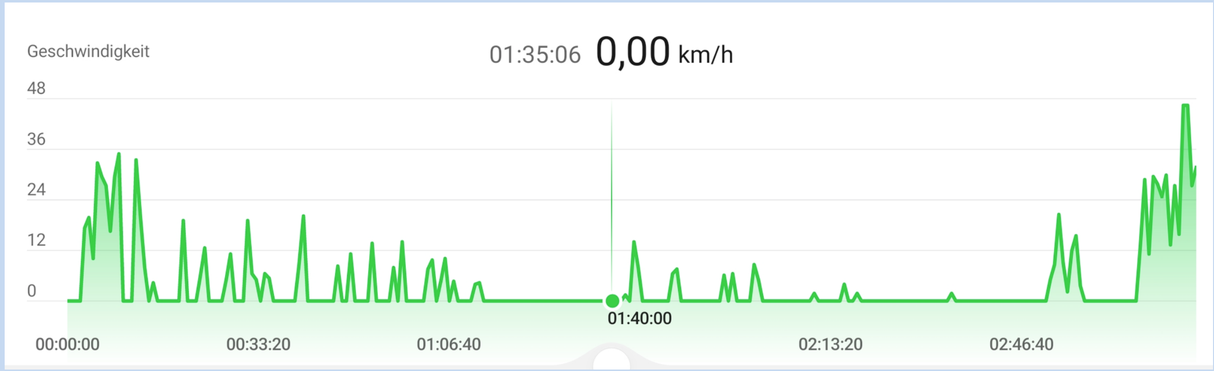


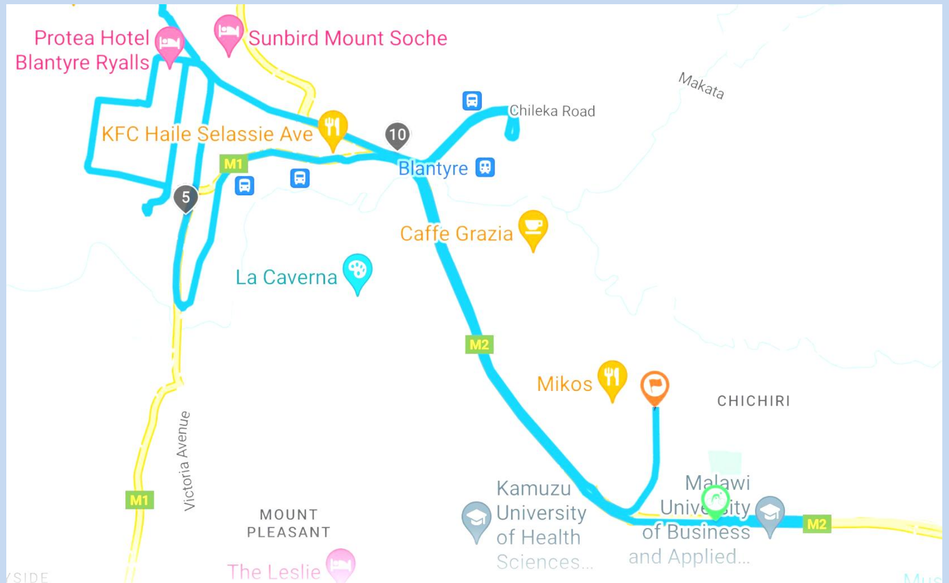
Data collection of Municipal Waste Management

- **Geographic situation** of the municipality
- **Current service provision** and operation
- **Institutional situation** of the municipal waste management department and participation of private waste operators
- **Existing SWM facilities** (e.g. collection points, transfer stations, treatment facilities, dump site(s)/landfill(s)
- **Financial situation** of cost fand revenues, need for subsidies, investment options, other financing mechanisms
- Assessment of **current waste generation, waste composition** as well as **physical and chemical parameters** of waste fractions for designing of treatment facilities

Defining the Baseline

Case Study Malawi: Assessing waste collection routes and efficiency



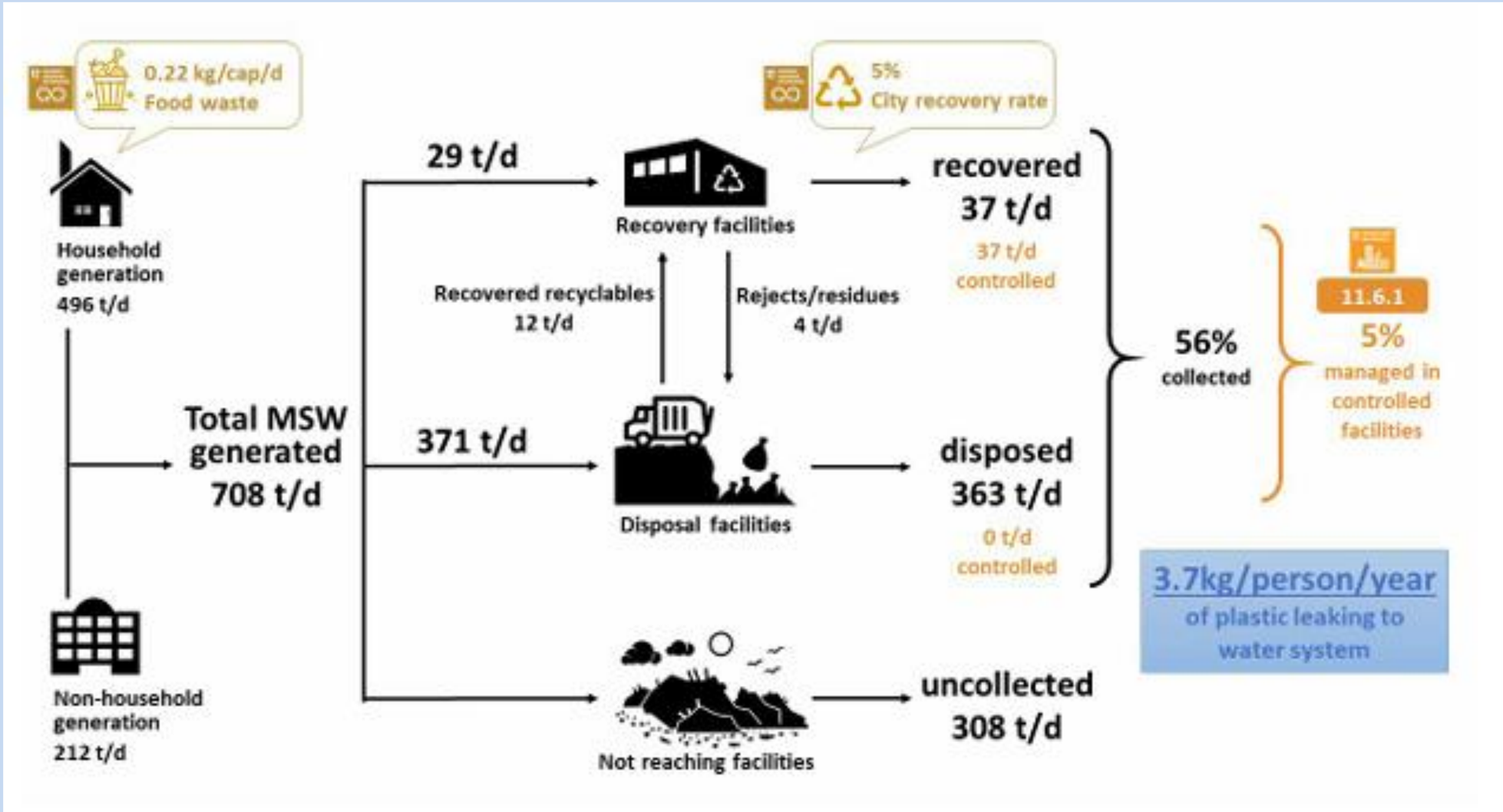


Important waste streams to be considered

- **Household waste** (recyclable waste, residual waste, and hazardous waste)
- **Non-Household waste**: commercial waste, institutional waste, waste from markets, responsibility lies with generator
- **Construction and Demolition** (C&D) Waste
- **Industrial waste**: Hazardous waste and non-hazardous waste (no municipal waste)
- **Hazardous Waste** (Industrial, Healthcare and Laboratory, and C&D)

Defining the Baseline

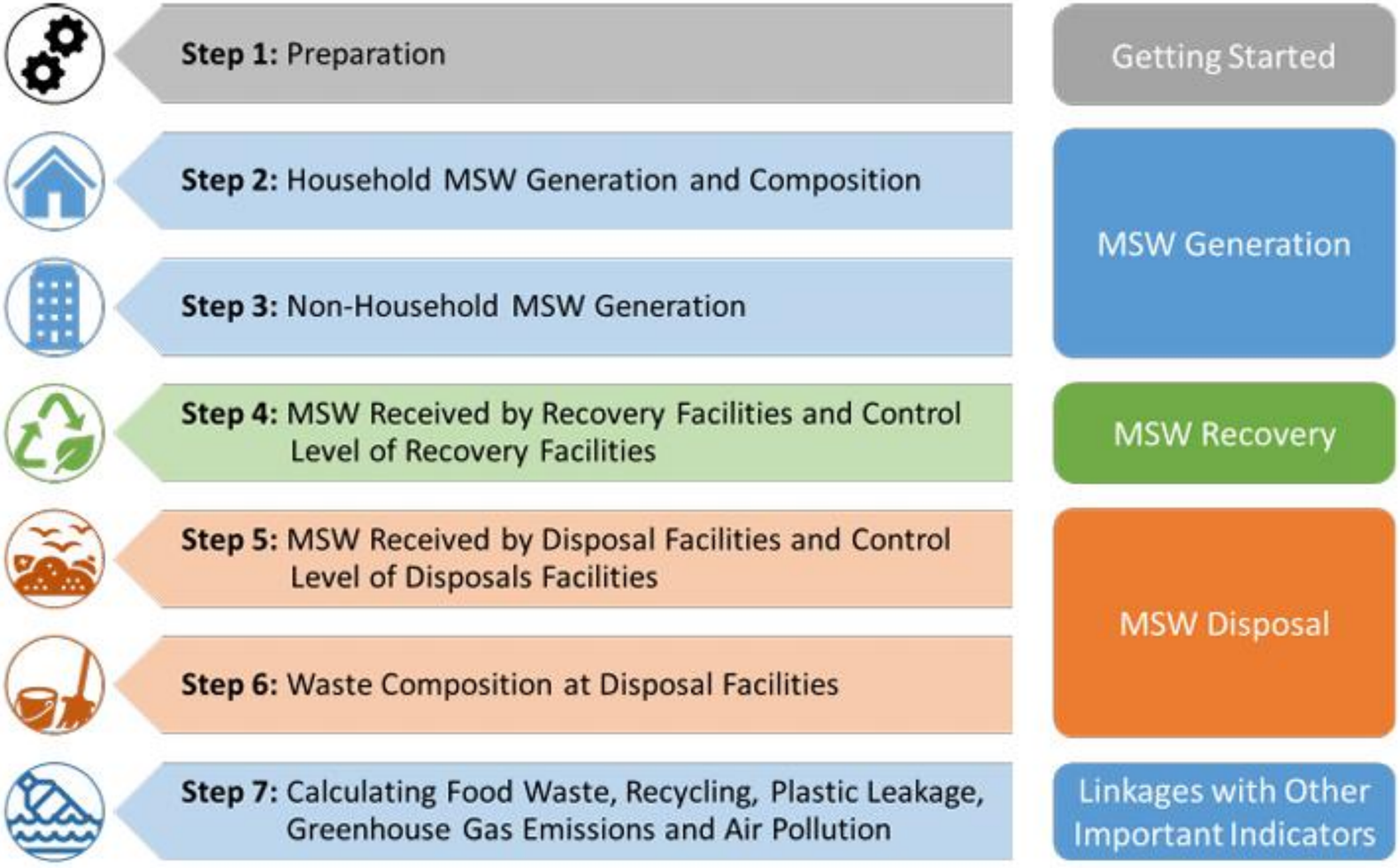
Example Waste Flow Diagram for Mombasa, Kenya:



Defining the Baseline

Waste Characterization Study:

Main steps are the following according to the UN HABITAT: WASTE WISE CITIES TOOL

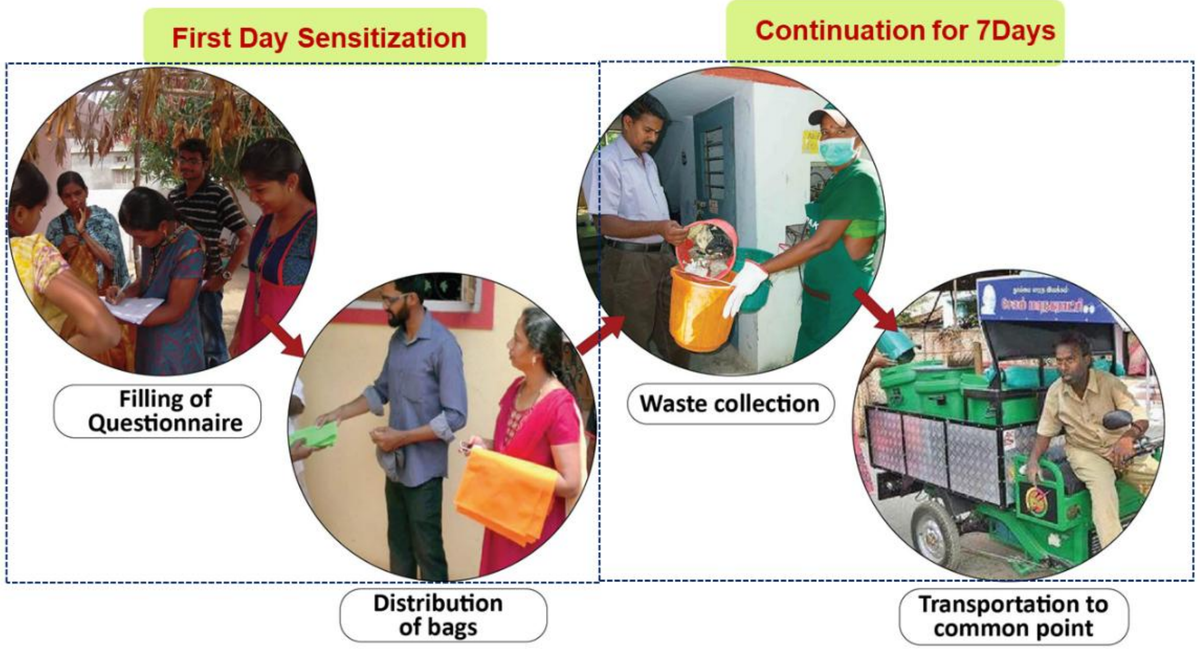


Important aspects to be considered for Waste Characterization Study

- **Representative Study**

  Methodology (number of samples per residential and income patterns)

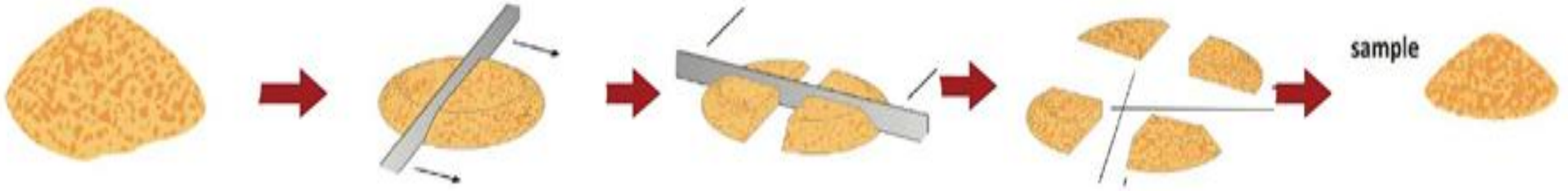
- Sampling over 7+1 days to capture the **waste generation pattern** over a week with a test-run .
- Sampling should ideally reflect **seasonal variations**
- Training of team and supervision to follow a **strict protocol** for taking samples, analyzing and recording the results.



Defining the Baseline

Important aspects to be considered for Waste Characterization Study:

- Waste sample to be taken from households or collection trucks
- Sample size needs to be reduced to suitable quantity by quartering method
- Density measured by weighing waste in defined bins
- Samples taken for further analysis (calorific values, ash content, humidity)



Example Waste Survey

Waste Characterization Study: Case Study Guinea Conacry 2025

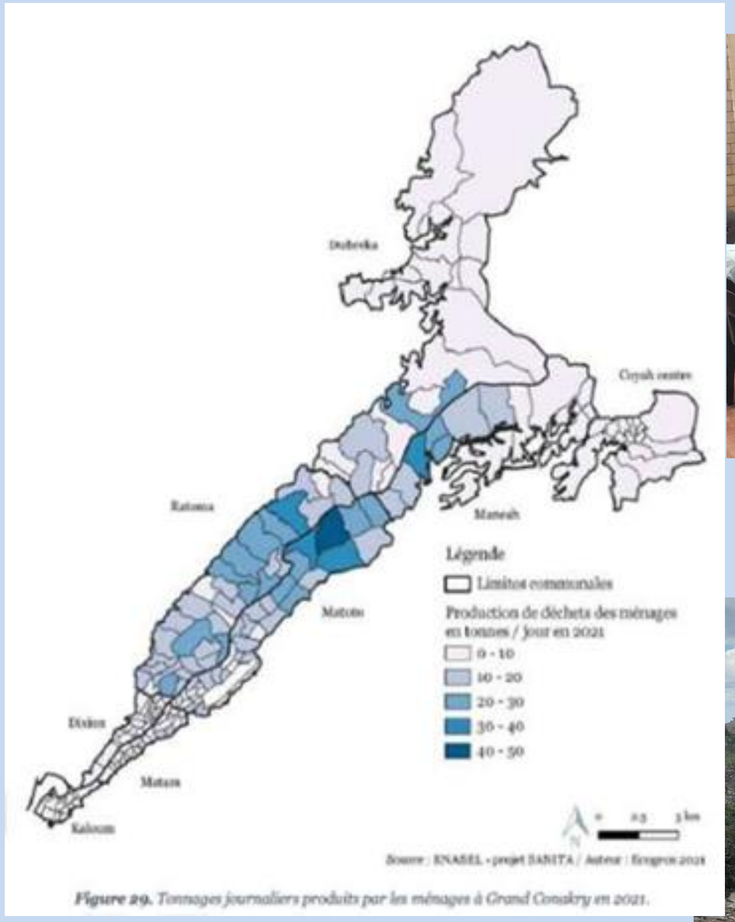
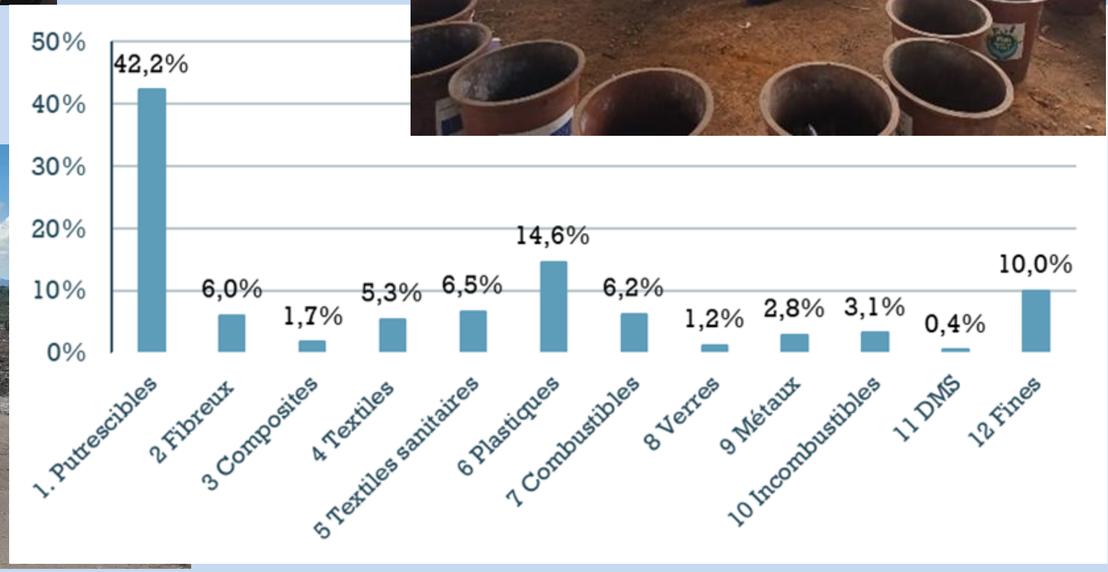


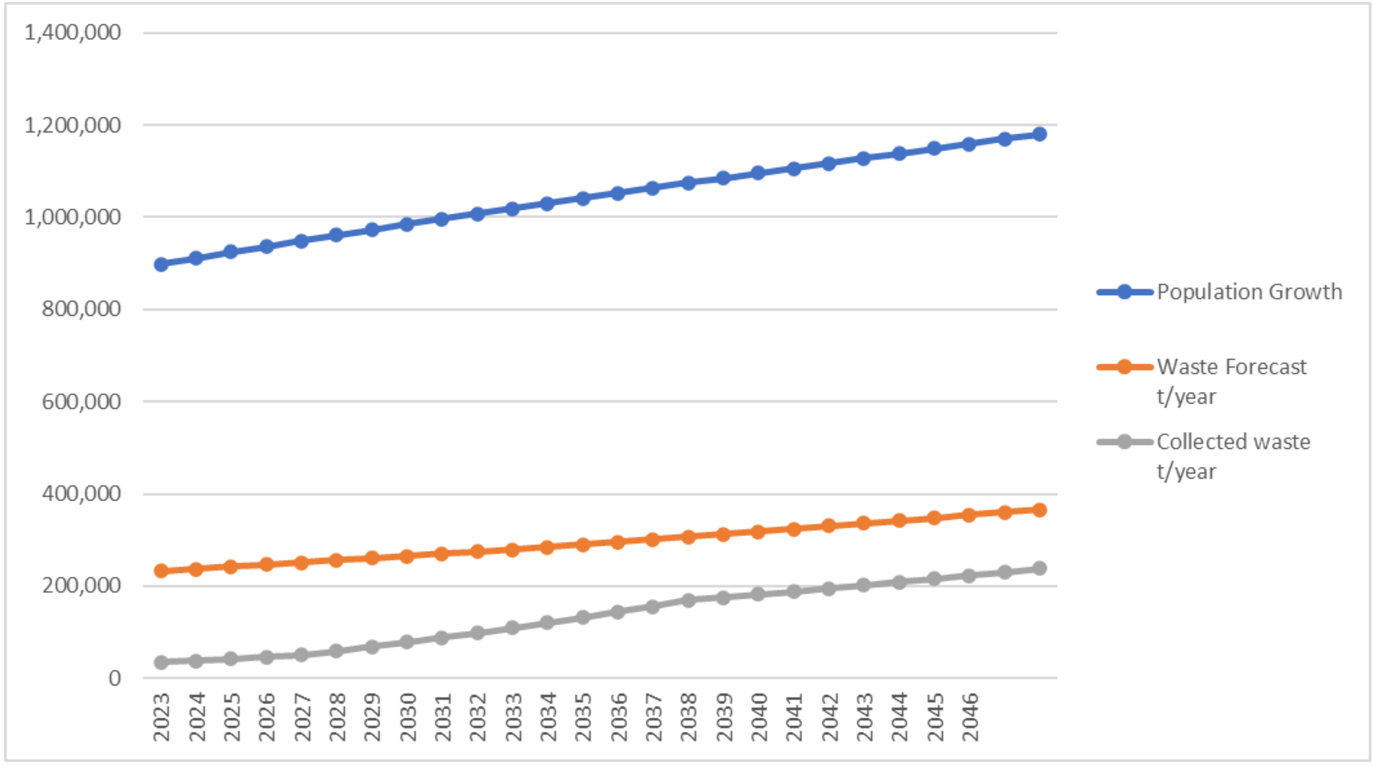
Figure 29. Tonnages journaliers produits par les ménages à Grand Conakry en 2021.



Important Results of Baseline Assessment

- Predicting future waste growth and quantity development over 20 years based on
  - estimation of population figures and its future projection
  - the economic development of the city (economic growth, consumption patterns)
  - the waste collection efficiency and recovery impact

- Understanding shortfalls and constraints
  - Identifying gaps and bottlenecks
  - Determining needs for improvement
  - Focus of strategic planning



Key message:

A thorough baseline analysis is essential to identify gaps and opportunities and define background for any further design of ISWM elements

Question

What do you think are the most important outcomes of a waste characterization study?

A. Recycling potential

B. Organic waste stream for further biological treatment

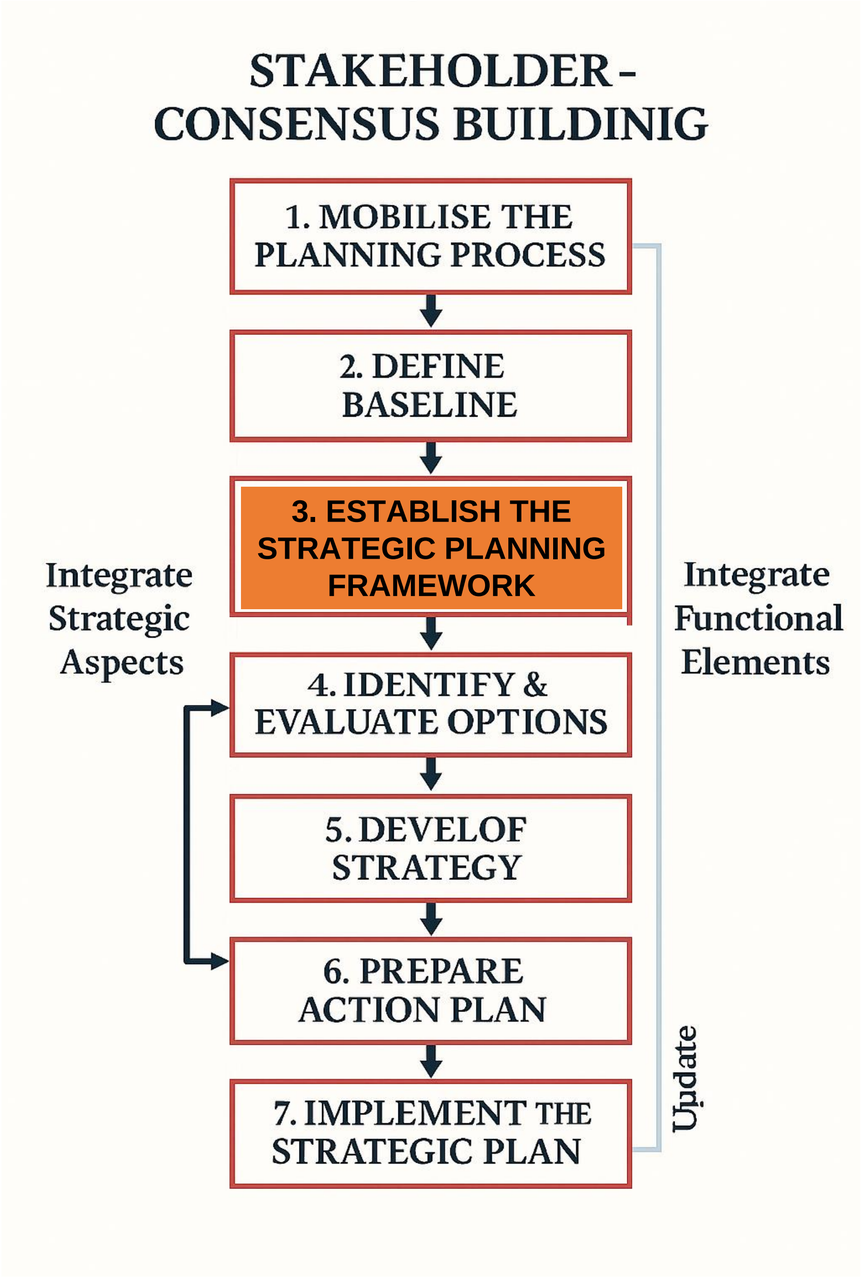
C. Residual waste for proposal

D. Fines from unpaved areas

Step 3:

Establish Strategic Planning Framework

- Period 1-2 months
- Stakeholders:
  - The SWM department (or equivalent)
  - Steering Group Members
  - Working Group Members
  - Facilitators/Consultants



Establishing the strategic planning framework

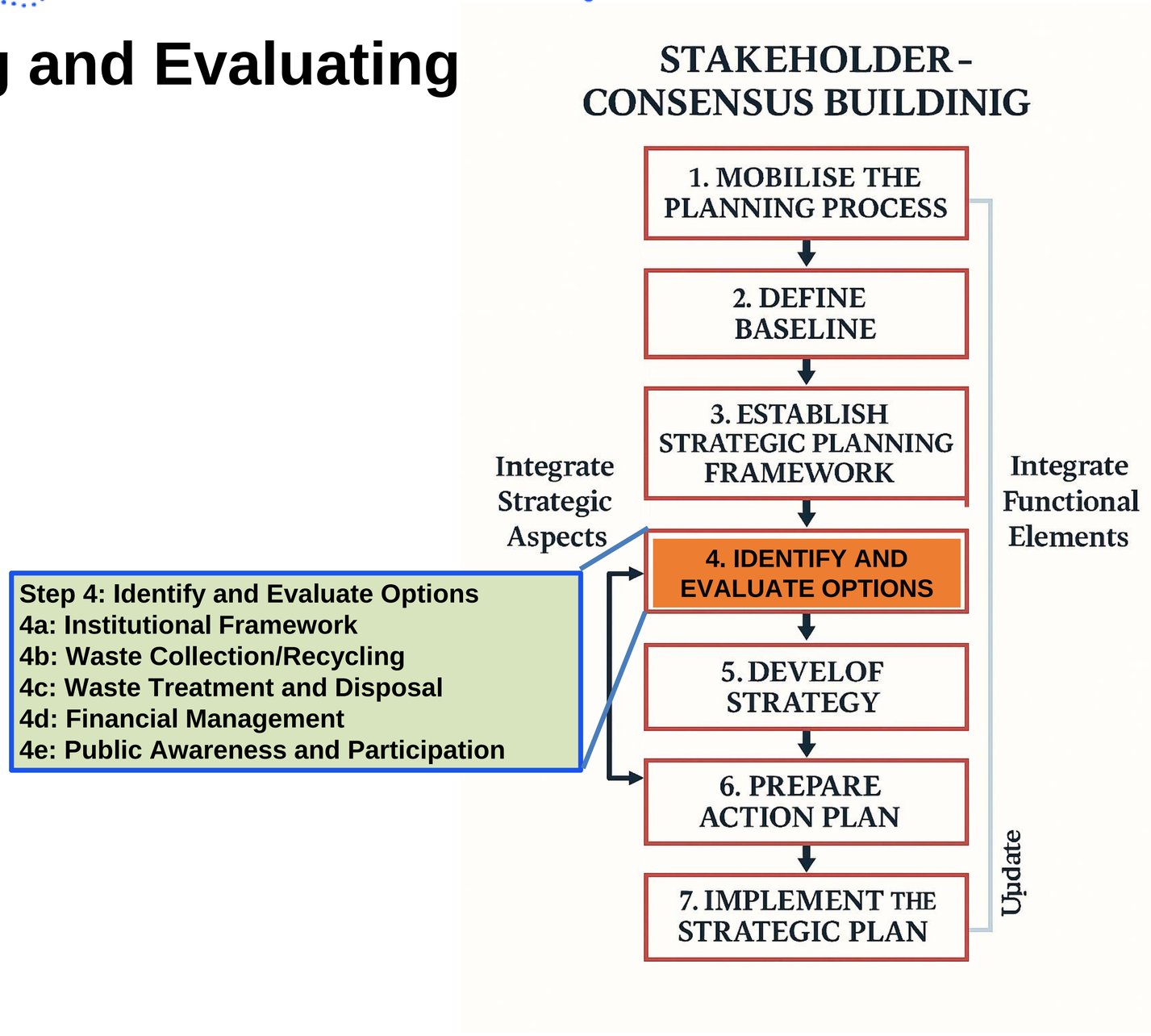
The following activities are relevant :

- **Inception Workshop:** key stakeholders to discuss key issues and establish the Strategic Planning framework.
- **Strategic Vision:** Principle of the Strategic MSWM Plan
- **Status of the Strategic MSWM Plan:** Integration with other development plans for the municipality and reflect the requirements of any national policy or legislation.
- Defining the **Scope of the Plan**:
  - Selecting the Planning Area and Period
  - Selecting Waste Types
  - Defining Service Levels
- Setting **Objectives and Targets**: Ensuring a shared understanding of the goals of the Strategic MSWM Plan

Step 4. Identifying and Evaluating Options

Core of the planning process:

- Period 3-6 months
- Stakeholders:
  - The SWM department (or equivalent)
  - Steering Group Members
  - Working Group Members
  - Facilitators/Consultants



Identifying and Evaluating Options

Step 4A Institutional Framework

- Effective organisation and management to sustain a proper SWM system.
- Institutional responsibilities have to be clearly defined
- Institutions have to be sufficiently resourced and accountable for their performance
- Tasks include:
  - Legal and regulatory framework
  - Inter and intra-municipal cooperation
  - Options for developing institutions
  - Strengthening management; and
  - Opportunities for private-sector participation

Institutional Situation in SWM - Case Malawi/Blantyre - Rustenburg/South Africa

1. Based on the low institutional Capacity and Organizational framework the most recommended option for **Blantyre** has been a
   - Defragmentation of the responsibilities from all departments to the Cleansing Section and a
   - Stronger Independence of the Cleansing Section, especially regarding financial management

     ⇒ ***City Council has approved the defragmentation of responsibilities but declined the stronger independence as not wanting to lose control over revenues***

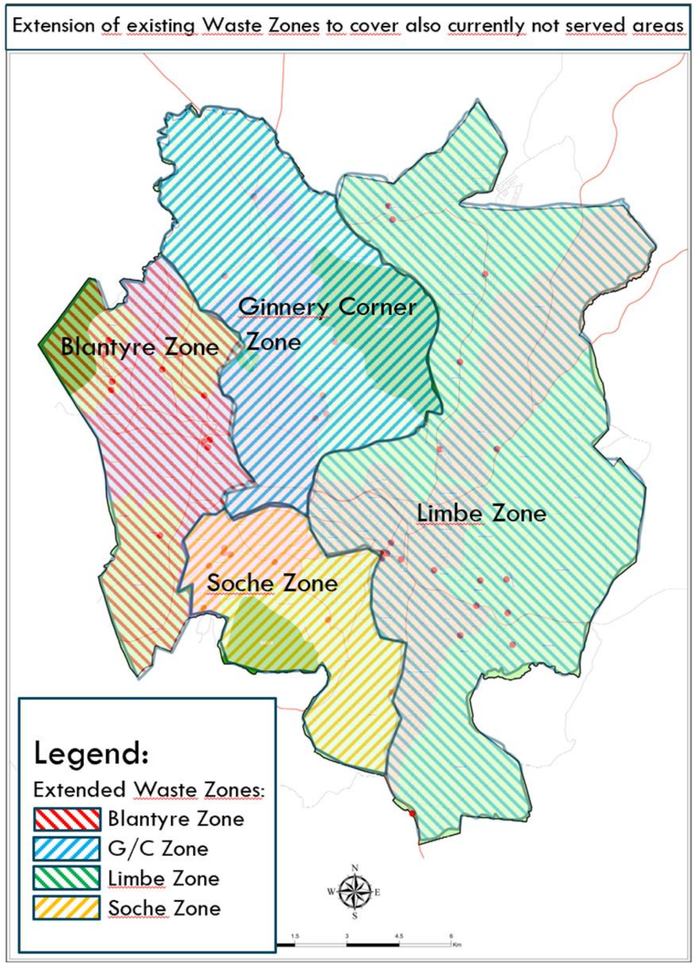
2. In **Rustenburg LM/South Africa** the experts have developed a "Lighthouse" model of institutional setup and Organisational Structure of the SWM Department

   ⇒ ***In the Mayoral Committee the other Departments of the city have opted against establishing a "shiny" well organized SWM Department as this would shed a shadow on their structure and performance. They preferred to continue with the low overall organisation instead of improving the structures gradually everywhere***

Private Sector Participation

- Private Sector important role in SWM
- In many countries of the Global South Private Waste Operators (PWO) are engaged in formal collection and transport of waste as well as recycling activities.
- Informal activities also exist.
- The level of engagement is very often not well regulated:

  - The city of Blantyre/Malawi is mainly served by the City Council waste department and increasingly also by PWO
  - To cover also currently unserved areas extension of Private Sector Participation
  - City has been divided in zones where SWM services will be tendered to qualified PWO according to KPI
  - Waste Department will manage PWO contracts and monitor performance



Identifying and Evaluating Options

Step 4B Waste Collection and Recycling

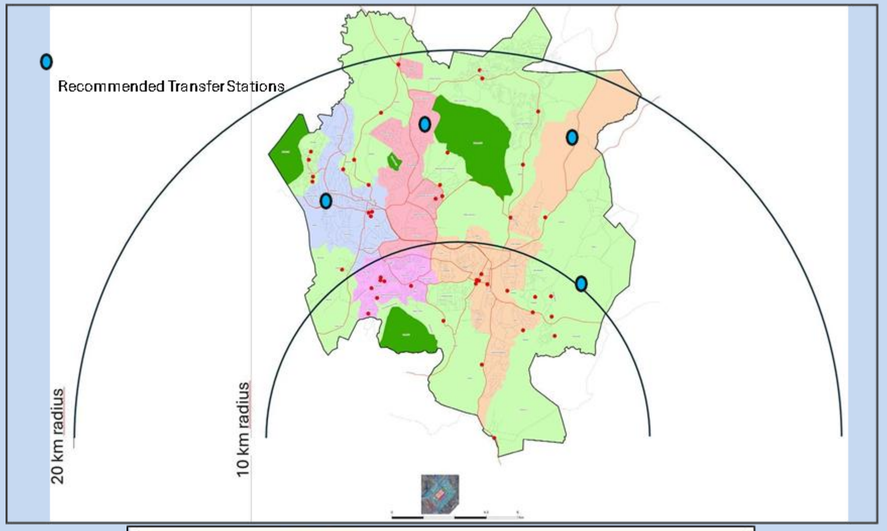
Assessment of options for collection, separation at source and recycling, long-distance transfer systems.

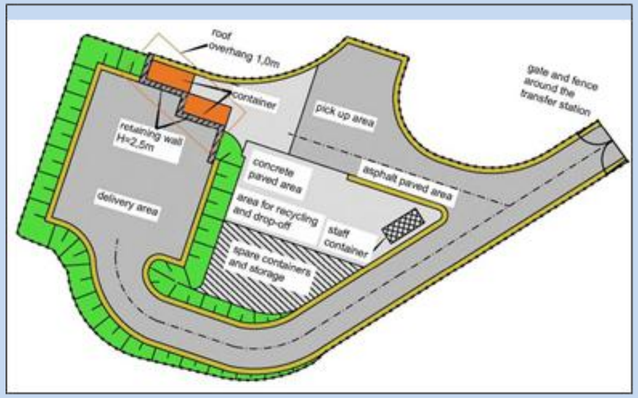
Aspects are:

- Current situation
- Common problems and constraints
- Key issues, gaps, opportunities
- Primary collection and waste storage
- Separation at source
- Secondary collection
- Selection of vehicles
- Long distance transfer system (waste transfer stations and long-distance transport)
- Vehicle maintenance
- Street sweeping and other cleansing services
- Micro-enterprise and community involvement

Improvement of SWM Logistic – Blantyre/Malawi

- Collection and Transport of MSW is mainly done in central, formal areas of the city
- Informal areas mostly not covered
- A new landfill with waste treatment plant will be established in the South of the city with increased transport routes
- Need for Transfer Stations to facilitate long distance transport to the new Waste Processing Area
- The technical analysis has developed plan for 4 transfer stations, operation shall be as simple and efficient as possible



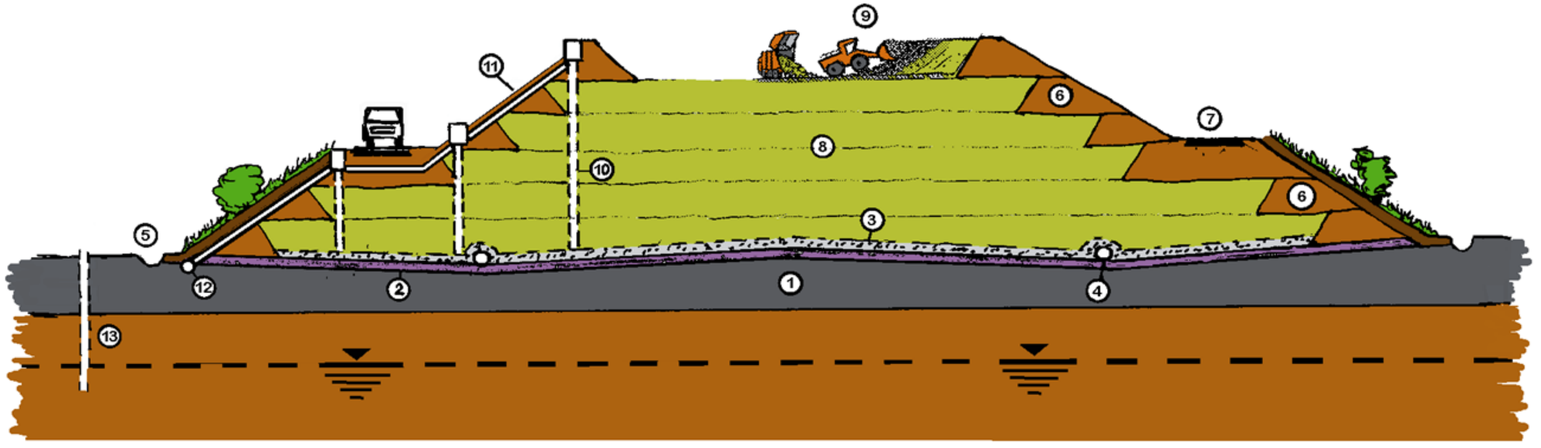


Identifying and Evaluating Options

Step 4C Waste Treatment and Disposal

For selection and assessment of options the following needs to be considered:

- Features of a sanitary landfill
- Improving existing landfills
- Capacity planning for new landfill
- Selecting a landfill site
- Environmental Impact Assessment
- Waste treatment technologies (mechanical, biological and thermal treatment processes) upfront landfilling
- Key strategic issues
- CAPEX and OPEX



Identifying and Evaluating Options

Step 4D Financial Sustainability

Effective financial management is critical to sustainable development of ISWM. This includes development of

- Financial policy framework
- Economic analysis of technical options
- Financial assessment of the Strategic plan

Step 4E Public Awareness and Participation

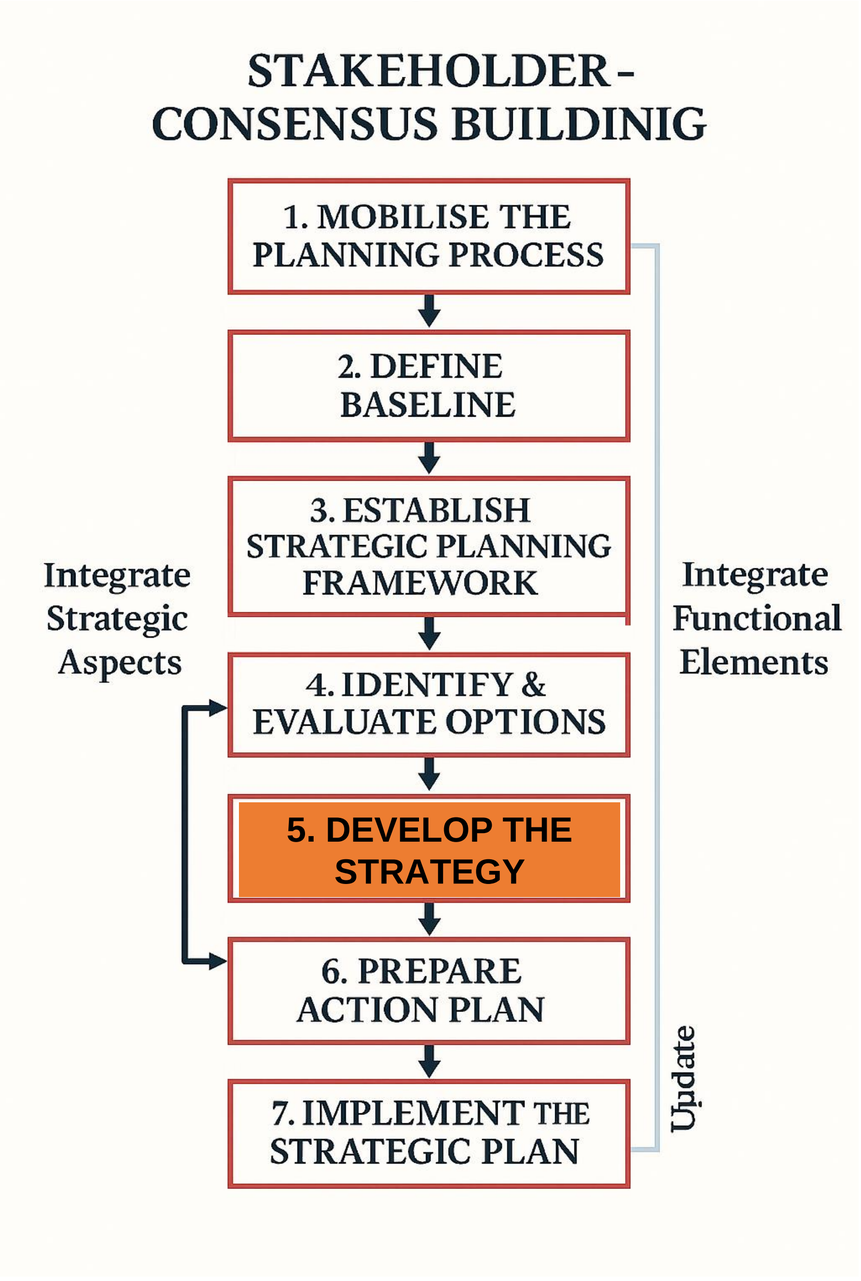
For improving levels of public awareness and participation in improving MSWM practices, the following is necessary:

- Define role of awareness and participation
- Conduct public awareness and education (PA&E)
- Identify proper tools for use in PA&E
- Define indicators for success of PA&E campaigns
- Consider case studies

Step 5:

Develop the Strategy

- Period 2-4 months
- Stakeholders:
  - The SWM department (or equivalent)
  - Municipal Planners
  - Steering Group Members
  - Working Group Members
  - Facilitators/Consultants



Developing the Strategy

The ISWM Strategy addresses key SWM issues in the local context. It involves an initial evaluation of the options identified and assessed in Step 4.

The output is a Strategy which has been agreed by all key stakeholders and can act as a ‘framework’ for **preparation of the Action Plan.**

Aspects to be addressed include:

- Nature of the strategy
- Building consensus and ownership
- Defining the Strategy
- Preparing and finalising the Strategy

Key Elements of the ISWM Strategy (Rustenburg South Africa)

Key Issues of Current Waste Management System	Recommendations for Concept Development for the Integrated Waste Management Plan
Institutional/ organisational set-up (RLM WMU)	
Governance and administrative practices	Restructuring and re-organisation if the RLM WMU towards a ring-fenced business unit Implementation of HR Strategy
Management optimisation practices	
Operational optimisation practices	
Skills development and capacity building	
Performance management and monitoring	
Waste collection	
General challenges in service provision (especially for services provided by the RLM WMU itself)	WMU for the short-term to continue to provide waste collection services in Rustenburg Town
	Assessment of the full spectrum of factors impacting and influencing internal service delivery vs. outsourced service delivery
Different responsibilities and actors in different collection areas	Rendering of services by RLM for all areas
Street cleaning	
Services rely on EPWP and CWP workers (administrational efforts)	Street sweeping in CBD shall be done through cooperatives consisting of EPWP workers
	Areas outside Rustenburg Town shall be done by CWP workers or through cooperatives

Key Issues of Current Waste Management System	Recommendations for Concept Development for the Integrated Waste Management Plan
Waste transfer and transport	
Cost coverage for transfer and transport	Discuss with Lonmin, whether they can include the operation of Marikana Refuse Transfer Station in their SLP
	Operation of Marikana Refuse Transfer Station as a pilot project
Organisation of waste collection, transfer and transport (need for additional transfer stations?)	Further decisions to be based on experience from pilot facility in Marikana and financial situation of the RLM
Options for private deliveries	Drop-off point at the RLM waste depot shall be closed as soon as Waterval Landfill is operational
	New drop-off point at waste depot only to be implemented, if respective budget is available
	If possible, drop-off points shall be available for public deliveries, but shall be run by the private sector/ cooperatives
Recycling and waste treatment	
25% of recyclables to be diverted from landfill sites through support of recycling initiatives	To be facilitated by the municipality but to be driven by private sector
	Follow-up on grant funding options for establishing of MRF at Waterval Landfill
	Investigation of possibilities for cooperation with the private sector for collection of recyclables
High amount of organic waste (garden/ green waste and organic fraction of household waste)	Establishing of green waste composting at the Waterval Landfill
	Green waste for composting shall directly be delivered to the Waterval Landfill or, if available, to drop-off points (if there is private engagement)

Key Issues of Current Waste Management System	Recommendations for Concept Development for the Integrated Waste Management Plan
Disposal	
Waste disposal on different landfills (Townlands/ Waterval Landfill and Impala Landfill)	Disposal at Impala landfill shall be continued for waste collected in the RBA area; respective framework conditions have to be clarified with Impala Platinum Limited
Funding for construction of landfill cells 3 and 4 at Waterval Landfill	Assessment of funding options (MIG funding or municipal loan)
Funding for capping of cells 1 and 2 at Waterval Landfill	
Funding for landfill closure and rehabilitation (Townlands Landfill, communal landfill sites and old borrow pits)	Assessment of different options for financing of landfill closure and rehabilitation for communal landfill sites and borrow pits (increased tariffs, availability of funds, willingness of mines to finance rehabilitation as part of SLP)
Financing	
Reduction of current costs	Reduction of labour costs
	Focussing on core functions and outsourcing of other functions
	Moratorium on new appointments (especially re lower level positions)
Securing of budget for additional expenditures (Waterval operation, new cells at Waterval Landfill, closure of landfills etc.)	Imposing gate fees at Waterval Landfill that goes into ring-fenced fund to be used for expenditures of the WMU
	Cooperation with producers/ producer organisations to fund awareness and education
	Assessment of possibilities for external funding
Implementation of cost covering tariffs (cost centres, ring fencing, gate fees)	Implementation of cost reflective tariffs that goes into ring-fenced fund to be used for expenditures of the WMU

Key message:

A comprehensive assessment of options for the various elements of ISWM is essential for identification of the most cost-effective implementation of a locally adapted, long-term ISWM solution

Question

What do you think are the most expensive elements of ISWM?

A. Collection and transport?

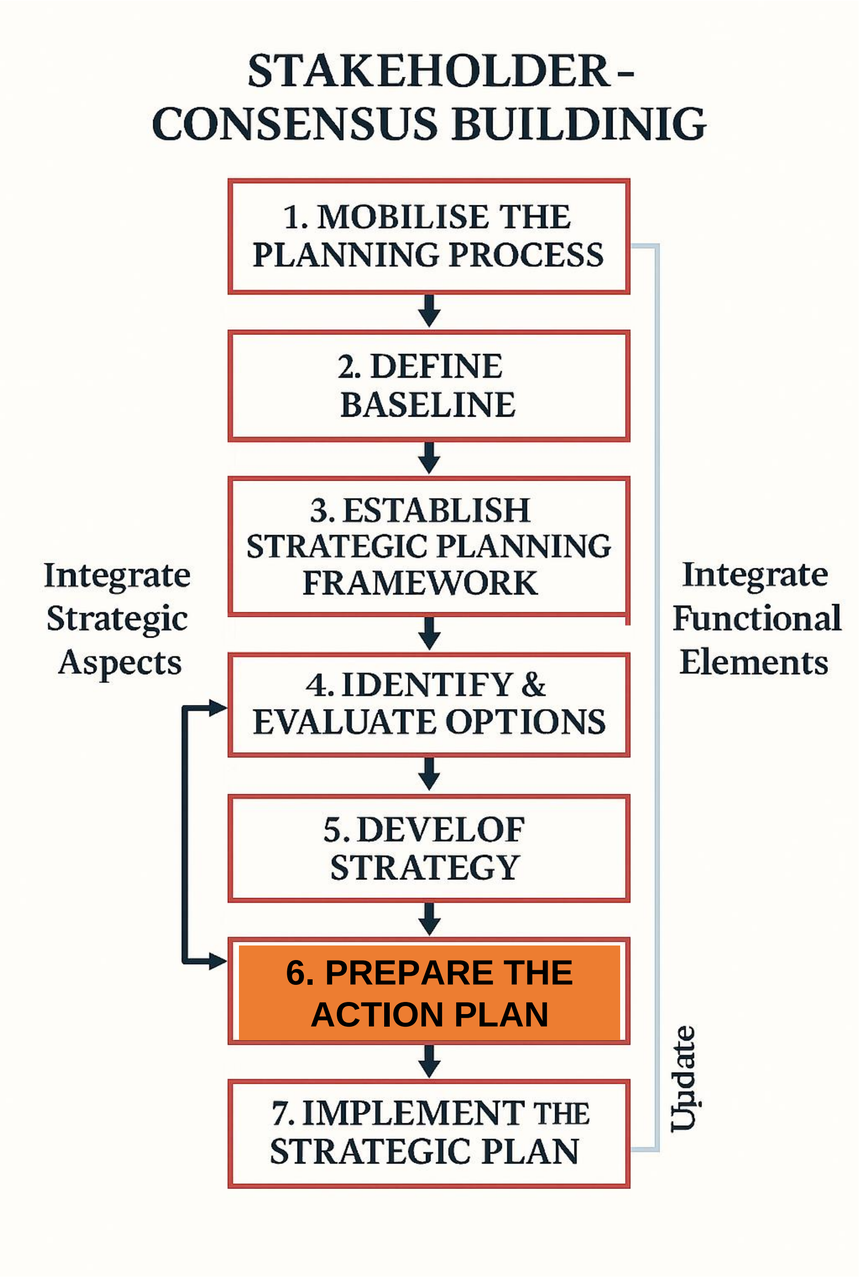
B. Treatment (composting and sorting) ?

C. Landfill?

Step 6:

Prepare the Action Plan

- Period 2-4 months
- Stakeholders:
  - The SWM department (or equivalent)
  - Municipal Planners
  - Steering Group Members
  - Working Group Members
  - Facilitators/Consultants



Preparing the Action Plan

The **Action Plan** is required to turn the **Strategy into practical reality.** Aspects to be covered include:

- Nature of the Action Plan
- Pre-feasibility studies
- Preparing an Immediate Action Plan (5 years)
- Preparing an Investment Plan
- Gaining formal approval

Critical issue to be considered:

- securing political approval for the adoption of the actions,
- securing funding and budgets for implementation of the Strategic MSWM Plan

The **outputs** will be a

- Plan of immediate measures
- a timewise Implementation Plan and
- an Investment Plan,

which combined with the Strategy will form the **Strategic MSWM Plan**.

Preparing the Action Plan – Case Study Trabzon/Rize Turkey

Strategy was based upon the development of a **single landfill site serving both Trabzon and Rize provinces with a transfer station at both of the cities**. The planning period covered 10 years from 1997 to 2007.

The **key components of the Action Plan** can be summarized as follows:

- Development of institutional systems for control and management of the SWM measures
- Development of a new regional sanitary landfill for a ten-year planning period;
- Transfer facilities and bulk transportation for the 2 provinces
- Pilot composting scheme to test composting and minimise the demand for sanitary landfill facilities;
- Closure and remediation of existing dump sites
- Improvements of collection systems and support facilities:

The implementation of the strategy also had to be coordinated with a separate Action Plan to implement the National Solid Waste Management Strategy for Turkey.

Source: adapted from ERM and TÇT (1997). Solid Waste Management Planning and Feasibility Study for Trabzon and Rize Provinces. For GEF, the World Bank and the Turkish

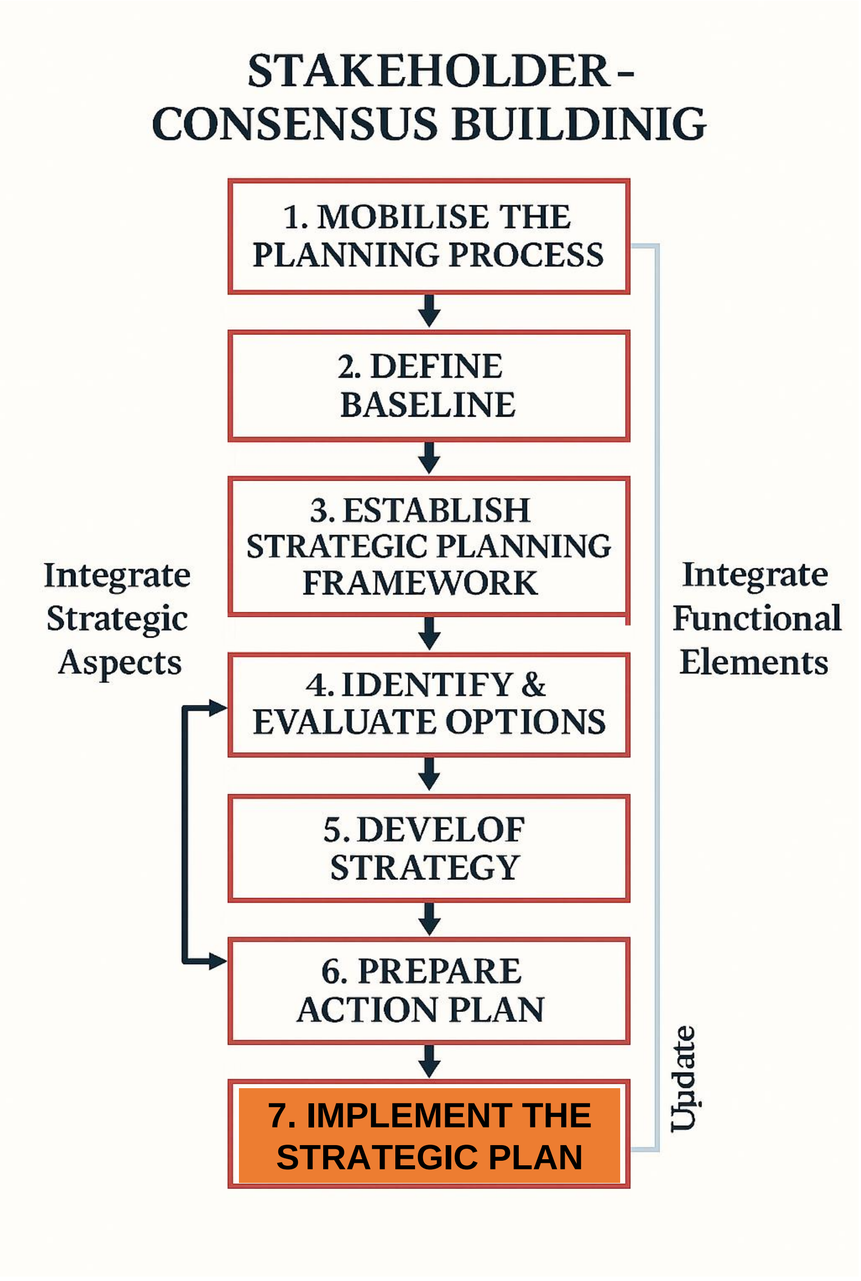
Investment Plan – Case Study Albania SWM Master Plan

Waste Zone	Phase 1	Phase 2	Phase 3	Total
WZ Berat	5,497,000	7,608,000	6,871,000	**19,976,000**
Regional investment costs	*4,073,000*	*5,067,000*	*2,131,000*	*11,271,000*
Local investment costs	*1,424,000*	*2,541,000*	*4,740,000*	*8,705,000*
WZ Dibër	1,773,000	3,012,000	1,910,000	**6,695,000**
Regional investment costs	*1,000,000*		*421,000*	*1,421,000*
Local investment costs	*773,000*	*3,012,000*	*1,489,000*	*5,274,000*
WZ Fier	32,303,000	8,933,000	15,128,000	**56,364,000**
Regional investment costs	*29,312,000*	*4,567,000*	*4,968,000*	*38,847,000*
Local investment costs	*2,991,000*	*4,366,000*	*10,160,000*	*17,517,000*
WZ Elbasan	3,587,000	6,698,000	10,730,000	**21,015,000**
Regional investment costs	*800,000*	*4,342,000*	*4,732,000*	*9,874,000*
Local investment costs	*2,787,000*	*2,356,000*	*5,998,000*	*11,141,000*
WZ Korçë	4,923,000	20,500,000	6,870,000	**32,293,000**
Regional investment costs		*14,477,000*	*3,577,000*	*18,054,000*
Local investment costs	*4,923,000*	*6,023,000*	*3,293,000*	*14,239,000*
WZ Kukës	1,354,000	2,081,000	1,334,000	**4,769,000**
Regional investment costs	*750,000*		*288,000*	*1,038,000*
Local investment costs	*604,000*	*2,081,000*	*1,046,000*	*3,731,000*
WZ Shkodër-Lezhë	9,890,400	27,674,000	16,413,000	**53,977,400**
Regional investment costs	*4,266,400*	*20,327,000*	*5,873,000*	*30,466,400*
Local investment costs	*5,624,000*	*7,347,000*	*10,540,000*	*23,511,000*
WZ Tiranë-Durrës*	140,622,900	25,101,000	35,153,000	**200,876,900**
Regional investment costs	*101,829,900*			*101,829,900*
Local investment costs	*38,793,000*	*25,101,000*	*35,153,000*	*99,047,000*
WZ Vlorë North	16,200,000	12,101,000	6,966,000	**35,267,000**
Regional investment costs	*11,000,000*	*7,373,000*	*3,456,000*	*21,829,000*
Local investment costs	*5,200,000*	*4,728,000*	*3,510,000*	*13,438,000*
WZ Vlorë South-Gjirokastër	5,232,400	13,047,000	7,046,000	**25,325,400**
Regional investment costs	*2,882,400*	*8,716,000*	*2,727,000*	*14,325,400*
Local investment costs	*2,350,000*	*4,331,000*	*4,319,000*	*11,000,000*
Dumpsite Risk Mitigation (all waste zones)	7,000,000			**7,000,000**
Albania	228,383,000	126,755,000	108,421,000	**463,559,000**
Regional investment costs	*162,914,000*	*64,869,000*	*28,173,000*	***255,956,000***
Local investment costs	*65,469,000*	*61,886,000*	*80,248,000*	***207,603,000***

Step 7:

Implementing the Strategic Plan

- Period: ongoing process
- Stakeholders:
  - The SWM department (or equivalent)
  - Steering Group Members
  - Working Group Members
  - Information system developer



Implementing the Strategic Plan

- Once Strategic planning for MSWM has been agreed it must be implemented.
- Four aspects should be addressed:
  - Waste Information System
  - Show early improvements on the ground
  - Performance monitoring
  - Revising and updating the plan

- Municipal authorities are often conceived as part of the problem in MSWM, as well as part of the solution. Participatory approach to establish credibility is important

- Low hanging fruits shall be implemented asap to raise the profile of waste management and demonstrate the commitment of the city council to improving its services.

Case study – Strategic Plan Rustenburg/South Africa

Project Activity	Responsibility			Implementation									
	RLM	WMU	Others	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Implementation of Institutional Set-up and Organisational Structure													
Institutional/ organisational set-up (RLM WMU)													
Restructuring and re-organisation of the RLM WMU towards a ring-fenced business unit	X	X											
Implementation of HR Strategy	X	X											
Financing													
Reduction of labour costs	X	X											
Focussing on core functions and outsourcing of other functions		X											
Moratorium on new appointments (especially re lower level positions)	X	X											
Imposing gate fees at Waterval Landfill going into ring-fenced fund of the WMU	X	X											
Cooperation with producers/ producer organisations to fund awareness and education		X	X										
Assessment of possibilities for external funding		X											
Implementation of cost reflective tariffs going into ring-fenced fund of the WMU	X	X											
Improvement of the Technical Operation and Management of SWM-Services													
Waste collection													
WMU continues to provide waste collection services in Rustenburg Town		X											
Assessment of internal service delivery vs. outsourced service delivery	X	X	X										
Rendering of services by RLM for all areas		X											
Street cleaning													
Street sweeping in CBD through cooperatives consisting of EPWP workers		X	X										
Areas outside Rustenburg Town by CWP workers or through cooperatives		X	X										

Case study – Strategic Plan Rustenburg/South Africa

Waste transfer and transport				
Discussion with Lonmin re inclusion of operation of Marikana Refuse Transfer Station in SLP		X	X	
Operation of Marikana Refuse Transfer Station as a pilot project		X		
Further decisions based on experience from pilot facility in Marikana and financial situation	X	X		
Closure of waste drop-off point at RLM waste depot		X		
Implement new drop-off point at waste depot if budget is available		X		
Support implementation of drop-off points run by the private sector or cooperatives				
Recycling and waste treatment				
Facilitate recycling initiatives driven by the private sector		X	X	
Follow-up on grant funding options for establishing of Treatment Plant at Waterval Landfill		X		
Investigation of possibilities for cooperation with the private sector for collection of recyclables		X	X	
Establishing of green waste composting at the Waterval Landfill		X		
establishment of drop-off points for garden waste, if there is private engagement		X	X	
Disposal				
Clarification of framework conditions for continuation of disposal at Impala Landfill		X	X	
Assessment of funding options for construction of new cells at Waterval Landfill		X		
Assessment of options for financing of landfill closure and rehabilitation		X		

Main activity period

Secondary activity period

Implementing the Strategic Plan – Focus Monitoring

Performance Monitoring of a municipal SWM system has a number of goals:

1. Observation of the SWM service to maintain or improve service quality;
2. Encouragement of the efficient use of available resources;
3. Enforcement of accountability of service providers;
4. Comparison and assessment of service provision against the targets in MSWM strategy plan;
5. Provision of information to take policy and management decisions about the service
6. Comparison of service provision between (sub-)municipalities
7. Timely Comparison of the quality of service provision in a municipality
8. Monitoring and evaluation of the quality of service provision by private sector

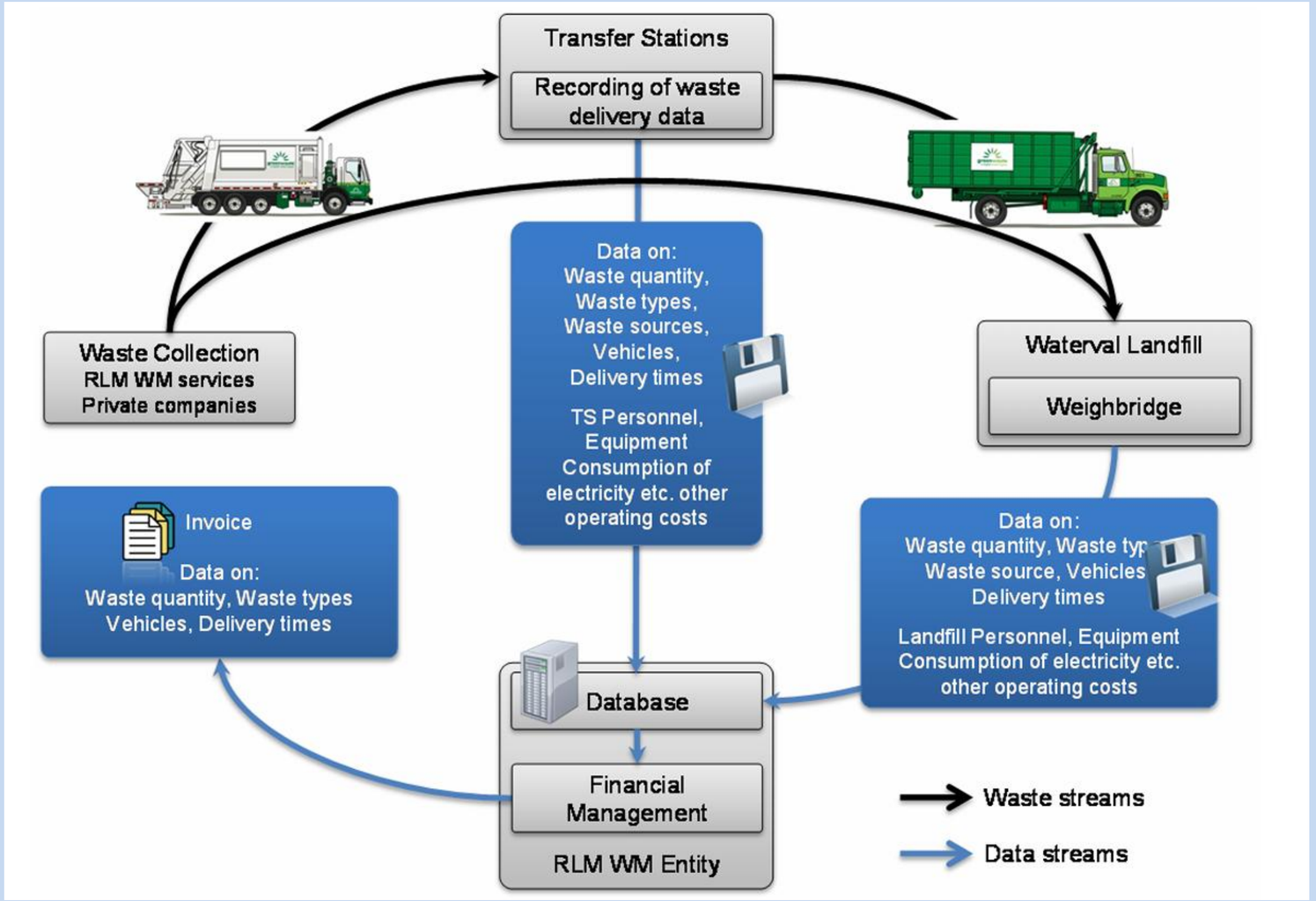
Implementing the Strategic Plan – Focus WIS

A Waste Information System is a data management instrument for all SWM information:

Benefits include:

- Resources can be costed and matched against outputs delivered
- Annual budget proposals can be made based on actual needs, considering changes in service characteristics, costs and revenues
- Revenue requirements can be better established and politically and socially acceptable charging schemes be developed
- Revenue collections can be improved through better mobilisation of resources;
- Financial performance can be monitored against objectives
- Investment planning and decision-making procedures can be improved; and
- Information about cost and cost effectiveness of service provision allow the MSWM department to justify future investment needs

Case study - Waste Information System



Implementing the Strategic Plan

As the final step the implementation phase begins

KEY Step: The implementation phase will involve

- Procuring a team to design operations and construction and also supervision consultant
- Preparing designs and bills of quantities and cost estimates
- Preparing bid documents,
- Tendering and contracting, and
- Supervision of construction.

Who will do it? 80/90% of cases an external firm in coordination with municipal tech team

Certain management arrangements need to be in place to ensure successful implementation:

- Continuation of the project coordinator’s involvement
- Continuous proactive approach of the stakeholder group
- Implement progress review process
- Communication of results to the community, interested parties and to the public communication measures
- Monitor performance

Question 1:

What tools or technologies could support the implementation process?

A. Digital platforms
B. GIS
C. Waste Information Systems
D. Awareness Raising and Communication Campaigns

Question 2:

What activities are important after the Planning Framework has been adopted?

A. Monitoring and evaluation
B. Regular updating
C. Secure funding for future measures

2.4 Results of SWM Planning Process

Benefits of the Planning Process

Environmental benefits

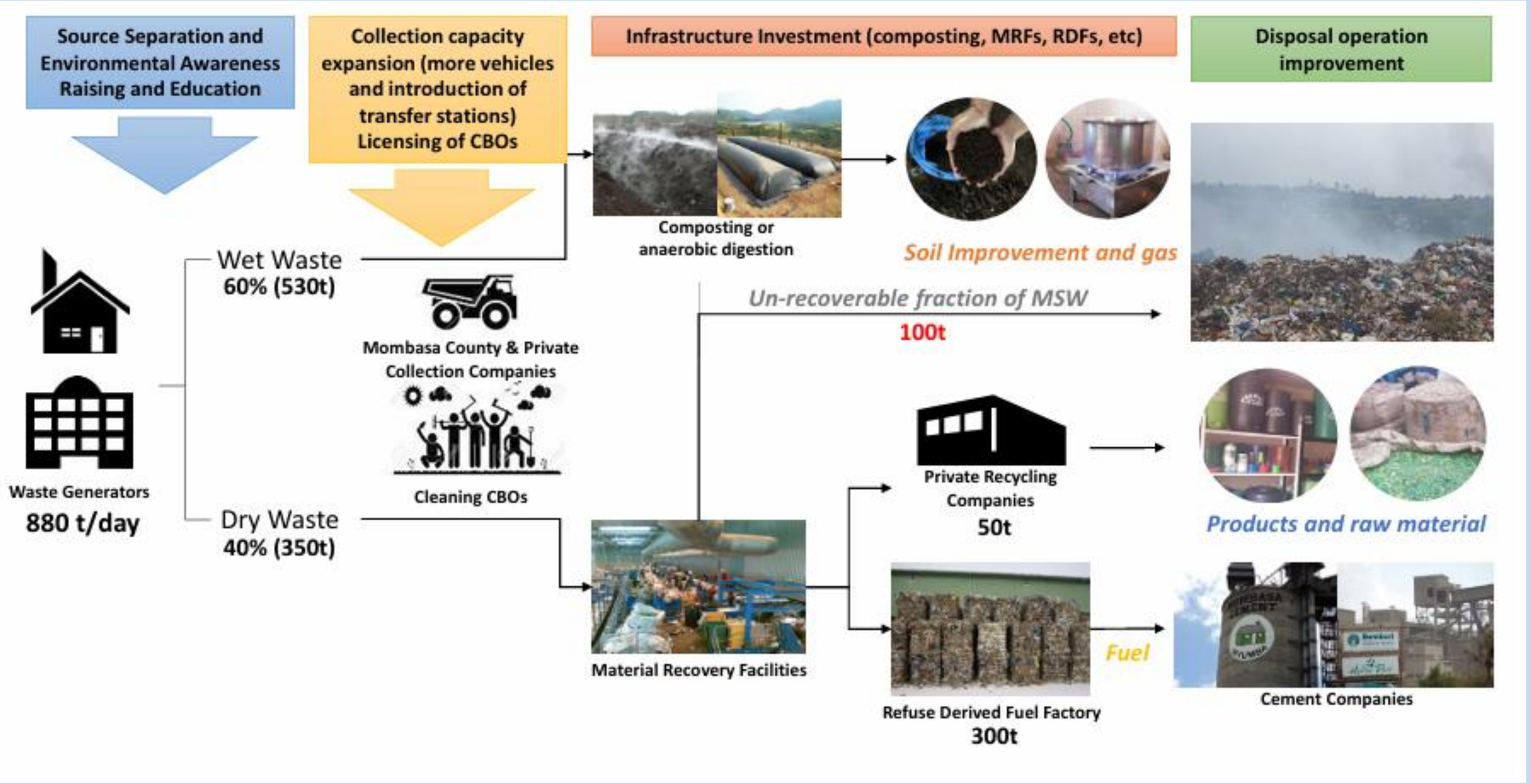
- Reduces pollution
- Mitigates greenhouse gases
- Conserves natural resources
- Promotes a circular economy:

Economic, operational and institutional benefits

- Reduces costs
- Boosts efficiency
- Creates energy recovery opportunities
- Provides cost efficient services
- Strengthens municipal capacities

Image: Sustainable Global Resources Ltd. Recycling Council of Ontario

Result: Case study - Future Waste Flow Mombasa, Kenya



Concluding Remarks

- **Strategic planning** for waste management is **indispensable to manage complex ISWM/CE processes**
- The **Planning Process** needs to be **prepared well** to have **expertise, political support and financing** of the activities available
- A **participative approach,** accompanied by **awareness raising and PR campaigns is important for success**
- It is a **cyclic process** and needs to be **monitored and improved/updated**.
- The **development a strategic planning** document has to **consider the local context**, **proven technologies** and **cost-efficient service provision** to allow long-term **financially sustainable** operation.

Final question:

Key message:

As an important Success Factor for a cost effective ISWM System, development of a Planning Framework needs to consider all elements of the SWM value chain, CE principles and governance as well as financial challenges.

Question :

Would you see planning as an important element of ISWM projects?

Yes

Global Gateway

DG INTPA F.4
UDTF
Urban Development Technical Facility

Thank you!