Building Municipal Capacity for ISWM Planning

Results of a two year project applying the Strategic Planning Guide for Municipal Waste Management using the Integrated Sustainable Waste Management methodology

WASTE advisers on urban environment and development
The Netherlands
Verele de Vreede

Introduction

This paper will discuss the 2-year project Building Municipal Capacity for ISWM Planning (2001 – 2003) that was part of KAR Capacity Building programme funded by DFID UK. The project was lead by ERM UK. Partners were WASTE (Netherlands), ACEPESA (Costa Rica active in Honduras), Mythri (India) and CEK (Mali).

The paper will start with an overview of the waste and waste management problems occurring in cities worldwide. It will probably will be recognised by every local authority. Following is an explanation on the importance of planning within municipal waste management. It highlights the advantages of strategic planning and states the importance of this. A short description of the Strategic Planning Guide for Municipal Waste Management (*SPG*) and an explanation of the Integrated Sustainable Waste Management (ISWM) methodology is given as a reference to explain the context of the project "Building Municipal Capacity for ISWM Planning". Then the project is discussed highlighting the three project cities, Bamako (Mali) , Bangalore (India) and La Ceiba (Honduras). Finally the results and information products coming out of this experience are mentioned.

Waste problems

Waste is a big issue all over the world. It effects everybody. When asking inhabitants of a city, of a village all will complain about the lack or insufficient waste collection. Asking municipal workers they will complain about the illegal dumping, the impossibility of getting enough budget for the city, or about failing equipment. Asking waste collectors they will complain about the unwillingness to pay by their clients, the low prices of their collected goods.

What kind of problems do the municipalities encounter?

Solid waste management in cities is a key responsibility of the municipality. The problems related to solid waste management encountered can be listed in short:

- Quantities of waste are continuously increasing due to growing levels of affluence, greater industrialisation, and rapid urbanisation.
- The composition of waste in continuously changing, e.g. new waste fractions such as electronic waste enters the waste stream.
- Space is running out for landfills, due to pressures on the land costs of land is rising.
- The operational budget related to solid waste management often consumes a significant part of total municipal budget
- Only part of the inhabitants people receive services
- Existing service that have low standards & performance levels.
- Uncontrolled landfills can be potentially dangerous as slips and explosions can occur.

- Uncollected refuse that blocks drains and enables mosquitoes to breed in the standing water.
- Uncontrolled clinical wastes that creates serious health hazards.
- Lack of national legal and policy planning framework.

Looking more deeply into the problems it can be observed that municipal managers – especially in the South – face a lot of problems with regard to waste management. **System failures** include a lack of a comprehensive policy framework for waste management and a shortage of tools to analyse and improve efficiency, effectiveness and sustainability. A failure in **models** means that there is nowhere – including in the North – where a municipal manager can look and say "That system functions well and I could copy it."

Frequently quoted **practical problems** include **inadequate, poorly maintained** or **out of date equipment,** or **too little equipment or spare parts,** or **equipment that is inappropriate for local conditions**, all of which are exacerbated by the increases in population and of volume of waste generated per household. Other obstacles for waste management are connected to **under-functioning staff** that is not motivated or difficult to find because of low status, low salaries and difficult working circumstances.

Municipal managers in the South often mention **Financial** problems including imbalances between income and expenditure because of rising costs and inadequate revenues and mention inefficient waste processing facilities and increasing costs of transportation and disposal .
Most municipalities do not find it easy to cooperate or communicate with their own **citizens**, because of behaviour such as illegal dumping of waste; misuse or non-use of containers; damaging and stealing communal storage containers; and resistance to service charges lead authorities to believe that the citizens are part of the problem, rather than an ingredient of the solution. Municipal managers are also likely to have problems with **private enterprises**, both formal and informal.
Many municipalities are also unprepared to undertake the task of coordinating and monitoring their activities. The micro informal waste collection and recycling sector is difficult to reach and organise, but also essential for part of the waste handling.

Finally, there is tendency (in waste management, but also in other municipal functions) to move directly from problems to solutions, without an analysis of what is actually occurring. The most obvious answers are more money or more equipment, even when money and equipment are not the essence of the problem. As a result, money and equipment are used incorrectly, and at large expense, for the many problems that they cannot solve.

Importance of planning

To find a solution to these problems and to avoid the pitfall of investing in wrong solutions it is necessary to set up a plan that is most suitable for the municipality itself.

Benefits of Planning

Planning and more especially strategically planning has several benefits. By planning for municipal waste management a municipality can: ensure services, meet demand, identify and apply appropriate methods and technologies, be cost-effective, improve overall sustainability, allow improvement/extension of services, enable public health, safety and environmental benefits and anticipate future developments.

To be able to accomplish this it is necessary to look at waste management as a process and an integrated system

Integrated MSW Management

If municipal waste management is analysed in an integrated way three essential dimensions have to be taken into account.

1. Stakeholders, who are the actors and in what way are they involved in the waste sector?
2. Waste elements, what parts of the waste management system need to and can change?
3. Aspects, how can this change be achieved through regulation, education, new facilities etc.....?

An important factor is time, the integrated municipal waste management planning is not short term planning, it takes time to get to know the ins and outs of the three dimensions and to be able to have a good overview on the key-issues of your city. In addition, in time the three dimensions will alter and it is necessary to be able to respond to that accordingly in your waste management plan.

Importance of involving stakeholders

A stakeholder is a person or organisation that has a stake, an interest in an issue that in this case is waste management.

It is important to involve stakeholders as they have various interests and roles related to their local waste management system, but they can cooperate for a common interest. It is important to identify their *influence* (the extent to which stakeholders are able to persuade or coerce others into making certain decisions or following certain courses of action) and *importance* (the extent to which the problems, needs and interests of a particular stakeholder are a priority in a project or plan). These can vary per stakeholder and play an important role when looking for ways of cooperation between stakeholders for a common interest.

Among these, the municipality is a major and critical stakeholder, perhaps the most important one. In ISWM the municipality is more than just the manager and operator of waste management services; it has multiple roles as regulator, planner, facilitator and coordinator of multiple stakeholders. Overall legal responsibility for waste management in all areas of a city rests often with the municipality to ensure adequate coordination and quality control for the benefit of citizens.

Explanation of SPG

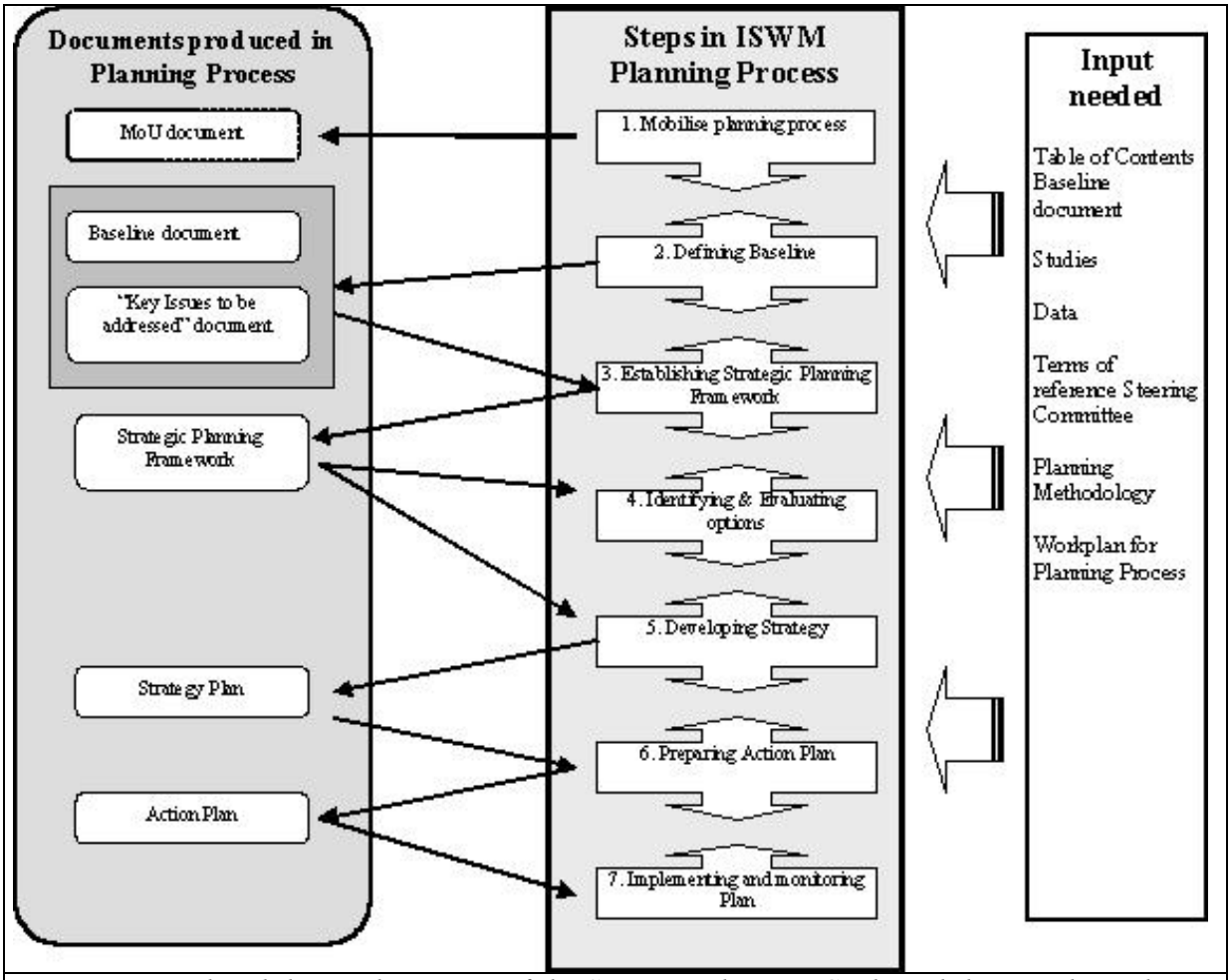
In 2000 the Strategic Planning Guide for Municipal Waste Management Planning (SPG) was published by the World Bank, designed to assist decision makers in low and middle income countries in the planning and implementation of Integrated Solid Waste Management (ISWM) Systems. The consultant Environmental Resources Management (ERM) in the United Kingdom was commissioned by the World Bank on behalf of the Collaborative Working Group (CWG) to develop this guide. The initiative was funded by the Swiss Development Co-orporation (SDC), DANIDA and DFID. It was published as a CD-rom. ERM has developed the definitive ‘how to do it’ guide on strategic planning for municipal solid waste management (MSWM) on behalf of the World Bank and other international organisations.

The SPG is an extensive document and three important parts can be identified: The Planning Guide, the Facilitators Guide and the Annexes.
The SPG describes the planning trajectory as a process, with the aim to get to an effective municipal waste management plan. For clarity sake the process has been cut up in so-called **seven steps**. Each step contains a series of activities and a set of expected results from these activities. By following the steps it is to be expected that the end result will be:

- That stakeholders have been identified and involved.
- A clear picture of the waste situation and the expected changes.
- A clear picture of the waste management situation.
- Knowledge on the pressing matters in waste and waste management e.g. hazardous waste problem, sanitary problem.
- A strategy for a municipal waste management plan.

It should be noted that the steps don't have to be taken in a chronologically order or that one step has to be finalised before the next step can be started.

In short the whole process of Strategic Planning is based on mobilising and organising stakeholders.The following schedule gives a list of the documents made during the process and in which relation they stand with the steps taken during the Strategic Planning Process.



Documents produced during the 7 steps of the Strategic Planning Guide and the way they relate to these steps.

Explanation of ISWM

The core concept of Integrated Sustainable Waste Management (ISWM) has been developed out of experience, to address certain common problems with municipal waste management in low-and middle-income countries in the South, and also in countries in transition. As in integrated Municipal Solid Waste Management (MSWM), ISWM recognises three important dimensions in waste management: (1) stakeholders, (2) waste system elements and (3) sustainability aspects. The waste management hierarchy – a guideline part of many national environmental laws and policies nowadays– is also a cornerstone of the ISWM approach.

ISWM: Analysis and understanding first, then problem-solving

The ISWM insight is that most waste management problems have to do with something other – or more – than money and equipment. Some problems have to do with the attitude and behaviour of citizens, waste management staff, private enterprises and waste pickers. Other problems are caused or made more serious by factors that are not technical or financial, but relate to managerial (in)capacities, the institutional framework, the environment, or the social or cultural context. In these cases, it is not money or equipment that provide solutions, but rather changes these social, institutional, legal, or political conditions.

The emphasis in ISWM is finding sustainable solutions in waste management. Sustainable in more ways than environmental. Sustainable also in the meaning of long-term solutions, generating an income that is more secure.

A model for Integrated Sustainable Waste Management was developed to show that all three dimensions and the factor time have to be taken into account to reach sustainability.

Model for Integrated Sustainable Waste Management

Explanation of the project: Building Municipal Capacity for ISWM planning.

As mentioned earlier, the project Building Municipal Capacity for ISWM Planning (2001 – 2003) was part of KAR Capacity Building programme, which was funded by DFID UK. The project was lead by ERM UK. Partners were WASTE (Netherlands), ACEPESA (Costa Rica active in Honduras), Mythri (India) and CEK (Mali). The three last organisations were the local coordinators in La Ceiba (Honduras), Bangalore (India) and Bamako (Mali).

Project Purpose

The purpose of this project was to explore the operationalisation and effectiveness of capacity building tools for strategic MSWM planning in assisting decision makers in low-income countries when implementing integrated SWM systems. The research focused on how planning tools, can be used in practice in a range of municipal settings to build the capacity of decision-makers, municipal officials and other stakeholder groups**.** The two main planning tools being considered were:

- *Strategic Planning Guide for MSWM (SPG)* realised by ERM in commission of the World Bank ; and
- *Integrated Sustainable Waste Management*: A Set of Five Tools for Decision Makers prepared by WASTE on behalf of the Netherlands Agency for International Cooperation

The Dutch NGO WASTE and the network of Southern organisations, SURCO were ERM's partners in this project. Project activities were undertaken in three cities: Bangalore in India; Bamako in Mali; and La Ceiba, Honduras. These cities had successfully participated in the Dutch funded UWEP 1 Programme that ran for most of the 1990s and their interest in continuing to build local SWM capacity led to their participation in the current project. The specific partners in each of the three project locations were Mythri in Bangalore, Cabinet D'Etudes Keita (CEK) in Bamako and ACEPESA in La Ceiba. All of these organisations were already well established and experienced in SWM and were accustomed to apply the methodology and vision of Integrated Sustainable Waste Management.

The trajectory

The project was carried out in three phases, the *Inception Phase, Research & Planning Phase* and *Dissemination Phase* between 1 October 2001 and 30 September 2003.

Inception Phase

Phase I of the project took place between November 2001 and February 2002.
Outputs of the Inception phase were: 1/Research Related Literature Review and Regional Literature Reviews, 2/ A Preliminary needs assessment of the cities and 3/ A stakeholder identification analysis, 4/ A detailed Work Plan for each of the cities,

Research Related Literature Review and Regional Literature Reviews;

The purpose of the global and regional literature reviews was to provide an overview of the tools available, in addition to the project's baseline documents, to assist decision-makers and technical staff in the planning and implementation of SWM systems in low income countries.
The conclusion was that there is a wealth of material being produced which tackles ISWM planning but that these documents often do not reach the audience that would find them most

useful i.e. local decision makers and municipal officers. Better dissemination is needed to reach the target audience. Another key problem, which reduces the usefulness of many documents, is that they are only produced in English.

A preliminary needs assessment and stakeholder identification analysis was carried out in each of the three target cities. These preliminary needs assessments revealed that, although the three cities are very different in size and generate very different waste arisings, they had a number of common characteristics, including an active informal materials recovery and recycling sector and significant problems associated with uncontrolled waste dumping.
A table was made to overview the situation in the three cities at the beginning of the project according to various criteria: population, household waste generation, organic composition, organisation responsible for waste management, source separation, materials recoverya,d recycling, street sweeping, primary/secondary collection, composting, incineration, final disposal.

The team identified three common problems in the 3 cities:

- Lack of suitable landfills and illegal dumping
- Lack of understanding on what systems cost or how much money is available
- Disposal is not costed and results in dumping (treatment is too expensive relatively) - tariff opportunities / cost recovery

Stakeholder Identification

The main aims of the stakeholder identification exercise for each of the three cities was to:

- Identify the Lead Agency, Primary and Secondary Stakeholders, the interest of each stakeholder in the planning process and the potential impact of the MSWM on these groups;
- determine the level of participation required for each stakeholder to develop the consensus required to bring about effective improvements to the MSWM system in each location; and finally define the makeup of the Steering Committee in each location.

The following table shows the Lead Agency, Primary and an example for each city of a Secondary Stakeholders identified during the preliminary stakeholder identification exercise. The Lead Agency would form the key organisation working with the project teams in the further development of the planning process in each city.

Preliminary Stakeholder Identification for Bangalore, Bamako and La Ceiba

Type of Stakeholder	***Bangalore***	***Bamako***	***La Ceiba***
Lead Agency	• Bangalore Agenda Task Force (BATF)	• Municipality of Commune VI	• Municipality of La Ceiba
Primary Stakeholders	• Households (Service Users) in Served and Unserved Areas • Shops/Offices/ Commercial/ Industrial/Hospitals/Hotels & Restaurants • Construction Sector • Waste Pickers • Recycling Industries	• Service Users in Served Areas • Wastepickers	• Service Users in Served and Unserved Areas • Communities living near existing and planned disposal site • Waste pickers • Commercial/ Industrial/Markets/ Hospital/ Clinics
Secondary Stakeholders (example)	• Bangalore Mahanagara Palike (BMP)	• Waste Collection Contractors (MSEs/GIE)	• Municipality of La Ceiba

It was found that in two of the three target cities there was already a well established stakeholder forum that could act as the Steering Committee as defined in the Methodology of the Strategic Planning Guide.
Hence the preliminary needs assessment and stakeholder analysis both demonstrated that there was local interest in the project, significant scope for interesting research products as well as a recognised need for further capacity building in ISWM planning. The next activity was to set up a Work plan taking the collected information into account.

Work Plan

As each of the cities was at a different stage in terms of their knowledge of and progress in ISWM planning the work plan varied accordingly. The following points that needed extra attention during the project were divided in technical needs and capacity building needs.
The table lists the technical issues that were included in the Work Plan. The plan was meant to be flexible, offering the possibility to make changes when priorities in the technical needs would change.

Bangalore	**Bamako**	**La Ceiba**
• Waste Disposal • Waste Collection (Including coverage, efficiency, interaction between primary & secondary collection at transfer station) • Community participation • Private Sector Participation (Standarisation of tender procedures)	• Waste Collection • Cost Recovery • Awareness Raising • Institutional Roles & Responsibilities • System Design and Planning	• Waste Disposal • Cost Recovery • Private Sector Participation • Waste Collection • Street Sweeping

Additionally, all three cities decided they needed capacity building in the field of the process planning. It was emphasized that the capacity building should be on an action level, focused on the city itself.

Phase 2: Research Planning

This phase consisted of working on the Work Plan. The Memorandums of Understanding (MoUs) were signed with the municipalities, ensuring support from the municipality and stakeholders. Actions were undertaken to meet the Work Plan. Several workshops were held and tools were developed to explain the steps of the Strategic Planning Guide to the stakeholders. The aim was to end the second phase with a Strategic Plans for each of the cities.

Following a table with examples of workshops and meetings held in the three cities.

	Bamako	La Ceiba	Bangalore
Workshops held in Phase 2	Objective: To come to an agreement on the importance and the influence of each stakeholder in the planning of municipal solid waste management. *activities:* *Stakeholder classification* *Involving the stakeholders* *Assessment of the planning level reached by the Commune VI* *An overview on the ISWM*	Objective: Developing the Planning Framework *Activity:* *Meeting and discussion*	Objective: Introduce the stakeholders to Integrated Sustainable Waste Management. *Activity:* *4-day Training on ISWM*

	Bamako	La Ceiba	Bangalore
	Obejctive: To exchange experiences on the methods aiming at the primary collection improvement *Activities:inventory of the collection route, time and motion study.*	Objective: Technical knowledge upgrading *Activity:* *Capacity Building Workshop on 'Sanitary Landfilling'*	Objective: Practical information on waste characteristics and principles of waste collection *Activity:* *Training on time and motion study of waste characterization and generation*
	Objective: To analyse the first version of the strategic plan. To exchange experiences in the processes of public awareness and composting. *Activities: review of first version of Strategic Plan.* *Awareness Campaign and composting*	Objective: Technical knowledge upgrading *Activity:* *Waste Collection Route Optimisations*	Objective: Announcement of the working of the planning process *Activity:* *Workshop*
		Objective: Capacity Building *Activity:* *Workshop 'Cost Analysis'*	

Phase 3 Dissemination

The dissemination was planned as a regional workshop in which the results of the project were to be presented to a wider audience, preferable local authorities and other municipalities. In all three cases the regional workshop has been a success. In Bamako there was media coverage, plus participation by someone representing the Ministry of Environment. The project in La Ceiba used as dissemination of their knowledge the Regional Forum for Integrated Solid and Liquid Waste Management in Managua, which was held in September 2002. In Bangalore dissemination activities have been postponed until the beginning of 2004.

Problems encountered and lessons learned.

The project in all cities can be named successful. The speed in which it developed varied however remarkably. In Bamako the fact that COGEVAD and that local authorities formed an integral part of the group working on waste management was already in place, speeded up the process remarkably. The project went on in a steady pace, without too many delays.

In Bangalore the initial strategy to work with the Bangalore Agenda Task Force as Lead Agency in partnership with the existing Swabhimana Stakeholder Platform and the Municipality toke a very long time to take shape. Constant changes in highly placed staff within the municipal authorithy hindered the process quite considerably. Signing the MoU, agreeing on activities were all postponed continuously. A change in commissioners, leading figures within the municipality resulted in a need for renewed negotiations with the municipality. This lead to a constant shift in strategies regarding the geographical scope of the project, from city wide to focussing on 10 administrative wards back to city wide focus. It was only in July 2003 that an integrated working group was installed and started operating on City wide scale. This working group is now being anchored by the three original organisations and other NGO's. The principal lesson that was learned that Step 1 of the SPG process, namely mobilising support, can in itself ake a long time. But once it has been garanteed the process can go through the next steps with more guarantee for success. The

capacity building activities which took place parallel to the mobilisation process have benefited the planning process, after it in fact took off.

La Ceiba was a rather special case. There was no existing platform, it took considerable time to form one and one of the conclusions was that being an organisation not based in the city itself is a hindrance to mobilise community and municipality. Notwithstanding considerable changes can be noted and "Garbage problems" have been put into the public agenda.

Lessons learned from the project

All three partners in the cities came with similar conclusions, some of them are listed hereunder.

- The input and agreement from the local government is essential to go forward in a planning process for waste management.
- Information on waste management planning and sustainable waste management in scarce and often only available in English. The dissemination of this information should be more effective and the planners have to be reached.
- Process approach can be applied in cities, but a lot of capacity building in needed.

Products of the project

During the project a series of tools have been developed to facilitate the pilot projects in their strategic planning. As the policy of WASTE is to pass generated knowledge on to the interested public, the workshops, exercises and developed information are made available to urban planners who want to go into the same process of planning for municipal waste management. Up for publishing are: the so-called Keysheets and Case Studies.

Keysheets

The Keysheets can be seen as the main publication of this project. It gives a practical approach to the Strategic Planning Guide, incorporating the ISWM methodology. The Keysheets are grouped around the 7 steps identified in the SPG.

The Keysheets themselves elaborate on the activities, the output or explains questions that crop up when working with the SPG. The urban planner chooses from the list of keysheets what interests and what is lacking in his experience and knowledge.

Key sheets subjects:Understanding Waste Management Issues using a Schematic Overview, Example of an MOU, Understanding the MOU process, Forming and strengthening the Steering Committee, Creating an even level in a group, Using ISWM in planning, How to strengthen the committee, Baseline document in Strategic ISWM planning, Understanding linkages, Data Mapping and Triangulation,Socialising baseline document – how do you get stakeholders feedback, Developing the Planning Framework.

Case studies: They are realised by the partners in the cities: Bamako, Bangalore and La Ceiba. It gives a clear insight in the activities that have taken place, the problems that have occurred and overcome and the end result of the project.