



MARCHING TOGETHER WITH A CITYWIDE SANITATION STRATEGY

JANUARY 2010



FOREWORD

Experience shows that sanitation issues cannot be tackled in a piece-meal manner. The past gives us a sad portrait of sanitation planning with overlaps and interventions that were inappropriate and unsustainable. Sanitation must be addressed in a comprehensive manner and with multi-stakeholders. All parties involved in providing sanitation services in the city must be actively engaged in the process. Furthermore, sanitation development should not only focus on development of physical infrastructure. Many other efforts need to be done to ensure the benefits from such infrastructure can be sustained.

Citywide sanitation strategy is a strategic planning process for sanitation sector development. In developing the strategy, several principles must be adopted. This includes mapping the existing condition using valid empirical data, which will serve as a foundation for devising the most effective strategy.

This book intends to provide an overview of the principles of preparing a citywide sanitation strategy. In the end, I hope the citywide sanitation strategy can serve as a guide for all decision-makers to develop the city's sanitation sector into one that is all-inclusive and sustainable.

Budi Hidayat

Director for Settlement and Housing, BAPPENAS

Head of the Technical Team for Sanitation Development

ABOUT THIS BOOK

This book contains the principles a municipal government should consider before developing a citywide sanitation strategy. In this context, this strategy refers to a city's strategic mid-term sanitation development plan, which incorporates vision, missions, objectives and targets as well as specific strategies to improve sanitation services.

Chapter 1 starts with an introduction of the background, objectives, concept, and the process of a city sanitation development, followed by a description of the position of the citywide sanitation strategy within the sanitation development planning process. The remaining chapters describe the steps to develop a citywide sanitation strategy. Chapters 2 to 6 explain the five major steps of the process: a) establishing a working group, b) city sanitation mapping, c) defining a sanitation development framework, d) preparing a strategy for sanitation services development, and e) preparing a strategy for development of non-technical aspects. Chapter 7 concludes the book with a series of follow-up activities for implementation upon approval of the citywide sanitation strategy.

The book uses the phrase total sanitation services to mean the ideal level of sanitation services desired by a city. Such services should be accessible to all residents, be available city wide, be technically complete and sustainable, and not cause negative environmental impacts.

This book is not a technical manual. Instead, readers will find a description of the principles of each strategy preparation phase. Many illustrations have been included from Phase 1 (2006 - 2008) implementation of the **Indonesia Sanitation Sector Development Program** (ISSDP). One of ISSDP's purposes is to give assistance to six city governments to develop their own citywide sanitation strategies. During the two phases of implementation, ISSDP gained much valuable experience and input for improving the concept, substance and preparation of citywide sanitation strategies for Indonesian cities. This English version is an adaptation to the Indonesian original text published in 2008.

In 2009, the Government of Indonesia started an accelerated sanitation development program (*Percepatan Pembangunan Sanitasi Permukiman* – PPSP) to roll out the citywide sanitation strategy approach to all towns and cities of Indonesia by 2014. The PPSP program was launched by Vice President Boediono on 8 December 2009.

PUBLISHED BY:

Technical Team for Sanitation Development (*Tim Teknis Pembangunan Sanitasi* - TTPS) & the Indonesia Sanitation Sector Development Program (ISSDP).

Supported by:

This document was prepared by the Indonesia Sanitation Sector Development Program (ISSDP), a sub-program of the Water and Sanitation Program (WASAP) Trust Fund and co-funded by the Governments of the Netherlands and Sweden. ISSDP is implemented by the Government of Indonesia, with Bappenas as the lead agency of the Technical Team for Sanitation Development (TTPS), together with the Water and Sanitation Program. DHV B.V. in association with PT Mitra Lingkungan Dutaconsult (MLD), IRC International Water and Sanitation Centre, PT Arkonin Engineering, PEM Consult, and Yayasan Indonesia Sejahtera have provided a range of technical services to implement ISSDP.

TEXT & DESIGN:

Qipra Galang Kualita team:

Rudy Yuwono, Isna Marifa (concept and text)
Laksmi Wardhani, Utari Ninghadiyati (editorial support)

Haryo Pambudi (English translation)

M Taufik Sugandi, Endang Sunandar, Zarkonie
(layout and graphics)

EDITORS:

Nugroho Tri Utomo and Maraita Listyasari
(National Development Planning Agency)

ACKNOWLEDGMENT:

Content and input:

Nugroho Tri Utomo and Andre Kuncoroyekti (National Development Planning Agency); Isabel Blackett, Yosa Yuliarsa and Reini Siregar (WSP); Sinarko Wibowo, Hony Irawan, Wita Purwasih, Avianti Zulaicha and Christiana Yuni (ISSDP); Winarko Hadi (Indonesian Society of Sanitation and Environmental Engineers).

Photos:

Hony Irawan, Bayu Rizky Tribuwono, Deasy Sekar TS, Echy Desvita, Taufik Ismail, and Jan Ricko (Qipra Galang Kualita), Winarko Hadi, Cahyo, and ISSDP staff.

TABLE OF CONTENTS

Introduction	
About This Book	
1. PLANNING FOR TOTAL SANITATION SERVICES	1
CITIES ON THE MOVE	2
TOWARD TOTAL SANITATION	4
STRATEGIC APPROACHES ARE REQUIRED	6
SANITATION DEVELOPMENT PLANNING	7
2. SETTING UP THE ENGINE FOR SANITATION DEVELOPMENT PLANNING	10
GET SYNERGIZED	11
SETTING UP A SANITATION WORKING GROUP	12
WORKING GROUP PRECONDITIONS	13
BUILDING COMMON UNDERSTANDING	15
3. MAPPING THE SANITATION CONDITION	16
START FROM THE FACTS	17
SANITATION MAPPING PROCESS	18
DIRECTLY TO THE SOURCE	20
DETERMINING PRIORITY AREAS	21
4. FORMULATING THE FRAMEWORK FOR SANITATION DEVELOPMENT	24
START WITH A COMMON VISION	25
COMPLETING THE SANITATION DEVELOPMENT FRAMEWORK	26
PROCESS OF FORMULATING A SANITATION DEVELOPMENT FRAMEWORK	27
5. PREPARING A STRATEGY FOR SANITATION SERVICES DEVELOPMENT	29
INTERPRETING THE SANITATION DEVELOPMENT FRAMEWORK	30
DECIDING ON THE TYPES OF SANITATION SERVICES	30
MANY REFERENCES ARE AVAILABLE	31
MAINTAINING AND IMPROVING EXISTING FACILITIES	32
SUSTAINING SANITATION SERVICES	34
PREPARING A STRATEGY FOR SANITATION SERVICES DEVELOPMENT	34
LISTENING TO THE PEOPLE	35
6. STRATEGIES FOR DEVELOPMENT OF THE NON-TECHNICAL ASPECTS OF SANITATION SERVICES	37
ENSURING SUSTAINABLE OPERATIONS AND MAINTENANCE	38
STRATEGIES TO DEVELOP THE NON-TECHNICAL ASPECTS	39
PREPARING THE COMMUNITY	39
INVOLVING THE PRIVATE SECTOR	41
ACCESSING FINANCE	43
PREPARING MONITORING AND EVALUATION	44
7. ONCE THE CITYWIDE SANITATION STRATEGY IS APPROVED	47
MARKETING THE CITYWIDE SANITATION STRATEGY	48
DEVELOPING AN ACTION PLAN	48
REFINING THE CITYWIDE SANITATION STRATEGY	50



1 PLANNING FOR TOTAL SANITATION SERVICES

Indonesian cities need to improve their sanitation services. The target is to provide comprehensive, sustainable and accessible services to all city residents. This is not an easy task. However, by having a citywide sanitation strategy, a city will be better prepared to deal with the challenges. Several Indonesian cities already have citywide sanitation strategies. In those cities, stakeholders work together to develop total sanitation services.

Many city governments feel that they do not have the capacity to improve their sanitation conditions. They leave it to the people to solve their sanitation problems by their own means. What happens next is easy to predict. Some dispose of their wastes in unsafe and risky ways. People dump garbage into rivers or on empty lots, and defecate in rivers and streams. This makes sanitation a broader public issue.



CITIES ON THE MOVE

The city of Denpasar has recently started operating its new sewerage system. Although it covers only parts of the city, the existence of such a system is a significant breakthrough for Indonesia. A few years ago, the city made similar progress in solid waste management, when Denpasar and the neighboring districts of Badung, Gianyar, and Tabanan worked together to develop, operate and utilize a common final disposal site in Suwung. In the near future, a 10 megawatt waste-generated power plant will be built on the disposal site.

The city of Denpasar is nevertheless still determined to further improve its sanitation services (see box on page 3). The city has prepared a sanitation development plan. A number of strategic approaches are built into the plan to ensure that sanitation development will be sustainable.

Photo : Cahyo/www.presidensby.info



Denpasar now has a modern sewerage system, the first phase of which was inaugurated by the president of the Republic of Indonesia, mid-June 2008. The system serves 250,000 Denpasar residents as well as the tourist areas of Seminyak, Kuta, and Sanur. The project has cost more than IDR 500 billion, jointly borne by national government, the Bali provincial government, and local governments of the city of Denpasar and the district of Badung. Prior to this, the city of Denpasar developed three simple sewerage systems for poor communities, known as SANIMAS (meaning sanitation by communities). What Denpasar has achieved is expected to inspire other cities to develop even better sanitation services.

Preparing a sanitation development plan is not an easy task. The process includes many steps, involving many stakeholders, so it is not surprising that sanitation planning takes considerable time. Denpasar sanitation plan deserves praise. Even more heart-warming is that many Indonesian cities, such as Bandung, Surakarta, Yogyakarta, Blitar, Malang, Surabaya, Banjarmasin, Payakumbuh, and Padang, have made similar progress. If the plans are implemented consistently, these cities will have better sanitation services than other cities in Indonesia.

The Denpasar sanitation plan deserves praise. Even more heart-warming is that many Indonesian cities have made similar progress.

SANITATION SERVICES

Wherever people live, there is waste – comprising of garbage, black water, and gray water. In addition, there is also rainwater run-off from the houses and their surroundings. Sanitation services are needed to handle all these wastes to ensure that harmful impacts can be controlled, leaving the community in good health. The services illustrated here should be part of city sanitation services. The term ‘service’ is used to emphasize the need for on-going processes not just ‘one-off’ investments in construction. The services are not all provided by external parties to the community. In fact, some are provided by home-owners, such as private toilets, garbage bins, and payments for waste removal.

DOMESTIC WASTEWATER SERVICES

Most home-owners in Indonesia use individual septic tanks to handle and treat their domestic wastewater. The municipality or private company provides a service to empty the sludge and, further, treat it at a septage treatment plant (IPLT or Instalasi Pengolahan Lumpur Tinja). In a small number of housing and commercial areas, wastewater is handled by a sewerage system. A network of pipes transfers wastewater from individual households to a sewage treatment plant.

MICRO DRAINAGE

Rainwater runoff is handled by a drainage system that channels runoff to a receiving water body, usually a river, canal or main storm water drain. The dimensions of the canals should be sufficient to receive the runoff from the area they service. To ensure smooth operation, the drains need to be sloped at a correct angle. The drains also need to be kept free from accumulated rubbish by household and community services.

SOLID WASTE SERVICES

Solid waste management begins with storage and collection of garbage. Refuse is collected using garbage carts or trucks. The services required should also include temporary disposal site (TPS) and final disposal sites (TPA) or other waste processing facilities. The community can also develop their own solid waste management, for example by community or private sector collection, composting and collection of recyclables.

LATRINES

Every member of a community must have access to a safe latrine. In addition to privacy, a safe latrine should have access to sufficient clean water and connected to, at least, on-site wastewater treatment. If a community cannot afford private latrines, they should have access to public latrines with adequate wastewater treatment.

CLEAN WATER SUPPLY

Some do not consider clean water supply as a sanitation services component. However, the availability of clean water affects sanitation conditions of a housing area. Clean water must be sufficiently and continuously available. In addition to meeting the needs for food, drink, bath, and latrine, clean water is needed for maintaining the cleanliness of the houses.



Illustration : E. Sunandar & M. Taufik Susgandi

TOWARD TOTAL SANITATION

Although each city is different, city sanitation services should be developed based on a common set of principles. Services must be comprehensive and continuously accessible to all residents. The entire city should have sanitation services suited to its needs, allowing all residents to enjoy the benefits of improved sanitation (see box below). These are called the principles of **Total Sanitation** (see box on page 5).

Development of sanitation services should aim to meet the principles of total sanitation. It requires a lot of hard work to develop sanitation services that meet these principles.

BOX

BENEFITS OF GOOD SANITATION SERVICES



PUBLIC HEALTH

Good sanitation services will prevent sanitation-related diseases. Incidence of such diseases in Indonesia is still high. In 2001, infant mortality in urban poor areas reached 121 cases per 1000 births. The number of typhoid cases puts Indonesia on the top of the list in Asia. Improved sanitation services result in improved public health, which then will increase work productivity and spur economic growth.

ECONOMIC BENEFITS

Through good sanitation services, cities in Indonesia can enjoy economic benefits, or at least, avoid huge economic losses. Poor sanitation has burdened the country with an annual loss of US\$ 6.3 billion, equivalent to 2.3% of the national GDP. It is estimated that every Indonesian household suffers a loss of US\$ 143 per annum. Good sanitation services will prevent such losses and improve economy at the household level. Accordingly, such improvements can be expected at the city level.



SOCIAL EQUALITY

Sanitation services accessible to all can enhance social equality. Both the 'haves' and the 'have-nots' are equally protected from disease and economic loss. No one would feel inferior just because the sanitation of his/her area is poor. Social equality is an important foundation for a city to develop a peaceful and comfortable atmosphere for all its residents.

ENVIRONMENTAL QUALITY

Functioning sanitation services can prevent solid and liquid wastes from entering the waterways. Environmental pollution, either surface water or ground water, can be avoided. Degraded water quality may cause serious damage: flora and fauna are disturbed; natural beauty is marred. Improved sanitation services can help prevent the looming cost of pollution.



CITY IMAGE

Cities that have successfully developed their sanitation services can be proud of their achievements. Residents and visitors will appreciate the clean roads, garbage-free drains and rivers, and well-being of the residents. This will enhance the image of a city and its officials in the eyes of its residents and visitors. This would also encourage others to invest in the city.

pictures (from top): Taufik Sugandi, Zarkonie, Winarko Hadi, Isna Marifa, Rudy Yuwono

It requires substantial investment, too. With their limited capacities, cities may need decades to develop and operate such services. The principles should be considered in the preparation of a sanitation development plan, especially in the formulation of its framework (see **Chapter 4**).

TOTAL SANITATION SERVICES

Total Sanitation Services symbolize the principles of an ideal sanitation service for a city. These principles should be used as reference for a city in improving its sanitation services. The following diagram shows each of the principles.

Sanitation services should be accessible to all city residents, including the poor.

Sanitation services should have citywide coverage. No part of the city should be left without any sanitation services, even the slums.

Sanitation services should include all components, i.e. domestic wastewater, solid waste and drainage.

Sanitation services should be developed and operated with the participation of all stakeholders, in line with their respective roles and capacities. This includes relevant municipal agencies, private sector, NGOs, men and women as both the users and home-owners or tenants.

Sanitation services need to function sustainably. Besides appropriate tariffs for operational funds, the services require a conducive institutional and regulatory framework.

Sanitation services should not create negative impacts on the environment or downstream areas. The services must be operated properly and comprehensively, even if this requires higher operational costs.



Infographic: M. Taufik Sugandi

STRATEGIC APPROACHES ARE REQUIRED

To meet the total sanitation principles, a city needs a strategic approach. Following are some generic approaches that a city can use as the basis for developing more strategic approaches to sanitation development.

Enhance **synergy among the actors in sanitation development**, including municipal government agencies, the private sector, NGOs, and others.

Employ **appropriate technologies that are suitable to user needs**, while ensuring that they are relevant to the city's actual conditions, comply with technical standards, and prevent potential impacts.

Develop **sanitation in all parts of the city (city-wide)**, prioritizing poor residential areas where the health risks are highest.

Promote **awareness of health and hygiene behavior** while creating demand for better sanitation services.

Special attention is needed to improve sanitation in low-income communities. Improving sanitation in these areas is a complex task. Represented by the picture below of Banjarmasin city, low income-communities face multiple issues such as poverty, which prevents inhabitants from providing their own sanitation facilities, and legality of land, which makes city governments hesitant to develop sanitation services. However, without improvements the impact of poor sanitation will sooner or later spread to other parts of the city.

Photo: ISSDP



Create opportunities and incentives for private sector initiatives in the development and operation of sanitation services.

Foster **better use of existing sanitation services**, which becomes the basis for developing new services.

Encourage **the development of community-based sanitation services**, especially in areas where public and private services are difficult to establish.

Engage stakeholder groups, including women groups, in sanitation planning, in line with their respective capacities.

Create **enabling institutional and regulatory frameworks** to accelerate sanitation services development.

Increase funding from sources other than municipal government, such as from the national and provincial governments, donor agencies, the private sector and the public.

Adopt **step-wise sanitation development** as available resources allow.

Cities like Denpasar, Yogyakarta, Surakarta, Blitar, Banjarmasin, Payakumbuh, Jambi, Tegal, Pekalongan, Kediri, Batu, Bukittinggi and Padang have adapted some of the generic strategies in developing their citywide sanitation strategy.

SANITATION DEVELOPMENT PLANNING

Sanitation services development should be based on a comprehensive and strategic medium-term sanitation plan, known as a **citywide sanitation strategy**

Sanitation services development should be based on a comprehensive and strategic medium-term sanitation plan, known as a **citywide sanitation strategy**. The plan is important because it may take years for cities in Indonesia to meet the principles of total sanitation. A citywide sanitation strategy is required to create synergy among municipal agencies and other actors. Once completed, the citywide sanitation strategy is then translated into recurring annual sanitation action plans. An annual plan provides more detailed information on proposed programs and projects, by year of implementation (see box on page 8).

A citywide sanitation strategy includes the vision, missions, and goals of sanitation development as well as strategies to meet these goals. Each strategy is then translated into indicative programs (and projects). The citywide sanitation strategy covers:

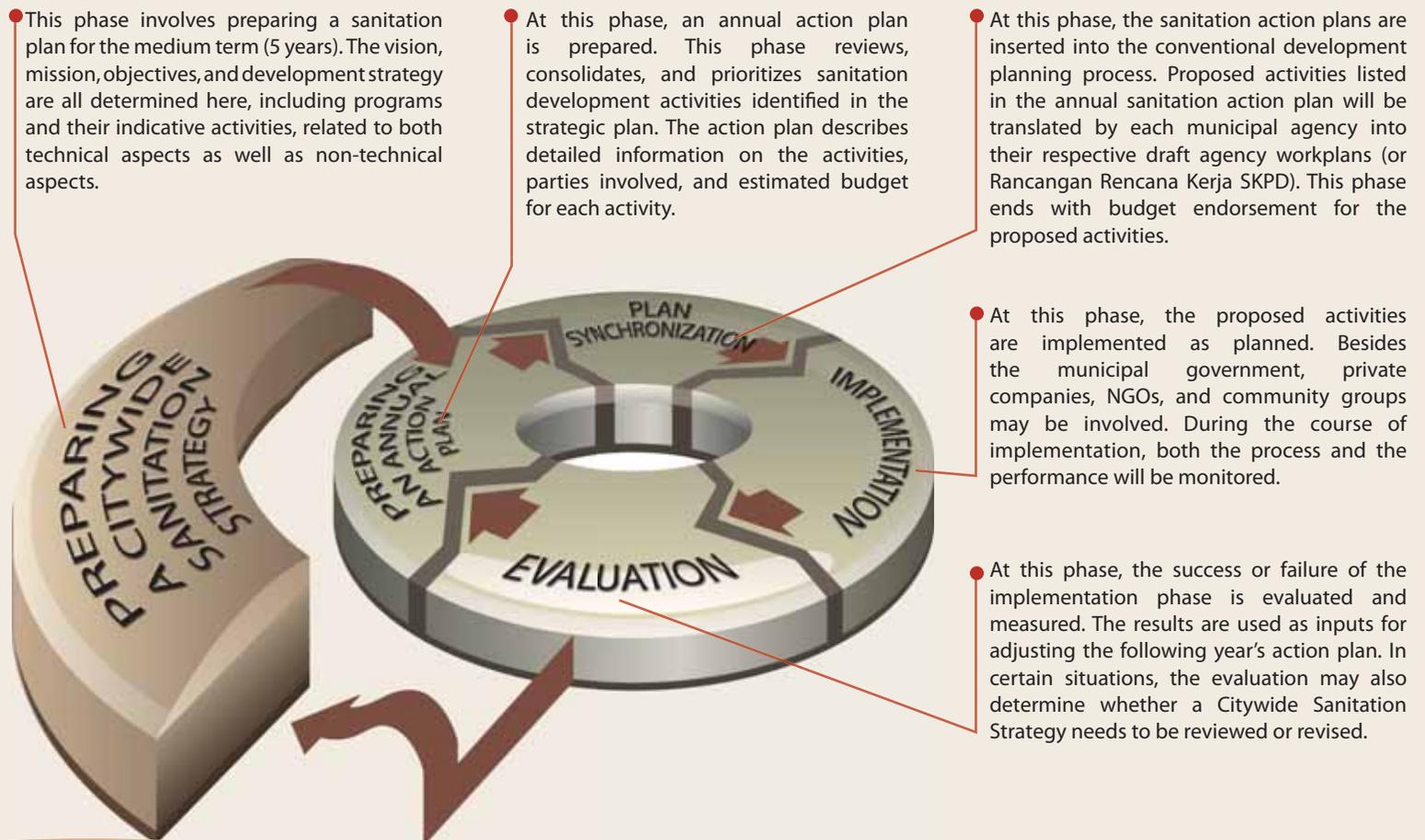
Technical Aspects, including strategies and programs for the development of (a) domestic wastewater services, (b) solid waste management services, and (c) micro drainage services.

Non-Technical Aspects, including strategies for the development of non-physical aspects such as (a) community awareness and participation, (b) policy and regulation, (c) institutional capacity, (d) private sector engagement, (e) NGO engagement, (f) financing and tariffs, and (g) monitoring and evaluation.

The process consists of five stages that must be conducted thoroughly and sequentially (see diagram on page 9). The process is as important as the outputs. The process includes

CYCLE OF SANITATION DEVELOPMENT

The development of sanitation in a city starts with the preparation of a strategic sanitation development plan, known as the Citywide Sanitation Strategy. The subsequent series of steps indicate a continual development process. Implementation results of one cycle will be evaluated and used as inputs for adjusting the following year's action plan. The iterative process allows the development process to accommodate the dynamic conditions of a city and its residents.



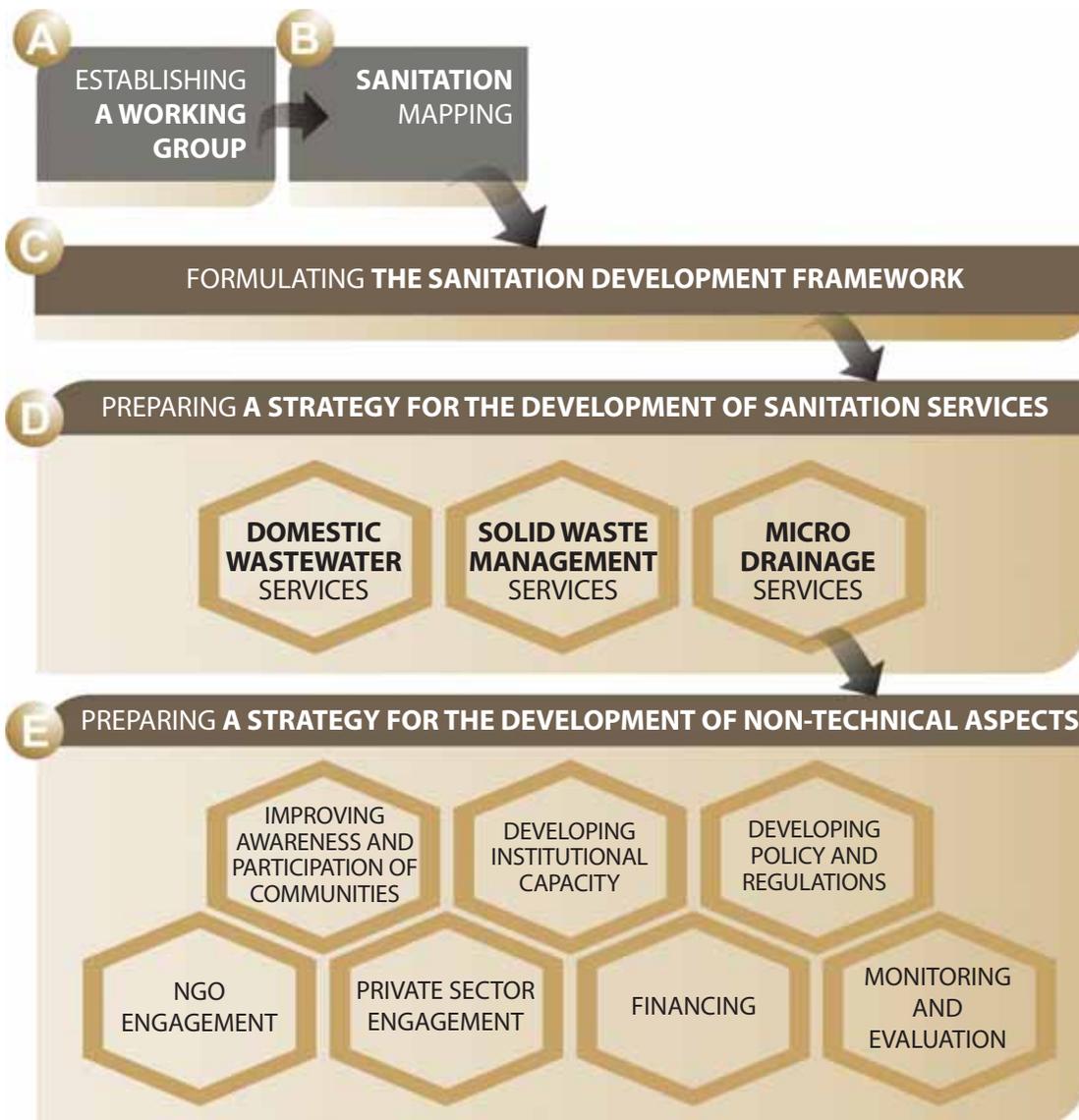
Infographic: M. Taufik Sugandi

studies, pilot projects, training and seminars. The process may take some time, especially in cities that are not accustomed to preparing strategic plans. It took Denpasar, Blitar, Surakarta, Payakumbuh, Banjarmasin, and Jambi at least six months to prepare their citywide sanitation strategies.

The process consists of five stages that must be conducted thoroughly and sequentially. The process is as important as the outputs.

The citywide sanitation strategy does not yet have a formal position in the conventional Indonesian development planning process. In the national development planning system, the only entry-point to the plan approval process is through municipal agencies.

PREPARATION OF CITYWIDE SANITATION STRATEGY



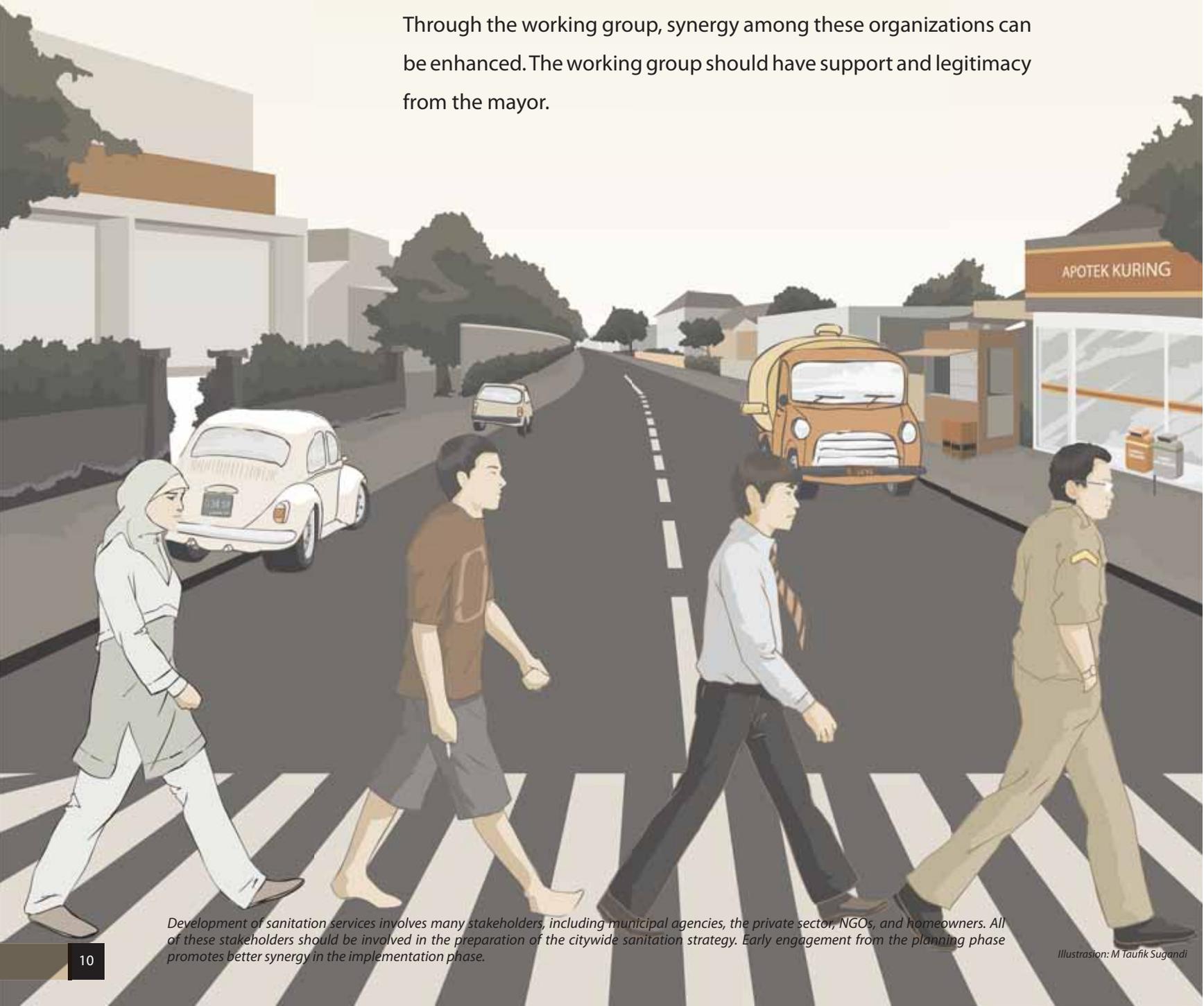
Infographic: E Sunandar

The recognition, however, of the importance of the citywide sanitation strategy process has resulted in the policy decision at central government level that, in the near future, cities will need an approved citywide sanitation strategy before they can receive implementation funds from the central government.

Therefore, all programs included in the citywide sanitation strategy and annual sanitation action plan need to be synchronized into the municipal agency draft work plans. This synchronization is critical to achieving sanitation objectives and targets. And, ultimately, to meeting the principles of total sanitation.

2 SETTING UP THE ENGINE FOR SANITATION DEVELOPMENT PLANNING

A city should establish a working group capable of preparing a citywide sanitation strategy. In some cities this group is called the sanitation working group. Members of the working group come from municipal agencies, the private sector, NGOs, and community groups. Through the working group, synergy among these organizations can be enhanced. The working group should have support and legitimacy from the mayor.



Development of sanitation services involves many stakeholders, including municipal agencies, the private sector, NGOs, and homeowners. All of these stakeholders should be involved in the preparation of the citywide sanitation strategy. Early engagement from the planning phase promotes better synergy in the implementation phase.



Photo: Winarko Hadi

City sanitation services involve the public works, health, environment, and sanitation agencies. Some cities have even involved municipal water utilities, especially in connection with domestic wastewater management. Sanitation services also involve NGOs, community groups, and the private sector. Informal groups, such as scavengers, also play an important role in reducing the volume of garbage. With so many actors involved, development of city sanitation services needs a strategy to create synergy among these actors, thus maximizing use of available resources.

GET SYNERGIZED

Improving sanitation services requires synergy among stakeholders. Synergy enables a city to derive optimal benefits from the utilization of limited resources. This is one of the strategic approaches required to fulfill the principles of total sanitation (see sub-chapter of **Strategic Approaches Are Required in Chapter 1**).

The importance of synergy is clear and most stakeholders are aware of its importance. However, such synergy rarely occurs on its own. Special efforts are necessary, for example by involving stakeholders in the sanitation planning process. The earlier they are involved, the quicker the synergy and their ownership in the process can be created.

Each stakeholder should appoint a representative to the team assigned to prepare the citywide sanitation strategy. In some cities, this team is called the sanitation working group, while in others it is called the water and sanitation working group. Each city is free to name the team as it sees fit. This book uses the term sanitation working group for practical purposes.

The sanitation working group does not take over roles of agencies currently involved in sanitation. The working group is an ad hoc team that can better coordinate stakeholders to accelerate sanitation planning.

Each member of the sanitation working group has equal standing, whether he or she comes from a municipal agency, the private sector, an NGO, educational institution, or the community. All have equal rights and responsibilities in preparing the city sanitation strategy. No one has more authority than the others, and no one can coerce others in one direction or another.

The sanitation working group does not have to be formed as a permanent institution that will take over roles of agencies currently involved in sanitation. The working group is an ad hoc team that can better coordinate stakeholders to accelerate sanitation planning. The presence of such a working group is expected to support the coordination function of the local planning agency. It may be possible that in the future, sanitation working groups may expand their role beyond planning (see box, **Sanitation Working Group May Have a Broader Role**).

SANITATION WORKING GROUPS MAY HAVE A BROADER ROLE

Non-structural sanitation working groups were initially set up by city governments to expedite the city sanitation planning process. The groups' tasks were closely tied to the ISSDP work plan, i.e. preparing the white book, the citywide sanitation strategy, and the annual sanitation action plans. The organizational structure of the sanitation working group differs from one city to another. In Blitar, for example, the group is broken down into a coordinating team and an implementing team. Banjarmasin divides its working group into a technical team and secretariat, and Payakumbuh has an advisory team, technical team, and secretariat. The working groups of those cities appointed the head of local planning agency as team coordinator. Jambi is an exception, where the head of public works leads the working group. The membership of the working group is dominated by municipal government officials from the public works, sanitation, health, environment, and community empowerment agencies. Only working groups in Blitar and Denpasar have members from NGOs.

The working groups may in the future expand their role beyond planning, to include a) monitoring and evaluation of sanitation development, and b) sanitation information and advocacy activities. In short, the working groups are going to be held responsible for mainstreaming sanitation issues in their cities. In the future, sanitation working groups will have an advisory team, implementing team, and secretariat. While local planning agency heads will continue to coordinate the groups, members will include representatives of NGOs, universities, the private sector, and communities. The working group could remain non-structural, or become more formal. Support from the legislature (local house of representatives) is necessary to ensure that the working group can carry out its duties more effectively.

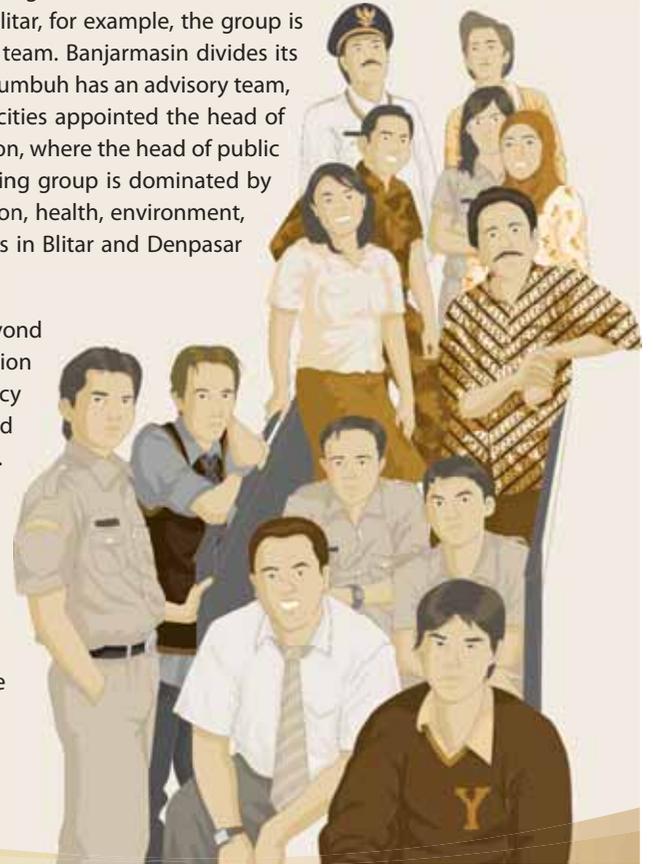


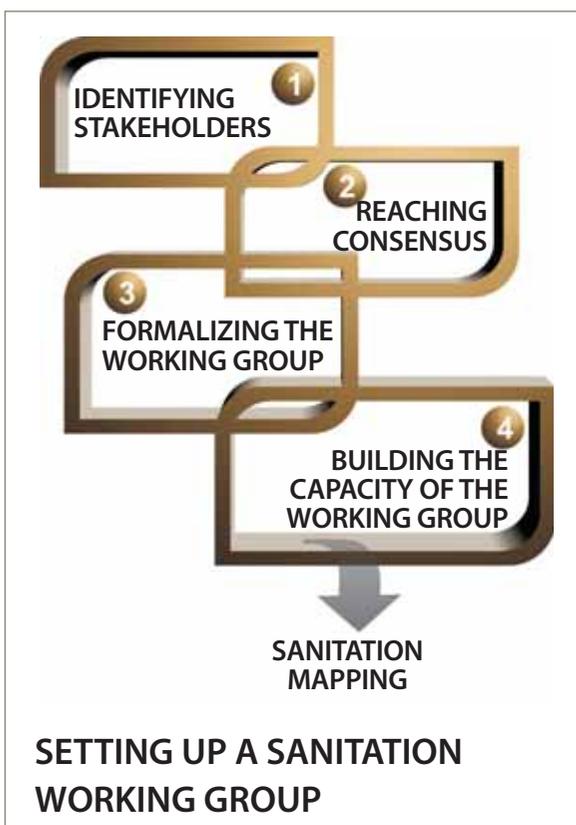
Illustration: M Taufik Sugandi

SETTING UP A SANITATION WORKING GROUP

There are four steps in setting up a sanitation working group (see diagram on page 13):

Identifying stakeholders: Generally, stakeholders include those who have been involved in a) developing and providing sanitation services, b) community awareness and empowerment, c) developing sanitation technology, and d) city development planning and planning approval. Stakeholders can be identified from reports, observations, community inputs, etc.

Reaching consensus among the stakeholders identified. **The first consensus** concerns **whether it is necessary to improve and develop the city's sanitation services**. All the stakeholders have to be aware of the sanitation conditions and the level of services available in the city. **The second consensus** concerns **whether it is necessary to prepare a citywide sanitation strategy** that will be used as the basis for developing the city's sanitation services. It may be difficult to reach a consensus on this matter, since most stakeholders may not be familiar with the concept of citywide sanitation strategy. The third consensus concerns **the function and position of the citywide sanitation strategy**



Infographic: E. Sunandar

in the city's current development planning cycle. This consensus will be applied as part of the synchronization plan (see box **The Sanitation Development Cycle** in **Chapter 1**). Multi-stakeholder workshops attended by representatives of each can be used as a means of reaching these agreements.

Formalizing the sanitation working group: where possible, with an official letter from the mayor or district head (see sub-chapter **Working Group Pre-Requisites**). Apart from membership, the letter should also identify the working group coordinator and address, among others, the group's roles and responsibilities and term of office, and the financial resources available to the group.

Building the capacity of the sanitation working group: including in areas related to city sanitation conditions, sanitation services, planning processes and how to use results (for more details, see sub-chapter **Building Common Understanding**).

WORKING GROUP PRECONDITIONS

The task of the working group is not an easy one. It is made more difficult by the fact that many cities do not know what a sanitation strategy is. The working group is likely to encounter individual and institutional challenges. To mitigate the challenges and allow the group to work effectively, its establishment should have:

Endorsement from city leaders. The working group is not an existing institution with an established function or formal duties. To make its mark, it requires the special endorsement of the mayor. Only then will the outputs of the working group be followed up by the relevant parties. Endorsement is also useful for the group to access the resources they need.

Commitment from stakeholders. Stakeholders should confirm their commitment to a) generally, be involved in the process of sanitation planning, and b) specifically, join the sanitation working group and support the execution of its tasks. The commitment of the mayor and other city leaders is crucial. If they can demonstrate their commitment to other stakeholders, the sanitation planning process will be more effective (see box on the left).

Competent members. Each working group member should have (a) a letter of assignment for a reasonable term, so that the working group has a steady membership that is not prone to frequent changes, (b) a mandate to provide inputs and make decisions on behalf of the organization he or she is representing, (c) adequate understanding of the sanitation issues.

Clear division of roles. Although of equal status, working group members should assume roles suited to the agency they represent. The working group must also have a coordinator to facilitate and ensure continuation of activities. If possible, the coordinator should be from a municipal agency that has a planning coordination role, such as the municipal or district planning agency. The division of roles should be approved by the mayor.

Adequate resources. The working group needs to have access to (a) a furnished and staffed secretariat office, (b) operational budget and, (c) experts. Referring to its non-permanent institutional status, the group might establish an office in one of the government agencies participating in the group. Facilities such as tables, chairs, computers and peripherals can be supplied by the participating municipal agencies. Funds are needed to cover meetings, seminars, site visits and assessments, staff honorariums, etc. It is recommended that the working group should also have access to technical experts.

The commitment of the mayor and other city leaders is crucial. If they can demonstrate their commitment to other stakeholders, the sanitation planning process will be more effective.

The working group should be provided with technical and process guidelines and other tools needed to carry out their work. Many guidelines are available, some from sanitation development programs funded by national government and others from donor organizations.

BOX

BLITAR DECLARATION OF COMMITMENT TO SANITATION DEVELOPMENT

Accelerated city sanitation development demands the full commitment of the mayor. Without this, the sanitation working groups cannot carry out their duties. Local government leaders in Blitar, Surakarta, Banjarmasin, Denpasar, Jambi, and Payakumbuh are aware of this. To demonstrate their commitment, they signed the Blitar Declaration on 27 March 2007. The highlight of the second ISSDP six-city sanitation workshop, the signing took place in the Bung Karno Museum & Library in Blitar. Signatories of the declaration included the mayors of Blitar and Banjarmasin, the Jambi municipal secretary, the head of Surakarta planning agency, the second deputy mayor of Denpasar, and the head of Payakumbuh health service.

The Blitar Declaration demonstrates the support of the signatories for an accelerated program of sanitation development for the poor. In the declaration, leaders of the six cities urged other cities to join them in immediately preparing city sanitation plans. News of the declaration has spread across Indonesia and gained interest from other cities wishing to improve their sanitation services. Eight more cities have since signed the Blitar Declaration, and others have indicated their intention to do the same.



Photo: Koleksi ISSDP



BUILDING COMMON UNDERSTANDING

When members first join the sanitation working group, each will have different knowledge of sanitation development issues. Those from the public works and health services will have knowledge of the technical aspects, while members from the local planning agency have knowledge of the procedures and bureaucracy of development planning. Members from NGOs know how to build the awareness and participation of communities, and how to provide facilitation and guidance. The combined knowledge of the members will strengthen the substance of the citywide sanitation strategy.

The synergy of knowledge will be better if all members have a basic understanding of sanitation issues. This includes a common understanding of the benefits of improving sanitation, the principles of total sanitation, the function and position of the citywide sanitation strategy, methods of collecting and analyzing information, etc. This common understanding of sanitation basics allows for better communication and cooperation among working group members. Members will appreciate and comprehend better the ideas and opinions of other members. As a group, the members would also be able to share duties more effectively.

This common understanding of sanitation basics allows for better communication and cooperation among working group members

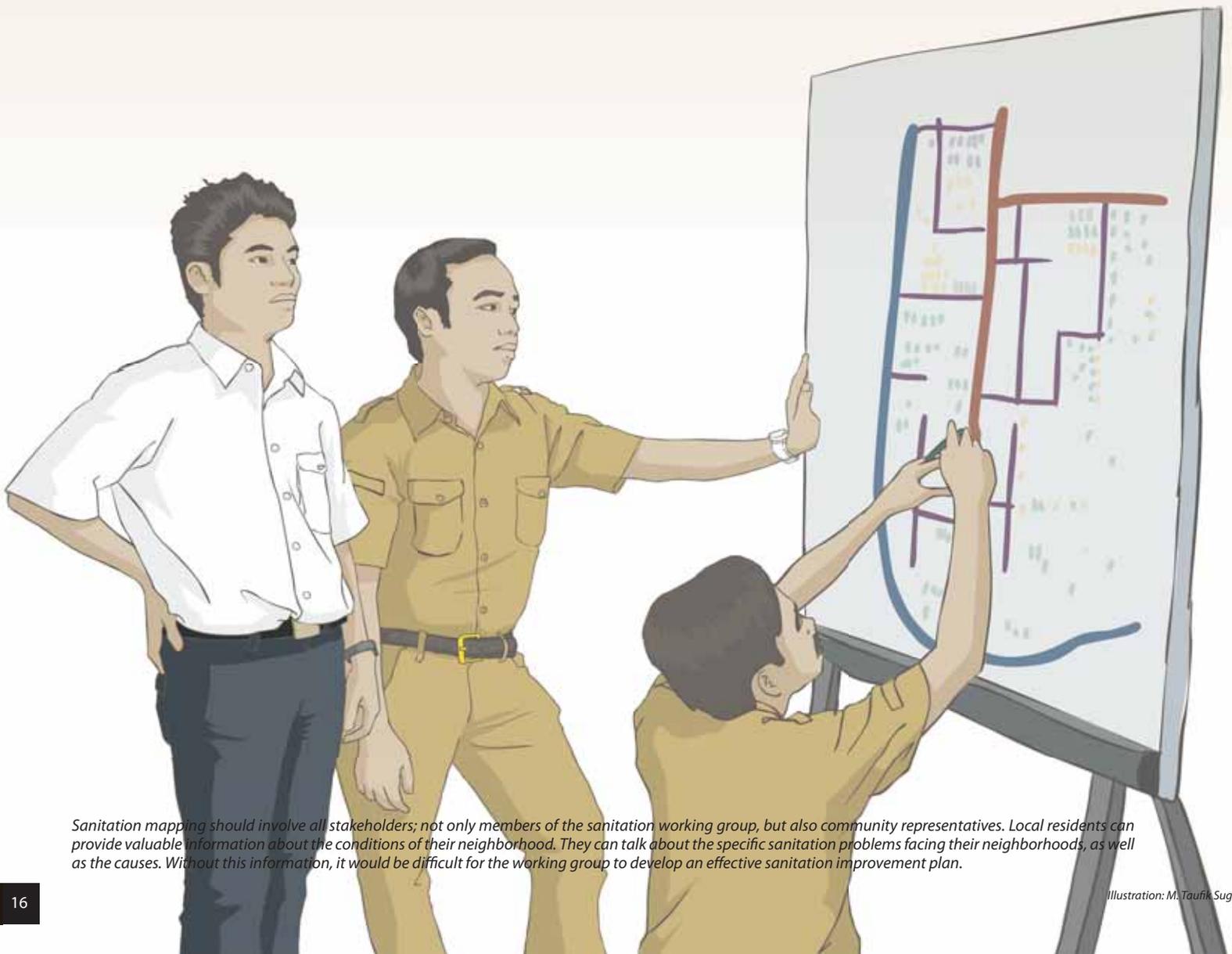
There are many ways to build the basic knowledge of group members. Training courses and seminars, supplemented with site-visits, are frequently used. Practical exercises can make members more comfortable with techniques commonly used in sanitation planning. One of the techniques is involving them in an environmental health risk assessment (see box on page 22).

External parties, including sanitation working groups from other cities, can be approached to help build the knowledge of working group members by sharing their experiences in preparing citywide sanitation strategies.



3 MAPPING THE SANITATION CONDITION

One of the sanitation working group's first tasks is to collect information related to city sanitation. This task is called sanitation mapping. As well as from statistical data and reports, sanitation information is also obtained from assessments and direct surveys. Sanitation mapping indicates the sanitation status of the city and generates general recommendations for sanitation improvement initiatives.



Sanitation mapping should involve all stakeholders; not only members of the sanitation working group, but also community representatives. Local residents can provide valuable information about the conditions of their neighborhood. They can talk about the specific sanitation problems facing their neighborhoods, as well as the causes. Without this information, it would be difficult for the working group to develop an effective sanitation improvement plan.

START FROM THE FACTS

A citywide sanitation strategy should be prepared based on the actual state of the city. That includes the state of sanitation, the problems, and their causes. Care should also be taken in identifying existing services. Having existed for decades if not centuries, most cities in Indonesia are likely to have some sanitation facilities. It is most realistic and economical to prioritize improvement of existing services rather than creating an entirely new set of services.



Photo: Ricko

Most cities have some sanitation services, however limited. A residential drainage system is one of the most basic services a city might have. Such facilities should be taken into consideration in preparing a citywide sanitation strategy.

The meaning of sanitation mapping is not limited to mapping of locations of existing sanitation facilities. Rather, it is a broader effort to also obtain non-technical information.

The process to assess the actual sanitation conditions of a city is called **sanitation mapping**. The meaning is not limited to mapping of locations of existing sanitation facilities. Rather, it is a broader effort to also obtain non-technical information (see diagram on page 18). Sanitation mapping will provide a description of:

The state of city sanitation, including the existence, performance and quality of sanitation services and non-technical aspects, as well as the problems. For certain aspects, specific indicators should be used to provide a better picture of sanitation conditions.

Sanitation development trends, needs, and opportunities, including what each area needs to improve the accessibility, performance and quality of its sanitation services. This description should also address the potential for expansion or enhancement of existing sanitation facilities and other resources.

Recommendations for intervention, related to proposed new facilities and services or development of supporting aspects. The recommendations may also touch upon priority locations. At this stage, the recommendations would not be detailed. These recommendations will be considered in determining the mission for sanitation development (see **Chapter 4**).

Having completed the sanitation mapping, the sanitation working group should be able to answer the question: **Where are we now?** - (see diagram on page 19). The answer forms the baseline from which the sanitation planning process can begin. The diagram also shows that sanitation mapping should be repeated to ensure that sanitation planning stays current with the actual situation on the ground.

SANITATION MAPPING PROCESS

The process of sanitation mapping consists of at least five steps (see diagram on page 20).

Scoping. Members of the working group should agree on the type of information to collect, including sources, coverage, methods of information collection and analysis, and estimated timeframe. Priority should be given to mapping areas occupied by low-income earners. Members of the working group should also agree on distribution of tasks, which include collection and analysis of information and reporting. Any need for external assistance should also be identified at this point.

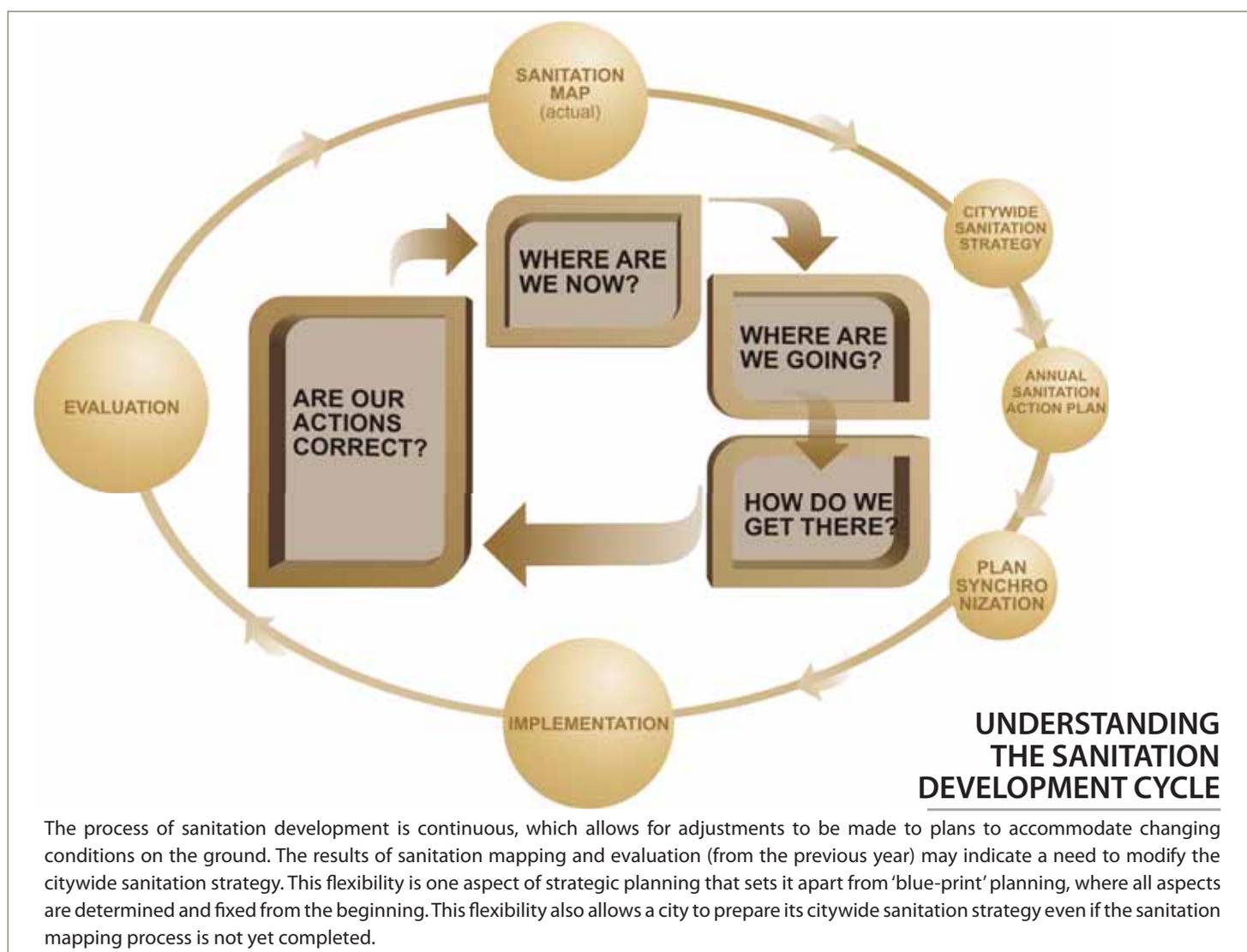
Collection of sanitation data. The focus is on collecting secondary data from related municipal agencies and other stakeholders. Other than official records and statistical data from municipal agencies, program implementation reports (on programs in progress and completed) are also an important source of data. These should include reports on programs run by NGOs and the private sector. To verify data collected, the sanitation working group may organize site-visits for first-hand observations.

Initial analysis of the secondary data collected. From this analysis, the working group will draw general conclusions on the status of sanitation in the city. Some sanitation indicators, such as community access to sanitation services, will become apparent. From



Infographics: E. Sunandar

Having completed the sanitation mapping, the sanitation working group should be able to answer the question: **Where are we now?** The answer forms the baseline from which the sanitation planning process can begin.



Infographics: E. Sunandar

this initial analysis, the group can begin preparing a draft sanitation mapping report. This initial analysis can also help define the scope of the next step.

Collection of additional sanitation facts usually involves surveys, direct measurements, field assessments and studies. A more detailed explanation of primary data collection is given in the next sub-chapter.

Final analysis assesses all the data collected, both secondary and primary. The results should a) determine the need for sanitation services and opportunities for development, and b) recommended interventions for sanitation services development. In addition, the results may also revise or add to conclusions about the city's sanitation status. The working group can now begin finalizing the sanitation mapping report (see box on **White Book**).

Sanitation mapping may take time and money, especially if it is to be comprehensive and sound. Fortunately, for an accelerated sanitation development program, less-than-perfect sanitation mapping is acceptable. Secondary data from municipal agencies and other parties can be used. While primary data are needed only for certain aspects and

geographic areas where secondary data are lacking and/or priority interventions are required. As sanitation services are developed, more data on sanitation conditions can be collected. And gradually, the city's sanitation map will be more complete and accurate.

Sanitation mapping is the starting point for cooperation among members of the sanitation working group. There may be teething problems as members get used to each other's work habits and understanding of issues (see sub-chapter **Building Common Understanding** in **Chapter 2**). Facilitators may help to bridge communication and cooperation among members. Nevertheless, members must keep in mind that the purpose of sanitation mapping is not for finding fault, but is the first step to finding solutions.

DIRECTLY TO THE SOURCE

The big question **"Where Are We Now?"** embodies hundreds of specific and detailed questions. Some of the questions can be immediately answered by secondary data from related municipal agencies. However, some others have to wait until the sanitation working group completes their survey and on-site assessments.

An on-site assessment tool used as part of sanitation mapping is **environmental health risk assessment** (EHRA). EHRA assesses health and hygiene behaviors and sanitation facilities in sample households in a city ward (see box on page 22). Information gathered will be used to determine the vulnerability of a neighborhood to environmental health risks.

Sanitation supply assessment (SSA) examines at the level of private sector and community participation in provision of sanitation products and services. SSA begins with the design of a model that depicts the distribution of roles and responsibilities among government, community groups, and private sector relating to sanitation services. A survey is then designed based on this model. The results of the assessment provide a clearer picture of private sector and community involvement in sanitation, and lay the foundation for a strategy to increase private sector and community participation.

Media assessment is used to determine the best type of media for communicating news and information to the community. Results of the media assessment will be used as input in designing a sanitation campaign for the city.

Given the time, human resource and financial constraints, it may be necessary to prioritize. In such situations, the survey and assessment should be done only in selected parts of the cities, or targeting only selected sources of information.



Infographics: E. Sunandar

The purpose of sanitation mapping is not to find fault. Rather, it is the first step to finding solutions.

WHITE BOOK

The results of sanitation mapping in ISSDP are reported in a document called the white book. The white books prepared by cities involved in ISSDP generally consist of seven chapters. In addition to an introductory chapter, the chapters generally discuss:

- **City Overview**, which is a brief description of the geographic and topographic characteristics of the city, administrative districts, current land-use, municipal government structure, the vision and mission of the city, and demographic and socio-economic conditions.
- **City Sanitation Status**, which describes the condition and level of existing sanitation services (wastewater, solid waste, drainage system), public health conditions, current and planned sanitation programs and activities, sanitation-related institutions and regulations, and funding for sanitation.
- **City Sanitation Problems**, which describes problems that have impeded or may impede the development of sanitation services. These problems may be related to technical or enabling aspects (community participation, policy and regulation, institution, non-government involvement, financing).
- **Indicative Sanitation Development Plan**, which illustrates a) sanitation development trends, needs, and opportunities, and b) recommendations for intervention.
- **Identification of Priority Areas**, which identifies city wards (kelurahan) prioritized for sanitation development.
- **Summary and Conclusion**, which briefly describes issues requiring attention when preparing the citywide sanitation strategy, including recommended activities for sanitation development.

The white book is usually accompanied by an executive summary, aimed at city decision makers. Generally, an official cover letter signed by a high-ranking city official is also a part of the white book. Payakumbuh Municipality White Book, for example, is signed by the mayor.



DETERMINING PRIORITY AREAS

Sanitation mapping, as mentioned earlier, will produce recommendations on sanitation service interventions in a city (see diagram on **Sanitation Mapping Components**). This is not limited to types of intervention, but also includes areas that should be prioritized in developing sanitation services. The ward (*kelurahan*) or village (*desa*) is generally used as the geographical unit in the sanitation mapping process.

Wards with the highest environmental health risk will be prioritized

ASSESSING ENVIRONMENTAL HEALTH RISK

"Excuse me. Where do you and your family usually go to defecate?" a surveyor politely asks a woman. Surprised by the question, she replies, "In the river back there. My husband made a latrine there."

Courteously, the surveyor again asks: "Where do you go at night?" "The same place," she answers briefly.

"How about water? Is there a water tank, or do you have to carry water in a bucket?" Slightly agitated, the woman replies, "In a bucket. There's no water tank in the latrine; it's way too small. You're lucky to be able to squat in there!"

This is an extract of a dialog from an environmental health risk assessment (EHRA). Questions raised by the surveyor may annoy some respondents. Especially since some of the questions are personal in nature and may seem inappropriate.

The EHRA is designed to get a snapshot of the availability and condition of household sanitation facilities and practices. The questions and observations cover clean water, latrine/toilet, solid waste, and drainage. Additional questions are intended to look at the health and hygiene behaviors and habits of a household, particularly handwashing with soap, defecation (including disposal of infant feces), and garbage separation. In total, the EHRA questionnaire consists of about 90 questions.

For ISSDP, EHRA was used at the city ward level. Several households in each ward were selected as samples. The results were then analyzed to determine the level of environmental health risk of the ward. When implemented in all the wards of a city, EHRA results can help identify neighborhoods that need to be prioritized in the city's sanitation development plan.

When collecting data, EHRA surveyors usually conduct interviews and gather observations from representative members of the household. Women are often selected as respondents. To get closer to their respondents, EHRA surveyors are usually recruited from local health clinics or posyandu. NGOs are often involved in implementing EHRA. It is recommended that sanitation working group members oversee the implementation of the surveys and data analysis.

Indirectly, the EHRA also helps members of the sanitation working group learn about the issues. Their active involvement in the EHRA prepares them to deal with sanitation problems in their cities head on. EHRAs also help build the awareness of communities, especially of people living in the areas surveyed. Questions from and dialog with the EHRA surveyor can help women better understand sanitation, especially aspects related to their day-to-day lives.



Photo: Bayu Rizky

In determining the priority areas, the wards with the highest environmental health risk will be prioritized. Many parameters can define the level of environmental health risk of a ward. However, the sanitation working group is advised to use parameters that are supported by data, either secondary data collected at the beginning of sanitation mapping or primary data produced by EHRA or other assessments. In addition, opinions of the working group members can be taken into consideration in determining priority areas (see box on page 23).

SELECTING PRIORITY AREAS IN THE CITY OF DENPASAR

Priority wards are those with the highest environmental health risk. Facts show that priority wards are typically those without adequate sanitation services. The risk is even higher where the areas are heavily populated. These are facts that the sanitation working group considers when deciding on priority areas for sanitation development.

Identification of priority areas in ISSDP cities is based on the following: 1) secondary data, 2) primary data, and 3) perceptions of the sanitation working group members. For example, in identifying priority areas in Denpasar, the sanitation working group used secondary data on population density, number of poor households, and coverage of the local water utility water supply network. Primary data used included data on water supply quality and availability, the condition of latrines, sludge management, hand-washing practices and solid waste management (based on the results of the EHRA). Working group members also provided their input on conditions in the wards, based on own knowledge of these areas.

For each aspect, the sanitation working group gave a score on a scale of 1 to 4, for each ward in the city. A score of 1 was given if the conditions were considered good, a score of 2 for fair conditions, a score 3 for poor, and a score 4 for very poor conditions. The

scores for the three aspects were then averaged out. The ward that came out with the highest final score was identified as having the highest environmental health risk, and thus a priority area for sanitation development.

It is likely that more than one ward will be categorized as priority. Denpasar's sanitation working group identified six villages/wards with a high environmental health risk.

**PRIORITY SETTING
PEHENTUAN AREA PRIORITAS BERDASARKAN TINGKAT RESIKO
KOTA DENPASAR**

Kecamatan Kategori/Desa	Data Sekunder	Persapi SKPD	Hasil EHRA	Final Score
A. Denpasar Selatan				
Desa Panyapi	2	2	2	2
Desa Panyapi Kiri	2	2	2	2
Desa Panyapi Kanan	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	2
Desa Panyapi Timur	2	2	2	2
Desa Panyapi Tengah	2	2	2	2
Desa Panyapi Utara	2	2	2	2
Desa Panyapi Selatan	2	2	2	2
Desa Panyapi Barat	2	2	2	

4

FORMULATING THE FRAMEWORK FOR SANITATION DEVELOPMENT

The framework for sanitation development consists of a vision, mission, goals and strategic policies. Usually, a sanitation vision has to be agreed on before determining the missions for sanitation development, with goals attached to each mission. Finally, the framework will, in general, describe strategic policies required to achieve each goal. Sequential formulation of this vision, mission, objectives, and strategic policies is a must in sanitation strategic planning.

The sanitation vision is determined with the involvement of various stakeholders, including those who are engaged as members of the sanitation working group and others. The vision is an important part of the citywide sanitation strategy which will ensure that sanitation development implemented by all parties stays on course.



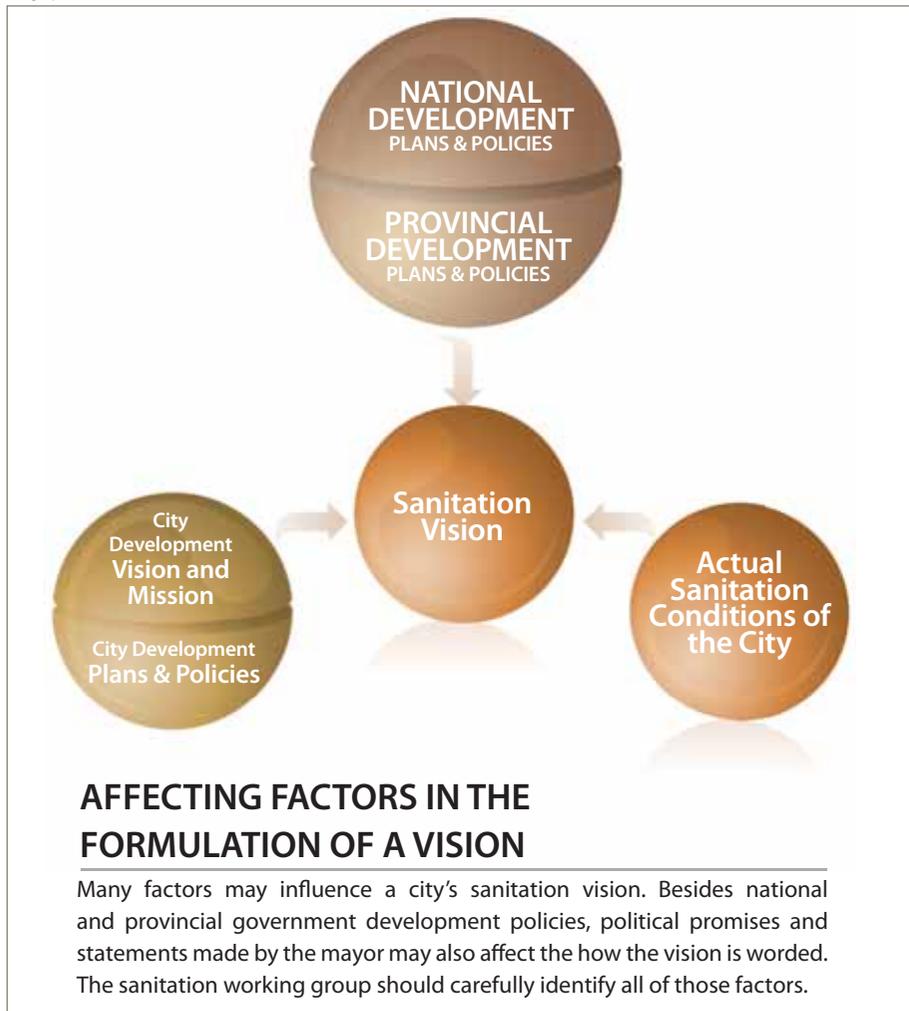
START WITH A COMMON VISION

A vision statement is part of mid-term or long-term strategic plans. In this context, a vision is a projection of an ideal future condition desired by all stakeholders. It usually represents what they envision accomplishing in 10 to 20 years to come. This vision then will guide the planning process that will be conducted by those stakeholders.

The vision should depict a healthy and hygienic city resulting from availability of comprehensive and sustainable sanitation services

As with other strategic plans, a citywide sanitation strategy also needs a vision statement. The vision should depict a healthy and hygienic city resulting from availability of comprehensive and sustainable sanitation services, or in other words, one that meets the principles of total sanitation.

Infographics: E. Sunandar



Many internal and external factors of government affect the formulation of a city's sanitation vision (see diagram on the left). The sanitation vision should also be aligned to the city's capacities and potentials. If the vision is too grandiose, most people will treat it as no more than a slogan with little substance. To avoid this, all stakeholders must understand the consequences of the proposed vision before agreeing to it.

The city's sanitation vision statement should be easy to understand. Nevertheless, putting together such statement is no easy task (see the following illustration). Besides having to precisely portray the desired condition, the vision statement must also be a) easy to envisage, b) easy to communicate, c) sufficiently broad, d) adaptable to the city's dynamic condition, and e) formulated in a concise, clear and concrete way. The vision statement should also reflect the format and substance of the overall vision of city development. Compatibility between the two would make the sanitation vision more acceptable.

Vision:

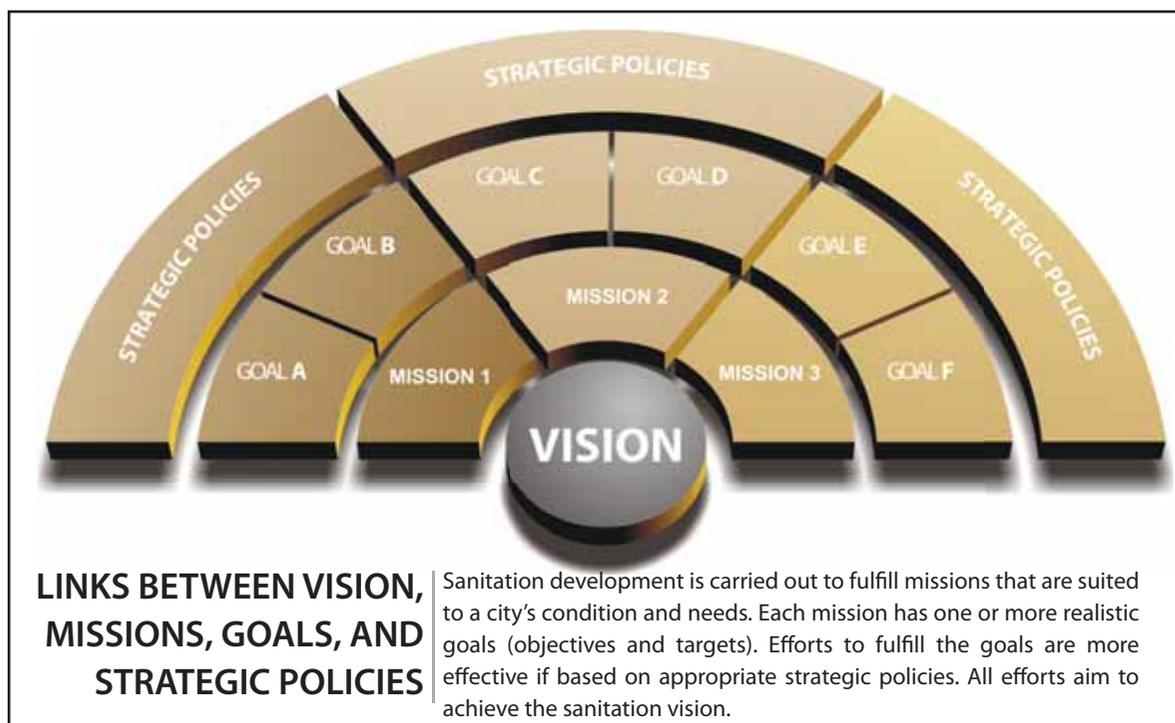
"Total Sanitation Services in a Tranquil Tourist City by 2015"

A sanitation vision should be a) equitable, b) acceptable, c) sustainable. Use of the term 'total sanitation services' in the above vision statement reflects these three values. The phrase "tranquil tourist city by 2015" refers to the city's general vision for the future.

Illustration: M. Taufik Sugandi

COMPLETING THE SANITATION DEVELOPMENT FRAMEWORK

After the sanitation vision has been agreed, the sanitation working group needs to formulate the rest of the sanitation development framework. Other components of the framework – the missions, goals, and strategic policies -- are explained below (see the diagram below).



Infographics: E. Sunandar

- **Missions:** describe the principal tasks of sanitation development actors based on the sanitation vision. Although they may vary from one city to another, in general, sanitation development missions covers four main tasks 1) developing wastewater services, 2) developing solid waste management services, 3) developing drainage services, and 4) improving health and hygiene behavior. The recommended interventions contained in the white book influence the mission formulation (see box on page 21).

SMART
Increase the coverage of solid waste removal to final disposal sites from 21.9% to 39% by 2012.



City sanitation development should have clear goals (objectives and targets). Statements of goals must be SMART (specific, measurable, attainable, realistic and time-bound), as shown in the illustration.

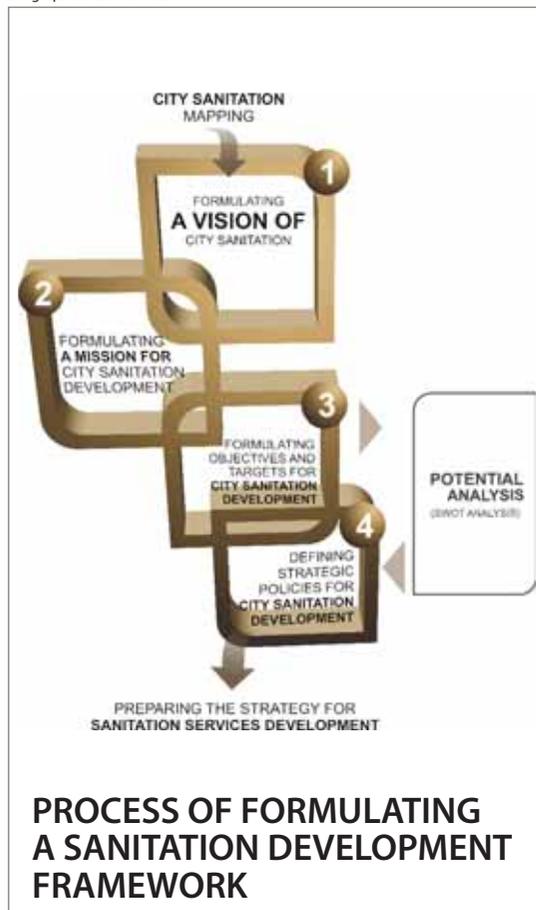
- **Goals:** set for each mission. The goals of sanitation development describe a) **the objective** or what is to be achieved by the mission, and b) **the target** or extent to which the objective will be achieved. Several criteria (see diagram on page 26) are used to set goals, one of which is measurability. When a goal is measurable, the performance, effectiveness, and efficiency of sanitation development programs can be assessed more objectively and accurately.
- **Strategic Policies:** specific strategic approaches that the city will adopt to achieve its sanitation development goals. The strategic policies adopted depend very much on the resources available (see sub-chapter **Strategic Approach** in **Chapter 1** for examples of general strategic approaches).

The terms **goal, objective, target,** and **strategic policy** have never been standardized. In many strategic planning documents, the terms policy direction, development principles, or general strategies are used instead of strategic policies.

PROCESS OF FORMULATING A SANITATION DEVELOPMENT FRAMEWORK

The process of formulating a sanitation development framework consists of four steps as follows (see diagram, left):

Infographics: E. Sunandar



Formulating a Vision of City Sanitation, which considers, among others, the general vision of the city and the political stance of the city’s leaders. As explained earlier, the sanitation vision must be presented in an easy-to-understand statement. Each member of the working group should agree on the proposed vision before it is taken to the executive or legislative level for endorsement.

Formulating Missions for City Sanitation Development, which takes into account the sanitation vision that has been agreed upon. As stated above, city sanitation development missions usually comprise missions for improving wastewater services, solid waste management services, drainage network services, and health and hygiene practices. A mission statement does not usually state the place and time of implementation. However, a mission statement can always be supplemented with information on the principles of services development.

Formulating Objectives and Targets for City Sanitation Development for each sanitation development mission. These are broken down into objectives and targets, and determined based on results of the sanitation mapping, including community demands. Statements of objectives and targets should be based on SMART principles.

Defining Strategic Policies for City Sanitation Development considers the outputs of the analysis of potentials and the principles of total sanitation. At the end of this step, each sanitation development objective will have at least one strategic policy that forms the basis for determining sanitation development activities (see box on page 28 for a sample).

CITY SANITATION DEVELOPMENT FRAMEWORK

Below is an illustration of a city's sanitation development vision, missions, objectives, and strategic policies.

VISION: TOTAL SANITATION SERVICES IN A TRANQUIL TOURIST CITY BY 2015

MISSION	OBJECTIVES AND TARGETS	STRATEGIC POLICIES
MISSION 1: TO REALIZE WASTE WATER SERVICES CONSISTENT WITH TOTAL SANITATION SERVICE PRINCIPLES		
Zero open defecation by 2012		Raise community awareness of the a) impacts of open defecation, and b) benefits of private toilets or public bathrooms and latrines
		Develop regulations that prohibit open defecation
Adequate private toilets and septic tanks in 70% of all homes and buildings by 2010		Raise community awareness of the benefits of private toilets
		Disseminate standard specifications for private toilets and septic tanks
		Persuade the private sector to make the tools and materials for making private toilet more readily available
		Develop and disseminate city regulation that makes private toilets mandatory in all new houses and buildings
Public bathing-and-washing toilets for 15 poor neighborhoods by 2012		Raise awareness of all low-income communities about the advantages of public latrines
		Engage other parties, such as national and provincial government and the private sector, in financing the construction of public latrines
		Facilitate construction of public latrines by NGOs and community groups
		Allocate funds from social infrastructure budget for provision of new public latrines
A sewerage system that covers 20% of the city by 2015		Extend the coverage of sewers in the clusters already serviced by the existing sewerage system
		Develop new clusters to be serviced by the sewerage system, especially in commercial districts of the city
		Facilitate involvement of the private sector in constructing and managing the sewerage system
Adequate capacity of sludge collection and treatment services by 2010		Encourage private sector involvement in sludge collection and treatment services
		Increase the capacity of existing sewage treatment plants by modifying technologies and improving their operations
		Install new sewage treatment plants for domestic wastewater from the south and east of the city
		Develop and disseminate city regulations requiring sludge removal trucks to dispose of wastewater in sewage treatment plants.

One commonly required process is analysis of potentials. Many techniques may be used to conduct the analysis. One is the **SWOT analysis**, which assesses a city's strengths and weaknesses (internal factors) and opportunities and threats (external factors) of a city to meet each objective and target. The SWOT analysis uses information already collected during sanitation mapping.

5 PREPARING A STRATEGY FOR SANITATION SERVICES DEVELOPMENT

The objectives and targets for sanitation development have now been agreed. So have the strategic policies. The sanitation working group's next task is to determine the types of sanitation services to be developed in each area of the city to meet each area's specific needs. Many factors, including funding, must be considered in selecting the types of services. Input from the community is vital. Where possible, existing facilities should be kept working and improved.

One of the sanitation working group's tasks is to propose options for sanitation services suitable for their city. These will include wastewater removal and treatment, solid waste management, and drainage networks. Proposed options must also reflect current conditions, existing services, and community aspirations.

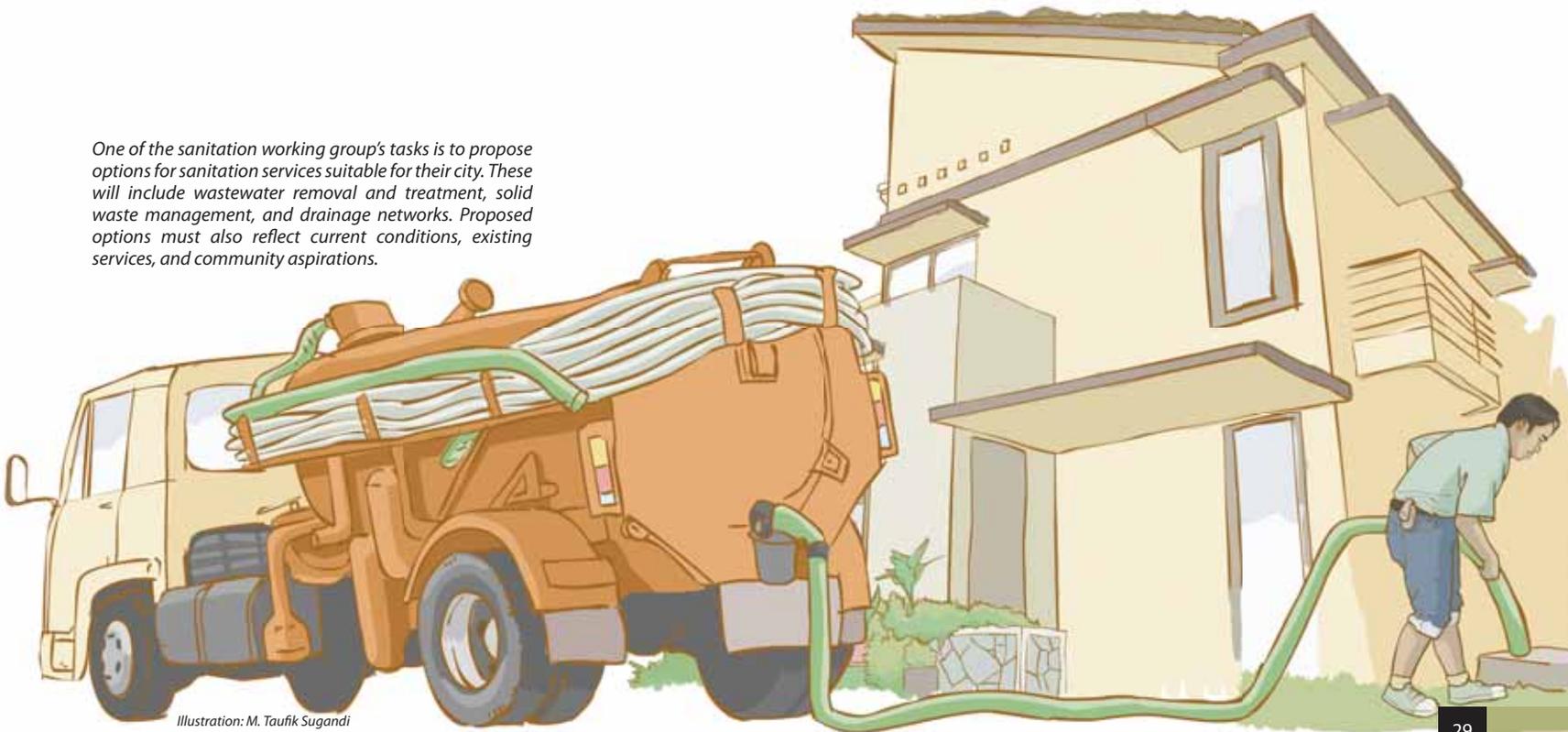


Illustration: M. Taufik Sugandi

INTERPRETING THE SANITATION DEVELOPMENT FRAMEWORK

When starting this stage, the working group has already formulated the vision, missions, goals and targets. They have also identified various strategic policies to achieve each goal and target (see box on page 28). However, this framework still addresses the city as a whole. In reality, the city is made up of many areas, each with its own problems. The problems in one ward will not be the same as those in other wards. Hence, solutions for one ward may not be appropriate for the others. Thus, the sanitation working group must prepare a strategy for sanitation development for each area, zooming in on the specific sanitation situations in each part of the city.

The sanitation working group must prepare a strategy for sanitation development for each area, zooming in on the specific sanitation situations in each part of the city



The sanitation working group will define more specific targets for sanitation development in each section of the city, covering wastewater management, solid waste management and drainage. These targets are used as a reference in preparing sanitation development strategies for all parts of the city. The sum of the specific targets for each area is equal to the target for the entire city.

DECIDING ON THE TYPES OF SANITATION SERVICES

A strategy for sanitation services development includes the types of sanitation services to be deployed in each section of the city. Before deciding on the most appropriate types of sanitation services, the working group has to first analyze the options available. There are five factors to consider in the decision-making process: 1) area characteristics, 2) existing services, 3) community demands, 4) technical feasibility, and 5) availability of finance. The working group also needs to ensure that the options chosen do not diverge from the principles of total sanitation.

This part of the strategy is often regarded as the core of the citywide sanitation strategy. Based on this core, the sanitation working group prepares the strategy for the supporting aspects, which include community participation, policy and regulation, institutions, funding, and private sector and NGO participation (see **Chapter 4**).

MANY REFERENCES ARE AVAILABLE

Many technical options for sanitation facilities exist. There are options for the household, community, or city scale. Some are simple technologies, others are more sophisticated (see box **Wastewater Service Options**). The working group should study the advantages and disadvantages of each option before selecting the most appropriate type of service. As part of the process the working group will consult references and experts to help determine which options are most suitable. One important reference is the national minimum standards for sanitation services. Another helpful reference is the Handbook on Sanitation Systems and Technology Options.

BOX

WASTEWATER SERVICE OPTIONS

Many types of wastewater management technologies are available. All can nonetheless be classified as off-site systems or on-site systems. Each has its own advantages and disadvantages. The working group has to carefully gauge which option is best suited for each section of the city.

Off-site systems use the sewerage system. Sewers collect all wastewater and channel it to a sewage treatment plant. The plant processes the wastewater and disposes of the effluent in a nearby water body. Development of an off-site system is costly. But in densely populated areas, off-site systems are more environmentally friendly than on-site systems. An on-site system requires that each household has its own septic tank. The septic tank reduces the organic compounds in the wastewater, and the effluent is absorbed by the surrounding soil through a leaching field, soakaway, reedbed or other options. The sludge in the septic tank is emptied regularly by sludge truck and taken to a **septage treatment plant**.



Illustration: E. Sunandar

The best reference for selecting sanitation service options is the city's own experience. Some working group members will be aware of which sanitation services are functioning well and which are not. Those which are functioning well can be considered as options for the sanitation development strategy, while those that have failed should not be considered.

The working group should also look at the experiences of other Indonesian cities. State-of-the-art sewerage systems can be found in Bandung and Denpasar (see **Chapter 1**). Small-scale SANIMAS (sanitation by communities) sewerage systems are used in many cities in Indonesia. Bekasi, just outside Jakarta, is improving the performance of its final solid waste disposal site through a clean development mechanism. A waste-to-energy facility will also soon be operating in Bandung. All these can be used as sources of information before deciding on sanitation services options. If more assurance is necessary, cities can implement pilot projects in selected areas.

MAINTAINING AND IMPROVING EXISTING FACILITIES

The working group should pay special attention to the city's existing sanitation facilities. By utilizing existing facilities, the city can reduce the amount of new investment needed. And, if the city wants to replicate such facilities in other sections of the city, it has the experience, human resources, and supporting facilities to support replication.

The working group should pay special attention to the city's existing sanitation facilities

There are several ways to improve the performance of existing facilities. One way is through technical modifications of the facilities or operating procedures and adequate maintenance. Another way is by involving the users in minimizing their waste. For example, the operation of a solid waste disposal facility can be sustainable if the community is willing to reduce, reuse, recover, and recycle its wastes. Similarly, existing drainage can be kept in operation by regular cleaning and by residents installing biopores or infiltration wells in their house yards.

Visiting sanitation facilities in other cities, either in-country or abroad, can be useful. One city worth visiting is Kuala Lumpur (Malaysia). In some parts of the city, modern technologies, such as the aerated lagoon shown in the photo, are used to treat domestic wastewater. Other parts of the city use simpler technologies such as communal septic tanks.

Photo: Rudy Yuwono





Photo: Endro Adinugroho

Every city is faced with the choice of keeping existing sanitation services or building new ones. A city may opt to maintain the existing services, especially if their performance can be optimized through non-physical interventions, such as revising maintenance schedules, adding operations budget, shifting operations schedules, and improving operator capacities.

By maintaining existing facilities, cities can take immediate action to improve sanitation services. Some examples are expanding the drainage network, improving the maintenance of public bathrooms and toilets, and providing more garbage collection carts. The implementation of immediate programs will build public confidence in the government's commitment to accelerate sanitation development in the city.



SUSTAINING SANITATION SERVICES

In selecting sanitation options, a city should take into account who will be responsible for development and for management and maintenance of the facilities. If a city has limited financial resources, the development and management of sanitation facilities may be handled by non-government parties, either community groups, private companies, or house owners or occupiers (see diagram on page 33).

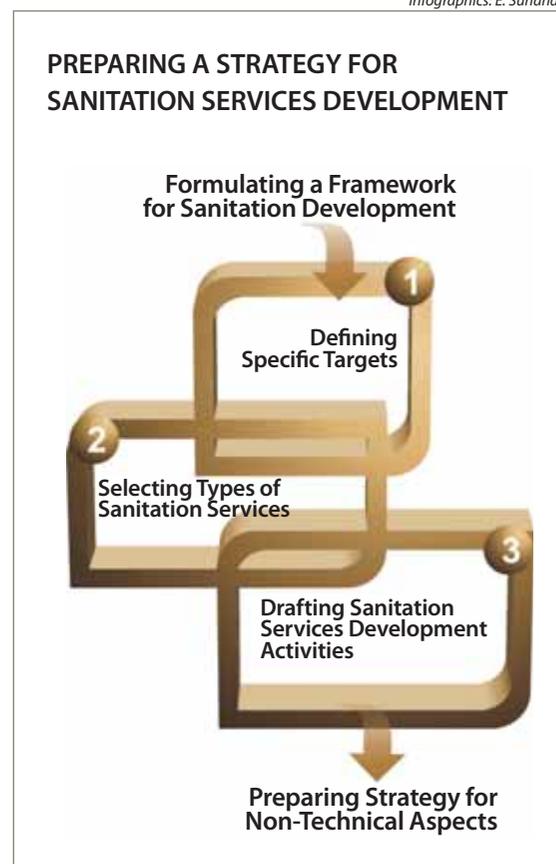
Each type of sanitation development will need non-technical components that enable sustainable operations. These non-technical components for the proposed sanitation services will be compiled, analyzed, and presented as the basis for preparing the strategy for sanitation services (see **Chapter 6**).

PREPARING A STRATEGY FOR SANITATION SERVICES DEVELOPMENT

The process of preparing a strategy for sanitation services development comprises three steps (see diagram):

- **Defining specific targets.** This is done after the working group has analyzed the sanitation issues in each section of the city. Through workshops involving stakeholders in the relevant areas, the working group will set development targets for wastewater, solid waste service, and drainage services that are acceptable to all stakeholders. A phased approach to achieving targets may be necessary to suit the conditions and capacities of the city. Priority wards should be given special attention (see sub-chapter **Determining Priority Areas** in **Chapter 3**).
- **Selecting types of sanitation services** to address the problems of each section of the city in line with the specific targets. This step requires information about existing services and the technical options available. If necessary, the working group can invite experts to help review the options. There are at least five factors which should be considered in deciding which types of sanitation services to develop (see sub-chapter **Selecting Types of Sanitation Services**). Workshops are needed to ensure that all stakeholders are involved, particularly the people who will be using and paying for the sanitation services (see sub-chapter **Listening to People**). At the end of this step, the working group must consider the implications of implementing each type of sanitation service for community participation, operations and maintenance, policies and regulations, institutions, financing, and private sector and NGO participation.
- **Drafting sanitation services development activities.** The outputs of the previous step are translated into a comprehensive proposal. For each proposed activity, the timeframe, location, estimated budget, parties responsible, completion targets, and resources required are defined. If it is necessary, two or more proposed activities can be combined into one proposal, provided that the location, type of service, timeframe and parties responsible are the same.

Infographics: E. Sunandar



Each type of sanitation facility will require supporting components. For example, a plan to develop a new final solid waste disposal site will require a) dissemination of environmental protection plans, b) capacity building for the city cleansing agency to maintain and operate the facility, c) regulations prohibiting construction of houses around the facility, d) involvement of NGOs to empower scavengers, e) budget for construction and operations of the facility, f) tariffs for use of the facility and annual operations budget. These requirements will be assessed during preparation of the strategy for developing the non-technical aspects.



LISTENING TO PEOPLE

In selecting types of sanitation services, it is important to listen to the opinions of the people who will use and pay for the services. Without bottom-up participation and input, a sanitation service may not be utilized or well maintained for technical, socio-cultural or economic reasons. The principles of total sanitation require proportional community participation in the development and the operation of sanitation services (see related sub-chapter in **Chapter 1**).

Collecting and analyzing input from the public is a challenging task. It is impossible for the working group to collect input from the entire city. Inevitably, the working group must select only a number of community groups. Given the diversity of the population and the variety of inputs, it may be difficult to draw conclusions. Communities with a low-level of awareness of sanitation issues may reject plans for sanitation services in their area, while communities with high-level of awareness may never be satisfied with any plan. In such situations, conclusions based on majority inputs may give misleading results.

With more knowledge and sufficient information, the community will be able to make informed choices

This situation can be avoided if the working group is able to stimulate the community's demand for improved sanitation prior to the survey. With more knowledge and sufficient information, the community will be able to make informed choices. With a more even knowledge base, inputs from the community will be less diverse and, thus, drawing conclusions should be easier.

Another question is the extent to which public inputs influence official decision-making. At the end of the day, it is the municipal government that decides which services to develop. Its decisions might not tally with public expectations. There are other factors that the municipal government has to consider, such as national minimum standards for sanitation services, the effectiveness and efficiency of proposed services, and the availability of finance. Furthermore, the municipal government should ensure that the sanitation services help the city meet its sanitation development goals and targets.

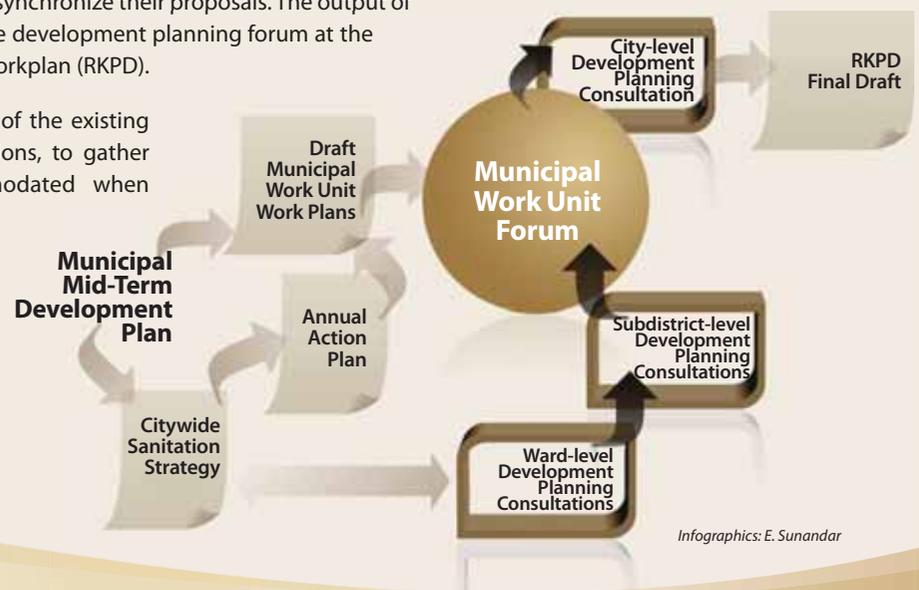
The government has participatory development planning procedures and mechanisms in place. Development planning consultations (*Musrenbang*) gather input from communities

Development Planning Consultation: WHEN BOTTOM-UP MEETS TOP-DOWN APPROACHES

The mechanism of development planning consultation designed by government is a means of participatory development planning. The ultimate goal is to ensure that the government's development plans accommodate the wishes of the people. This mechanism is useful for preparing citywide sanitation strategies, especially for gathering public input about sanitation services to be developed in each area.

There are several levels of development planning consultation. At the lowest level is development planning consultation in the wards, at which residents can propose activities they consider important for their neighborhood. These proposals are then brought to the next level of development planning consultation, at the sub-district. Proposals from all wards in one sub-district will be assessed in terms of their feasibility. Feasible proposals will be fed into the municipal work unit (SKPD) planning forum. Here, the bottom-up proposals (from the community) will be assessed against the top-down proposals (from municipal agencies). The municipal work units try to adjust their plans to accommodate the communities' proposals. The work units responsible for sanitation, public works, health and the environment will work together to synchronize their proposals. The output of the municipal work unit forum will be taken to the development planning forum at the city level as final input for the city development workplan (RKPD).

Sanitation development planning can make use of the existing mechanism of development planning consultations, to gather proposals from communities to be accommodated when preparing the citywide sanitation strategy, and to gather public input about the sanitation services proposed in the sanitation development action plan. As the diagram shows, the municipal work unit work plans at the municipal work unit forum may include proposals in the sanitation development action plan.



at the village or ward level, which is accommodated in decision-making processes at the city level (see box **above**). This mechanism should identify local community aspirations for development of sanitation services.

STRATEGIES FOR DEVELOPMENT OF THE NON-TECHNICAL ASPECTS OF SANITATION SERVICES

In order to be sustainable over time, sanitation services need the support of communities, policy and regulations, institutions, the non-government sector, funding, and monitoring and evaluation. Only with this support, can the principles of total sanitation be achieved. Experience shows that non-technical aspects often need strengthening, so specific strategies and planning are required. In fact, some non-technical aspects are prepared or implemented prior to development of the sanitation services themselves. This can help ensure sustainable operations of the sanitation services.

Many community awareness programs target children. Through them, sanitation messages are communicated to their parents, siblings and friends. Children can also act as a pressure group for the creation of better sanitation services, both now and in the future.



ENSURING SUSTAINABLE OPERATIONS AND MAINTENANCE

For each proposed sanitation service, the sanitation working group should identify the supporting and enabling components required. Non-technical components may include (see diagram below):

Infographics: M. Taufik Sugandi



- **Community participation:** especially participation of the prospective users of the planned sanitation services (see sub-chapter **Preparing the Community**),
- **Policy and regulations:** particularly to accelerate implementation of proposed sanitation services and ensure continuous functioning,
- **Institutional:** identifying municipal agencies to be involved in planning, developing, and managing the sanitation services,
- **Private sector involvement:** including providers of sanitation products and services, investors in sanitation services, and donors for development of sanitation facilities (see sub-chapter **Private Sector Involvement**),
- **NGO involvement:** particularly NGOs that will advise and support prospective users of the sanitation services,
- **Financing and tariffs:** relates to the provision of funds for planning, developing, managing, operating and maintaining the services, and the activities to prepare non-technical components (see sub-chapter **Accessing Finance**),
- **Monitoring and evaluation:** to assess the effectiveness of a plan or the performance of a sanitation service.

These non-technical aspects ensure that sanitation services are developed as planned and function continuously. There are many examples of public toilets unused because construction of the facilities was not accompanied by initiatives to involve the target communities and promote the use of the facilities, nor were there plans for operation and maintenance of the facilities. As a result, after the facilities were ready, people continued going to the river to defecate.

Strategies for non-technical aspects are just as important as the technical aspects

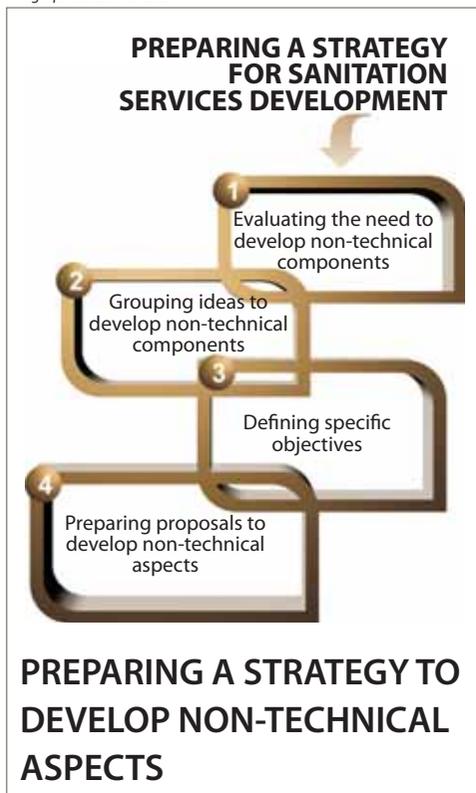
In a citywide sanitation strategy, the non-technical strategies are just as important as the technical aspects. In some cases, these non-technical components will have to be developed in advance of sanitation services development, and may require larger budgets.

Similar to development of sanitation services (see **Chapter 5**), the non-technical components will also follow specific objectives. A citywide sanitation strategy that addresses both technical and non-technical aspects is comprehensive: it covers not only physical investment, but also factors that will ensure sustainability and use of the investment.

STRATEGIES TO DEVELOP THE NON-TECHNICAL ASPECTS

There are four steps in preparing a strategy for the non-technical components (see diagram):

Infographics: E. Sunandar



1. **Evaluating the need for non-technical components.** The need for non-technical components is assessed against the existing components of sanitation services. If existing conditions are unsatisfactory, the sanitation working group should discuss ideas about how to develop the non-technical component.
2. **Grouping ideas.** The ideas are grouped by type of component (see diagram). Ideas can also be grouped by location or timeframe. At the end of this process, the working group will have a list of non-technical components to be developed.
3. **Defining specific objectives.** This involves setting objectives (and targets) for each non-technical component. The specific objectives are defined on a year-to-year basis, taking into consideration the capacities of the city. Special attention should be given to developing non-technical components for priority wards.
4. **Preparing proposals to develop non-technical aspects.** The outputs from the previous step are further elaborated and formulated into comprehensive proposals, which describe targets, timeframes, locations, responsible parties, detailed activities (programs, subprograms and projects), resources, and estimated budgets.

PREPARING THE COMMUNITY

Communities need to be encouraged to participate in planning, developing, operating and paying for improved sanitation services. This may be done through a step-wise approach, with clear intermediate objectives, and a communication framework. The community participation strategy should describe, at least, the following:

- Purpose of the program,
- Target groups (primary, secondary, others),
- Links to other sanitation development activities or activities for developing non-technical components,
- Timeframe,
- Key theme or message,
- Methods of building community awareness, participation and ownership,
- Media to be used,
- Actors involved, particularly those responsible for implementation, and
- Methods of monitoring and evaluation.

Strengthening community participation aims to ensure that communities have ownership of, and utilize and pay for, the sanitation services. There may be some intermediate goals as well, such as encouraging and empowering people to voluntarily get involved in the planning process of sanitation development (see **Chapter 5**, sub-chapter **Listening to People**), or to promoting improved sanitation behaviors and practices.

Strengthening community participation aims to ensure that communities have ownership of, and utilize and pay for, the sanitation services

Selection of **target groups** for a community participation program is influenced by the purpose of the program. To support the development of sanitation facilities at the neighborhood level, or improved health and hygiene behaviors, women are usually chosen as one of the primary target groups. Women generally play a key role in forming the family's attitude towards sanitation, although they usually need their husband's support. Secondary and tertiary target groups also need to be identified, to act as pressure groups supporting the primary target group. One example is children, who communicate messages to their parents and siblings. Raising the awareness of children can also help improve future sanitation conditions. In more affluent residential areas, household staff play an important role in managing wastewater, garbage, and run-off. Other typical secondary target groups are government agencies, private sector, and NGOs. They can play an active role in promoting improved sanitation and communicating messages to a wider audience, depending on their sphere of influence.

In designing a **key message or theme**, the sanitation working group should first assess the target group's awareness, knowledge, attitudes, and behaviors. Some of this information may be gleaned from the **environmental health risk assessment (EHRA)** (see **Chapter 3**, box **Assessing Environmental Health Risk**). Communicating messages about the impacts of poor sanitation would be pointless if the target group is already well aware of the situation. For these target groups, the sanitation working group should select a more progressive message, such as the benefits of using sanitation facilities and how to use them.

Initiatives to improve health and hygiene behaviors are a part of all citywide sanitation strategies. To be effective, most sanitation developments require improved sanitation



Photo: ISSDP

Development of public bathing and washing toilets is often accompanied by handwashing with soap campaigns. The main purpose is to promote handwashing with soap after defecating in public toilets. The campaigns also promote the habit of washing hands with soap before and after meals, after playing or working, etc.

practices, such as use of toilets for defecation, washing hands with soap at critical times and separating garbage. Improved hygiene behavior will stimulate demand for better sanitation services. This will motivate the community to use available sanitation services, and encourage them to ask for better sanitation services.

There are many ways to **build community awareness and change behaviors** in sanitation development programs.

Participatory methods using facilitators are most suitable for motivating changes in practices and behaviors among primary target groups. This could, for example, involve engaging them in local level sanitation mapping and assessing the state of sanitation in their local area.

Media campaigns are an effective way of reaching wider target group. Examples include a) television and radio talk shows, b) public service advertisement in newspapers, magazines and electronic media, c) articles in newspapers and magazines, and d) posters and banners in public locations. Media campaigns are effective for mass awareness raising, but less effective than participatory methods for promoting changes in behaviors and practices.

INVOLVING THE PRIVATE SECTOR

Some sanitation developments are suitable for private sector involvement. Municipal governments cannot afford to develop and operate sanitation services by themselves. Neither can residents and NGOs. Involvement of the private sector, formally or informally, is important.

The private sector can be involved in management of domestic wastewater, solid waste and drainage (see box on page 43). Private sanitation services exist in many cities. The classic example is waste recycling, where the informal private sector plays a significant role in helping municipal governments remove and recycle solid waste.

To maximize private sector involvement, municipal governments should create an enabling environment for business. These may take the form of:



Photo: Mittran

The private sector can also contribute more advanced and efficient technologies in addition to finance. The Bumi Serpong Damai housing estate (Province of Banten) operates a materials recovery plant (see picture) separating solid waste. Good examples from the private sector can be used to persuade municipal agencies to develop similar sanitation services.

- **Technical cooperation and support** to help improve the technical performance of private sanitation services. Examples include municipal garbage trucks transporting organic waste to private composting facilities, and municipal sludge trucks disposing of sludge in private sewage treatment plants.
- **Finance**, especially loans, operational subsidies, appropriate tariff levels, and tax breaks or exemptions.
- **Policy and regulations**, particularly policies that encourage people to use private sector sanitation products and services. Examples are policies requiring households to maintain their septic tanks or construct infiltration wells. Regulations to ease licensing requirement, create healthy competition, legal certainty and investment security, and set cost-effective tariffs are also important for private sector involvement.

The sanitation working group must evaluate what support the private sector needs. In some cases, it may be necessary to conduct a more in-depth assessment by evaluating the need to develop non-technical components (see sub-chapter **Preparing a Strategy to Develop Non Technical Aspects**). If the support required is significant, a separate proposal for private sector support can be developed.

To maximize private sector involvement, municipal governments should create enabling environments for businesses

Private enterprises, particularly large ones, may also help to fund the development of sanitation facilities. Many private corporations have funded sanitation facilities in slum areas, including public toilets, composting facilities, and drainage. This financial support is likely to increase in the near future as a result of regulations encouraging private companies to adopt corporate social responsibility (CSR) programs. The sanitation working group should consider this opportunity when preparing a citywide sanitation strategy.

PRIVATE SECTOR AND SANITATION SERVICES

Photo: Taufik Ismail



Plastic recycling is a long-established sanitation business. Small, medium and large enterprises recycle plastic, providing a service that grew without any support from government.

There are many opportunities for the private sector in the sanitation business, including in these areas:

- **Design and construction** of sanitation facilities, from household latrines and septic tanks to sewerage systems and treatment plants
 - **Service providers**, including sludge removal services, operation of public toilets and drainage cleaning services
 - **Operation and maintenance operations**, such as road sweeping and drain cleaning services, removal of garbage to final disposal sites, management of final disposal sites, and operation of wastewater treatment plants
 - **Producers and retailers** of products and equipment, such as refuse trucks, septic tank units, compost processors, sludge pumps, incinerators, cleaning chemicals, toilet and latrine components
 - **Waste management and processing**, such as solid waste recycling, composting, sludge management.

Both formal and informal private enterprises can play an important role. Although competition between them is intense, partnerships between formal and informal enterprises is possible in some situations. For example, in the plastic recycling business, the informal sector is represented by scavengers (wastepickers), and the formal sector is represented by producers of plastic pellets and recycled plastic products.

Opportunities in the sanitation business come not only from municipalities, but also from the private sector such as housing developers, building management firms, and industry. Opportunities may also come from the community, such as in sludge removal services.

ACCESSING FINANCE

Every proposal for a sanitation service, and its non-technical components, needs financing. The amounts required can be estimated in the early stages of strategic planning, and should include costs to be incurred by the municipal government and other parties. The strategy will consider both the initial capital and recurrent financing needs. The sustainability of most sanitation systems depends on having adequate recurrent funds for operations and maintenance.

Financing is often regarded as the defining factor in sanitation development. This is true, especially if a city relies only on the local government budget. However, with a good citywide sanitation strategy, a municipal government will plan to access finances from other sources, such as central government, provincial government, the private sector and the public (see diagram on page 44).

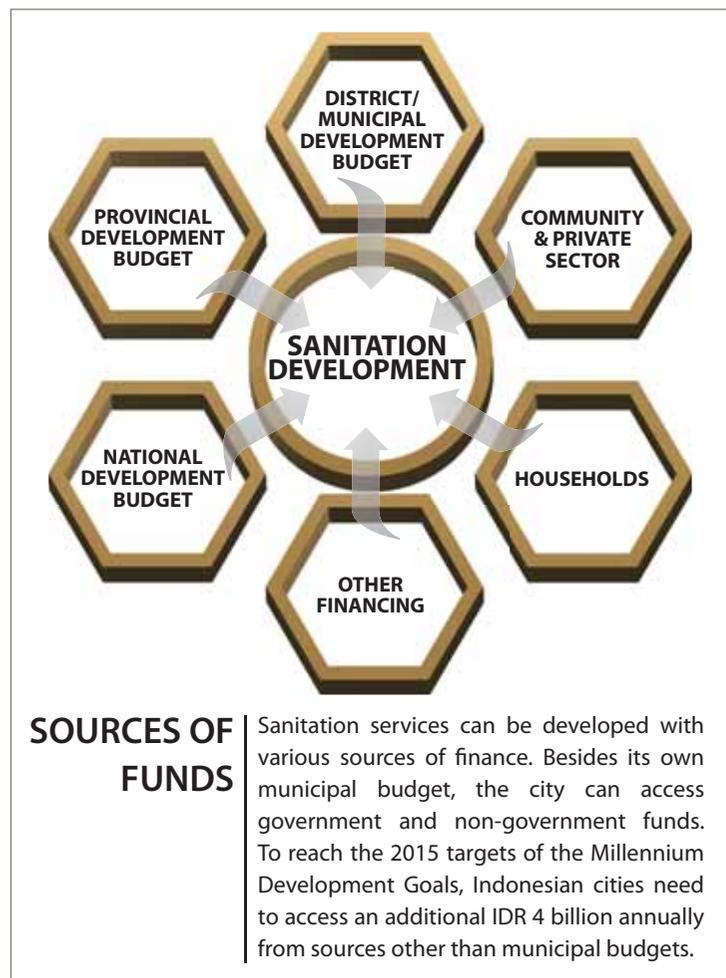
Indonesian cities have so far not been able to allocate sufficient funds for sanitation. Data from 2003 to 2005 indicate that, on average, cities allocate 2.3% of their municipal

budgets for sanitation. Furthermore, since the nominal amount of municipal budget is small, sanitation budgets are correspondingly small. The citywide sanitation strategy can propose a larger allocation from the municipal budget and recommend optimizing use of funds from other sources.

Increasing the municipal budget allocation for sanitation requires commitment from all relevant decision makers, both in the legislative and executive bodies. Approval from the local legislature is key, and such support can be gained if the sanitation working group designs awareness-building activities for all decision makers.

To ensure **sustainability, cost recovery is a must for sanitation services. Tariffs should at least cover operations and maintenance costs.** Even better, they should cover at least part of the investment costs. Tariffs for sanitation services should be increased, except in poor communities. With increased public participation, coupled with improved quality of services, users would be willing to pay higher tariffs. SANIMAS systems have shown that users are willing to pay on a regular basis for good quality services.

Thus, strategies for developing funding for sanitation needs to be supported by strategies for developing non-technical components, especially community participation, policy and regulation, and institutions. Without the support of these components, the sanitation working group would have difficulty obtaining additional financing for sanitation development. These mutual linkages will be described in the citywide sanitation strategy.



Infographics: M Taufik Sugandi

PREPARING MONITORING AND EVALUATION

The sanitation development process consists of a set of inter-related stages that form a cycle (see box on page 8). The outputs of sanitation implementation in a given year will be evaluated and used as inputs to revise the following year's action plan. Therefore, a city's sanitation development should include a monitoring and evaluation component.

Through the Ministry of Public Works, national government has launched the mid-term investment plan (RPIJM) program. This program invites municipal governments to submit financial proposals for infrastructure development, including proposals for developing city sanitation. An example is a proposal to improve final disposal site operations to comply with laws on solid waste management. Cities with citywide sanitation strategies are regarded as more eligible than other cities for RPIJM funding.



Photo: Laksmi Wardhani

Monitoring and evaluation of city sanitation development has three purposes:

- **To evaluate the effectiveness of the planning process**, or assess the effectiveness of the phases in the preparation of the city sanitation strategy, including sanitation mapping, defining the sanitation development framework, and preparation of reports. The results of the evaluation will be used to improve the preparation of citywide sanitation strategy in the next cycle. Monitoring and evaluation is also used to assess coordination within the sanitation working group. This type of monitoring and evaluation is generally qualitative, interactive, and participatory.
- **To evaluate the implementation of sanitation development activities**, or assess the progress and level of achievement of sanitation development activities. This monitoring and evaluation uses indicators set at the time the sanitation activities were proposed. Quantitative results will be used to evaluate whether goals and targets have been reached. The results of the evaluation will be used to improve action plans for the following year.
- **To evaluate the benefits of sanitation development**, or assess the impact of sanitation development programs against trends in sanitation conditions and general environmental conditions, level of sanitation coverage, sanitation behavior of the community, public health conditions, and environmental health risk in each section of the city. The results of the evaluation will be used as a reference to revise the white book (see box on page 21). These results will be compared with the baseline conditions of the city (as stated in the white book or EHRA reports).

Besides proposing a larger allocation from the government budget, the citywide sanitation strategy should also suggest optimizing use of other funding sources

Monitoring is a routine activity for municipal agencies. They have established systems and infrastructure, which can also be used for sanitation. The sanitation working group needs to ensure there is coordination among the municipal agencies so that sanitation is included in the regular systems.



DOCUMENTING THE CITYWIDE SANITATION STRATEGY

The following table contains a description of the chapters and contents of the strategy document.

Chapter 1	<p>Introduction</p> <p>Provides a background and purpose of preparing the citywide sanitation strategy, the legal framework and method used in preparing the strategy. This chapter also describes the structure of the document.</p> <p>The following sub-chapters are recommended:</p> <ul style="list-style-type: none"> • Background • Purpose of Preparation of the Citywide Sanitation Strategy • Legal Framework • Approach Used in Preparing the Strategy • Document Structure
Chapter 2	<p>Direction of City Sanitation Sector Development</p> <p>Describes the general condition of sanitation at present and defines undesirable conditions, opportunities, available resources and challenges to be overcome. General city policy, vision and mission related to sanitation are also defined. This chapter also describes the city's sanitation zoning and prioritization scheme (short- and medium-term).</p> <p>The following sub-chapters are recommended:</p> <ul style="list-style-type: none"> • Overview of City Sanitation Conditions • Vision and Mission on City Sanitation • General Policy and City Sanitation Sector Strategy for Years - • Sanitation Goals and Targets, and Phased Approach.
Chapter 3	<p>Strategic Issues and Challenges in City Sanitation Services</p> <p>Describes strategic issues related to the technical and non-technical aspects of sanitation development, and identifies specific challenges in each.</p> <p>The following sub-chapters are recommended:</p> <ul style="list-style-type: none"> • Non-Technical Aspects (covering local policies and institutions, financing, communications, private sector engagement, community empowerment, gender and poverty issues, and monitoring and evaluation) • Technical and Hygiene Aspects (covering wastewater, solid waste, drainage, clean/drinking water, hygiene).
Chapter 4	<p>Strategies for Sustained City Sanitation Services</p> <p>Defines the goals, specific targets and timeframe for each sub-sector and hygiene. The goals and targets will be linked to indicators used in monitoring and evaluation, and will be evaluated from the baseline data.</p> <p>The following sub-chapters are recommended:</p> <ul style="list-style-type: none"> • Goals and Specific Targets for Each Sub-sector and Hygiene, and Phased Approach • Strategy for Technical and Hygiene Aspects (including wastewater, solid waste, drainage, clean/drinking water, hygiene) • Strategy for Non-Technical Aspect (including local policies and institutions, financing, communications, private sector engagement, community empowerment, gender and poverty issues).
Chapter 5	<p>Sanitation Programs and Activities</p> <p>Provides a list of programs and activities for each of the sub-sectors and hygiene. The list also defines suggested financing sources. For the non-technical aspects, this chapter would address capacity-building needs at the city level, the institution level and working group level.</p> <p>The following sub-chapters are recommended:</p> <ul style="list-style-type: none"> • Programs and Activities for Technical Aspects and Hygiene • Programs and Activities for Non-Technical Aspects.
Chapter 6	<p>Sanitation Monitoring and Evaluation</p> <p>Explains overall set-up and system for monitoring and evaluation in the city. The chapter also describes the roles and responsibilities of different city institutions involved in monitoring and evaluation. An evaluation for the citywide sanitation strategy is also described, along with the process for feedback and revisions. Roles of the Mayor, local parliament and SKPD in this process are defined.</p> <p>The following sub-chapters are recommended:</p> <p>Overview of Structure for Sanitation Monitoring and Evaluation</p> <ul style="list-style-type: none"> • Institutional Arrangement for Monitoring and Evaluation • Monitoring of the Citywide Sanitation Strategy (including strategic monitoring, implementation monitoring, and monitoring related to decision-making) • Documentation • Evaluation of the Citywide Sanitation Strategy • Reporting.
Chapter 7	<p>Conclusion</p> <p>Summarizes the main points in the document.</p>
Attachment	<p>References</p> <p>Lists documents used by the city working group to develop the citywide sanitation strategy.</p>

7 ONCE THE CITYWIDE SANITATION STRATEGY IS APPROVED

The citywide sanitation strategy must obtain buy-in from many parties. Thus, it is necessary to 'market' the strategy to ensure that the strategy's substance and function is properly understood. The strategy must first be translated into recurring annual action plans before it can be implemented in a given budget year. Experience shows that the process of developing a citywide sanitation strategy yields benefits for the cities involved. One benefit is that it elevates the profile of sanitation issues in the eyes of city stakeholders.

The citywide sanitation strategy needs to be continuously marketed to parties expected to participate in its implementation, including city leaders, the private sector, NGOs, and government agencies not yet represented in the sanitation working group.



MARKETING THE CITYWIDE SANITATION STRATEGY

The citywide sanitation strategy needs to be disseminated or marketed if it is to fulfill its intended function. The citywide sanitation strategy is a new tool for Indonesian cities, so, even if it is approved by city leaders, it cannot be assumed that all city government agencies understand the substance of the strategy or what to do next. Likewise, the private sector and NGOs expected to participate in improving the city's sanitation services may not be familiar with the document and its contents.

The marketing of a citywide sanitation strategy should aim to:

- Make all parties aware that the city is serious about improving sanitation
- Enable stakeholders to understand their respective roles and responsibilities, particularly in taking the strategy to the next steps
- Persuade others, including national and provincial government agencies, the private sector, NGOs and donors agencies, to support the sanitation development initiatives

To support the marketing effort, the sanitation working group should prepare and distribute a brochure containing a summary of the citywide sanitation strategy. The citywide sanitation strategy consists of several chapters (see box on page 46), and may be difficult for readers to digest.

The brochure should include, among others:

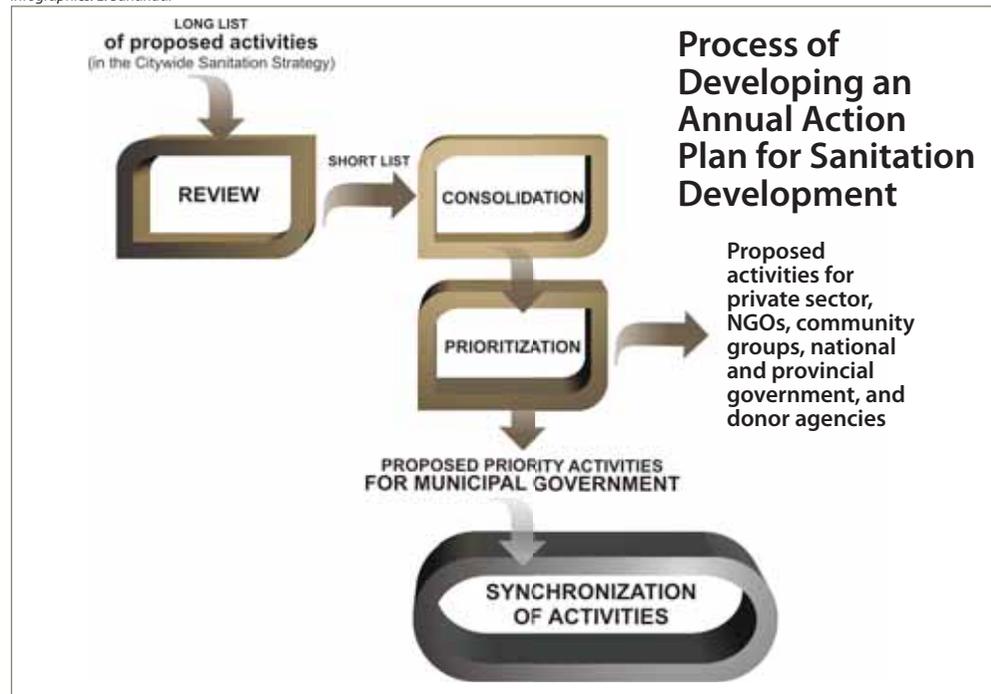
- The meaning and function of the citywide sanitation strategy and the actors involved
- Sanitation vision, mission, goals, and strategic policies
- Proposed activities for sanitation services development
- Follow up activities to the citywide sanitation strategy, and
- Approval and support from city leaders for the citywide sanitation strategy.

There are many ways to market a citywide sanitation strategy. One way is to hold a series of seminars, inviting parties likely to participate in the sanitation development programs. From these seminars, the sanitation working group can also get inputs for the annual action plans.

The citywide sanitation strategy needs to be disseminated or marketed if it is to fulfill its intended function

DEVELOPING AN ACTION PLAN

The annual action plan for sanitation development contains descriptions of proposed sanitation development activities to be carried out in the coming budget year (see box on page 8). Descriptions of proposed activities in recurring annual action plans should be more detailed than in the citywide sanitation strategy. Descriptions in each annual action



plan should provide information about specifications, implementing parties, timeframes, and budget estimates for each activity.

In developing the recurring annual action plans, proposed activities in the citywide sanitation strategy will undergo a process as follows (see diagram above):

1. **Review** - The proposed activities listed in the citywide sanitation strategy are reviewed and selected by each relevant municipal work unit. The review is to ensure that information contained in the proposed activities is comprehensive and up to date. Activities that need clarification should not proceed to the next step.
2. **Consolidation** - Proposed activities that passed the review step are grouped together to ensure effective and efficient implementation. Proposed activities may be grouped as:
 - Activities that are sequentially connected, such as area survey, preliminary design, and detailed design of a sanitation facility.
 - Activities with a common theme, such as activities aimed at developing a particular supporting component (for example, community participation). Consolidation of such activities is appropriate, even though implementation will be in different locations.
 - Activities in the same target area, such as development of public toilets and widening of drainage canals carried out in one ward; or, composting and community awareness in another ward.
 - Activities funded by particular parties outside the municipal government. For example activities offered to the private sector, to the national or provincial governments, or to donor agencies.



Foto: Ricko

The process of preparing a citywide sanitation strategy has raised the profile of sanitation with a wider range of stakeholders. More people have become aware of the importance of sanitation services, and more decision makers now understand the role of sanitation in boosting the city's health, productivity and economic growth.

3. **Prioritization** - The sanitation working group prepares a list of proposed activities that has been adjusted to the available budget. Prioritization can be based on several factors, such as agreement on priority areas (see the sub-chapter **Setting Priority Areas, Chapter 3**), effective use of budget, or political reasons.

Each municipal work unit will use the prioritized proposed activities as inputs when completing its draft work plans (see box on page 36). Throughout the process, up to finalization of the municipal work plan, the proposed activities are continuously screened, until only a few are regarded eligible for inclusion in the municipal work plan (RKPD). Proposed activities that failed the screening in the synchronization process can be reconsidered for inclusion in the following year's annual action plan. Alternatively, they can be proposed to other donors or sponsors.

REFINING THE CITYWIDE SANITATION STRATEGY

A citywide sanitation strategy is a new tool for most cities in Indonesia. The tool has been rolled out in about 15 cities in the past four years. Thus, the strategies may need revisions with regard to function, substance or the process of preparing the strategy.

Cities should continue to refine their citywide sanitation strategy as they gain experience in the process and follow-up

Cities should continue to refine their citywide sanitation strategy as they gain experience in the process and follow-up. Refinements may specifically address the following:

- **The position of the citywide sanitation strategy in the city development process**, particularly to ensure that the sanitation development framework and proposed activities can be accommodated in the municipal work plan, or are better channeled to implementation mechanisms outside the government system
- **Space and mechanisms for stakeholder involvement** in developing the citywide sanitation strategy, especially those representing the private sector, NGOs, and the users of sanitation services

- **Capacity of the sanitation working group**, including the composition of the group, the decision-making process, use of resources, and capacity-building of members of the sanitation working group
- **Scope and methodology of sanitation mapping**, in particular to ensure effective use of resources and time, and implementation of continuous sanitation mapping
- **Mechanisms to assess community demand and willingness to pay**, in particular to improve the quality of collecting and analyzing inputs from the community (see sub-chapter Listening to the People in Chapter 5)
- **Format of the citywide sanitation strategy document**, in particular to pursue further improvements to the document format that has already been adjusted during phase 2 of ISSDP (see box on page 46)
- **Support from external parties in preparing the citywide sanitation strategy**; especially from provincial government, national government, donor agencies, private sector and NGOs.

Each city, at some point, can be expected to have its own way of preparing a citywide sanitation strategy that is practical, effective, and efficient

Through this process of continuous revision, each city will develop its own way of preparing a citywide sanitation strategy that is practical, effective, and efficient. Steps to prepare the strategy do not necessarily have to be the same. Similarly, the composition of the sanitation working group and the format of the strategy document need not be identical. Each city has unique characteristics and resources, which affect the way the city designs its own strategy.

The experiences of several Indonesian cities in preparing a citywide sanitation strategy have laid the foundation for more comprehensive and sustainable sanitation planning. Although not all challenges have been addressed, the achievements attained are substantial, such as:

- The establishment of a framework for coordination and cooperation among city stakeholders to support the planning and implementation of sanitation development
- The creation of a mechanism for mid-term planning for sanitation development (the citywide sanitation strategy)
- Agreement on a vision, missions, objectives and targets, and strategic policies for sanitation development which will serve as the permanent basis for sanitation development in the city.

More importantly, preparation of citywide sanitation strategies has raised the profile of sanitation with all stakeholders in the city, including the public and policy makers.



Thanks