

Strategic asset management in municipalities: challenges, and solutions to enhance performance

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**Conference on: “Strategic public sector
asset management”**

Johannesburg, 25 August 2008



Sequence of presentation:

- 1. Introduction**
- 2. Integrated delivery process – weakest link – report card**
- 3. Legislation and strategies**
- 4. Basic IAM cycle – and needs**
- 5. What should be done**
- 6. To conclude**



Chapter 1:

If below par, why (short version)?

What should be done (summary)?

Reasons for below-par performance:

- The priority of the muni had become to deliver new infrastructure, rather than to operate and manage existing infrastructure.
- There were limited basic management skills.
- Service levels were ill defined.
- There was limited asset knowledge and management information.
- Responsible officials had insufficient knowledge of statutory and regulatory requirements.

DPLG 2004



What should be done:

Munis must be held responsible, but where there is inability to respond, external support is required.

National initiatives notwithstanding, there is plenty of scope for munis themselves to deal with their IAM challenges.

What should be done (1 of 2):

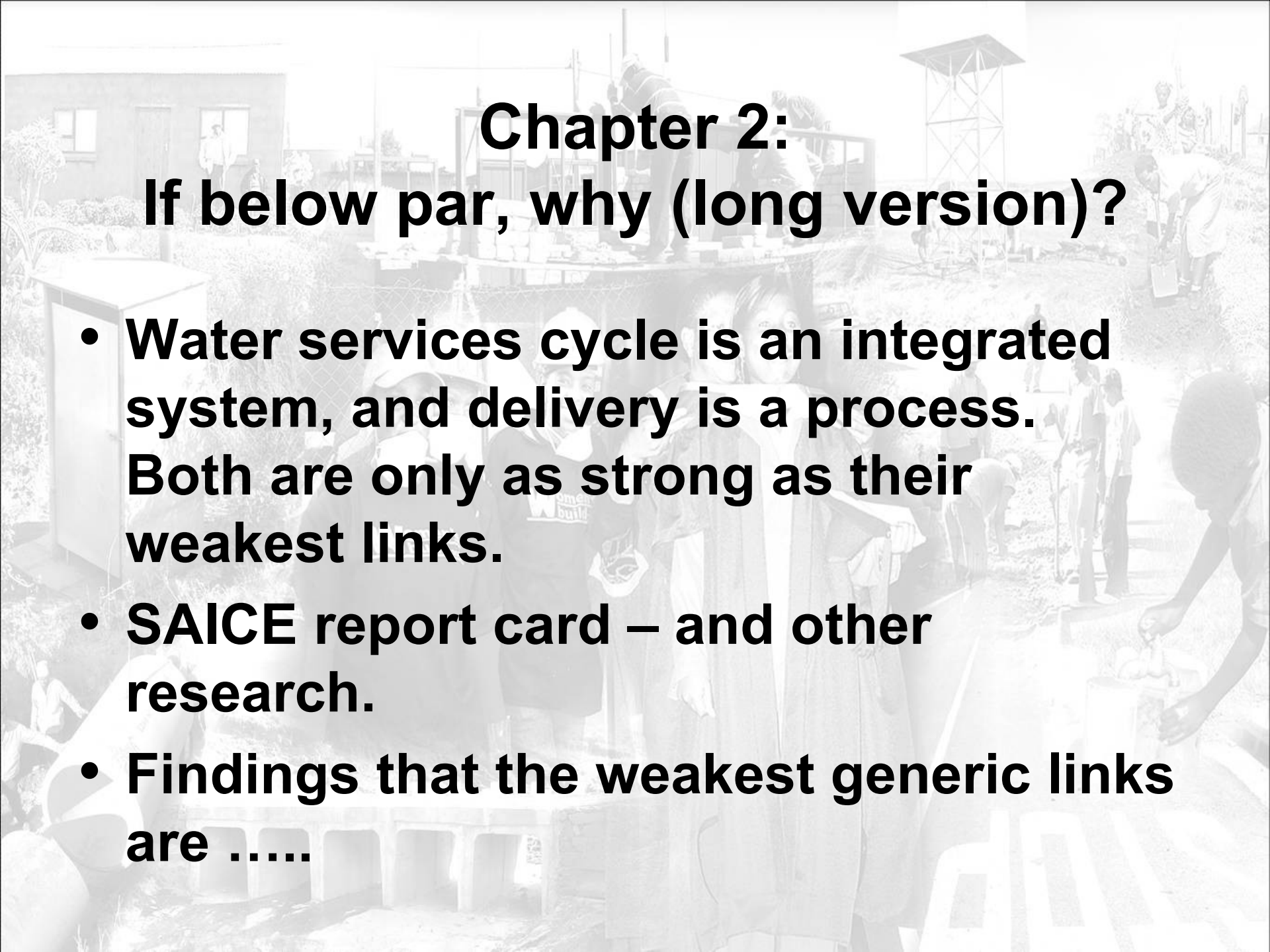
Some of the most important considerations:

- **Ensure you know the level of vulnerability of your infrastructure assets, and know if you are in trouble.**
- **Plan to influence resource allocation in the interests of ongoing financial viability and the sustainability of to-specification service delivery. Implement measures, with incentives if possible, to manage the performance of services and assets, and the performance of councillors and officials responsible for the acquisition and / or operations and management of infrastructure and services.**
- **Practise responsible and accountable IAM.**

What should be done (2 of 2):

More of the most important considerations:

- **Consider how to bridge immediate skills and experience gaps in the short term, and in the medium term look at partnerships as an option to operate and manage elements of infrastructure.**
- **Retain skilled staff, recruit on merit for key personnel posts, and train and mentor inexperienced staff.**
- **When planning for the acquisition of infrastructure, know the total cost of providing a service – account fully for all costs of use of and management of assets (physical, financial and human resources).**
 - **Ensure the total cost is reflected in the IDP and sector plans**
 - **Ensure that funding is identified and allocated in medium-term expenditure frameworks and annual budgets.**



Chapter 2: If below par, why (long version)?

- **Water services cycle is an integrated system, and delivery is a process. Both are only as strong as their weakest links.**
- **SAICE report card – and other research.**
- **Findings that the weakest generic links are**

The “weakest link”

- **Providing effective service delivery requires a combination of management, financial, engineering, economics and social practices and techniques within a robust framework and management plan.**
- **The process can be viewed as a chain of events – and this chain is at any moment in time only as strong as its weakest link at the time.**

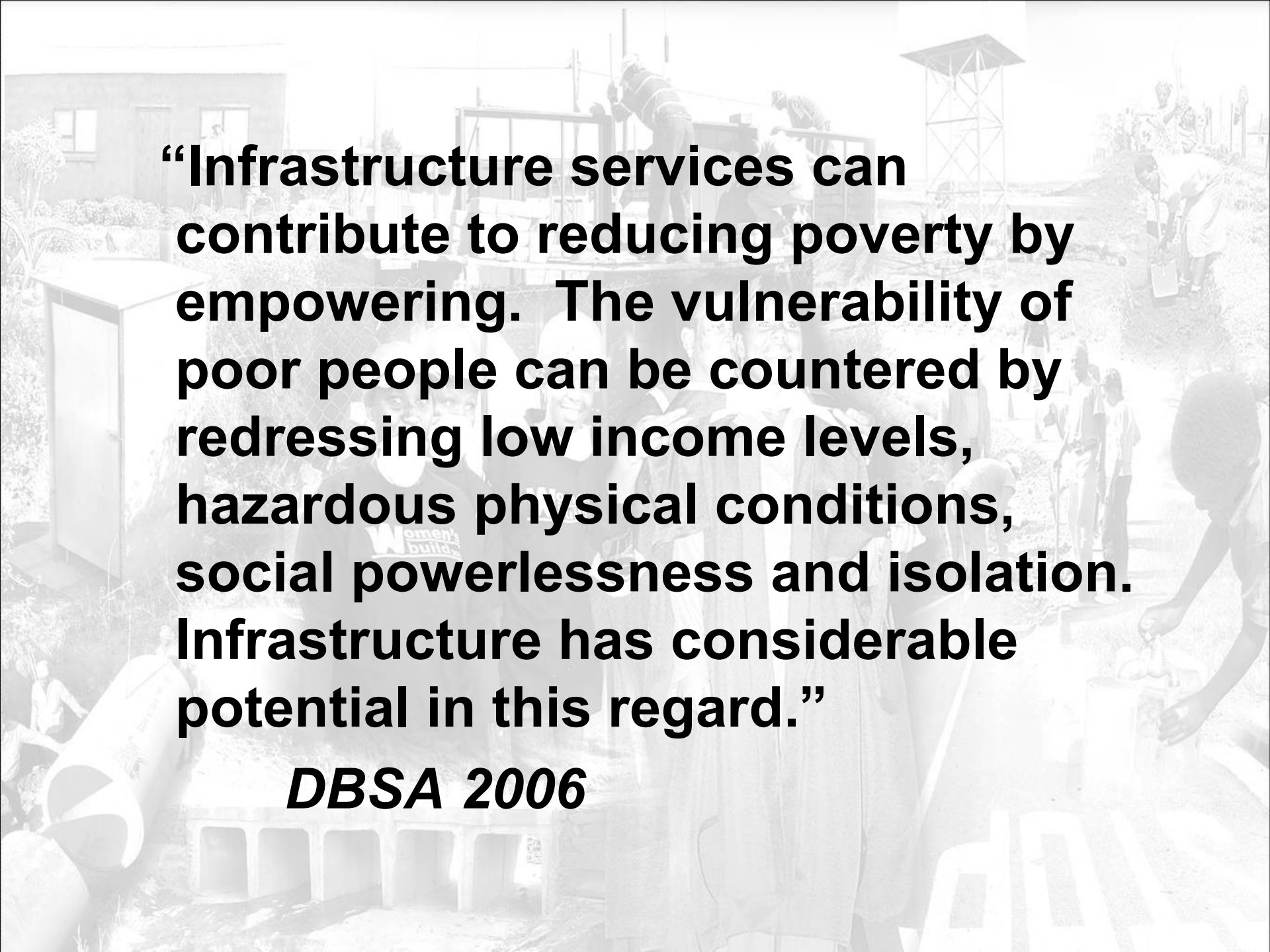
Chapter 2 (contd):

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- **SAICE report card – and other research.**
- Findings that the weakest generic links are

Context

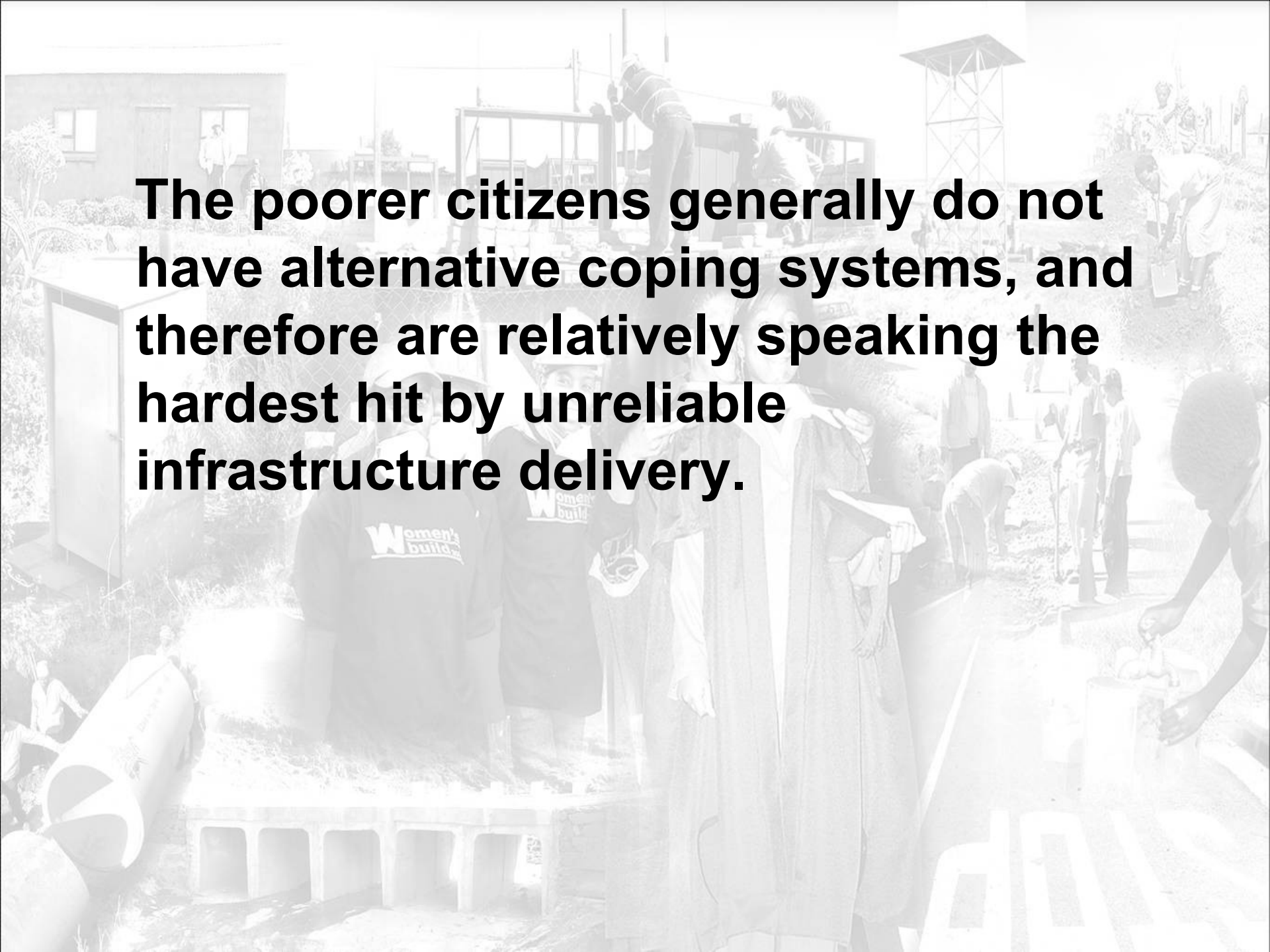
Infrastructure, in the form of public buildings, roads, water and sewerage systems, electricity and other services, supports quality of life and is the foundation of a healthy economy





“Infrastructure services can contribute to reducing poverty by empowering. The vulnerability of poor people can be countered by redressing low income levels, hazardous physical conditions, social powerlessness and isolation. Infrastructure has considerable potential in this regard.”

DBSA 2006



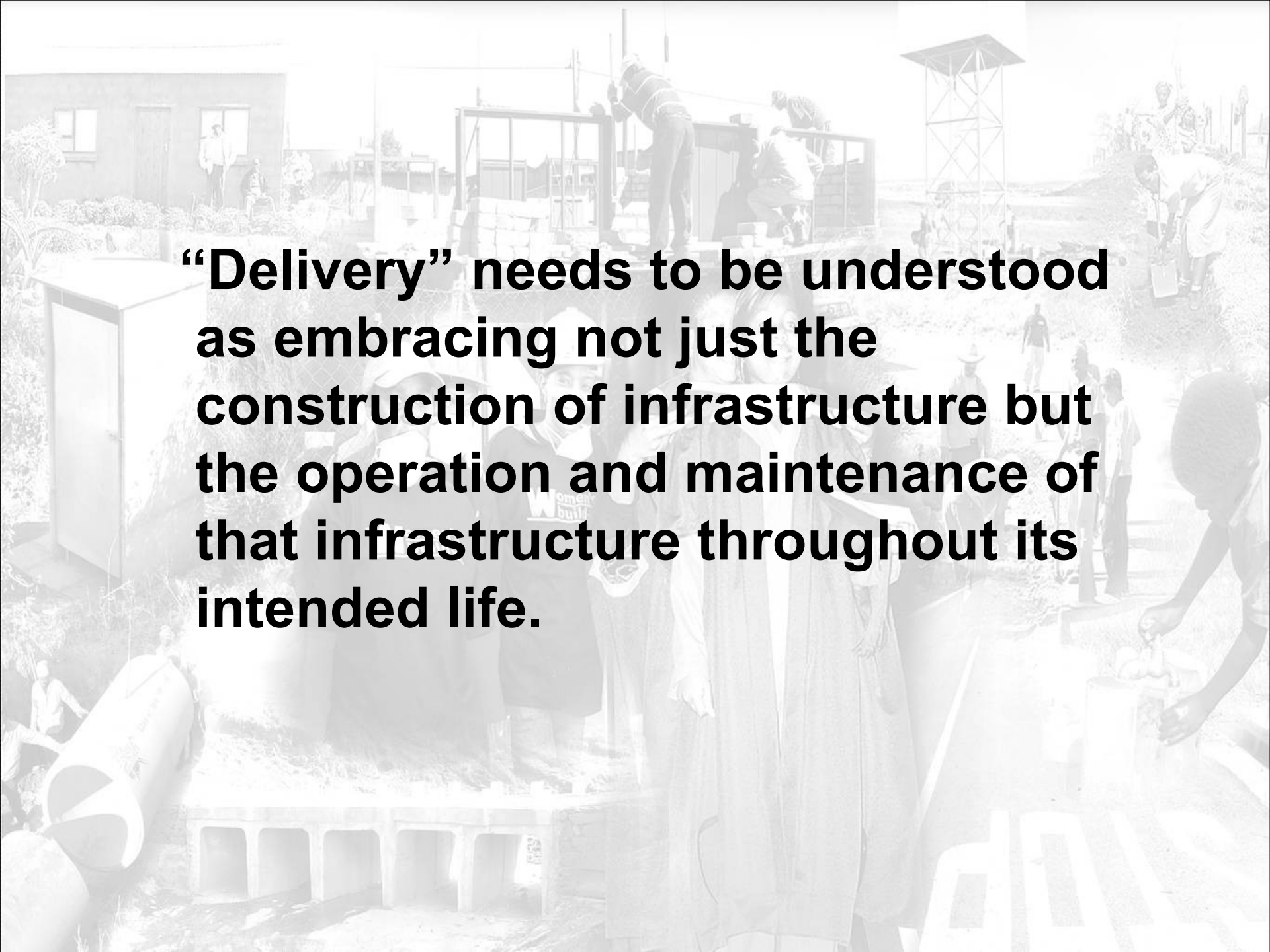
The poorer citizens generally do not have alternative coping systems, and therefore are relatively speaking the hardest hit by unreliable infrastructure delivery.



The stock of public sector infrastructure is significant.

Current replacement cost of this infrastructure, excluding that owned by the State-owned enterprises, exceeds R1000 billion.

CSIR 2006



“Delivery” needs to be understood as embracing not just the construction of infrastructure but the operation and maintenance of that infrastructure throughout its intended life.

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- **“If the government spends its maintenance budget on fixing infrastructure only after it has already broken down, then it is effectively throwing away a large proportion of that budget – funds that could rather have been used elsewhere to improve the quality of life of its citizens.**
 - **This is because it is much cheaper to carry out periodic preventative maintenance than to do repairs when infrastructure breaks down.”**

“NIMS” 2006

“The SAICE infrastructure report card for SA: 2006”

Water

D+

for DWAF
infrastructure

C+

for major urban areas

D-

for all other areas

**Sanitation
(including wastewater)**

C-

for major urban areas

E

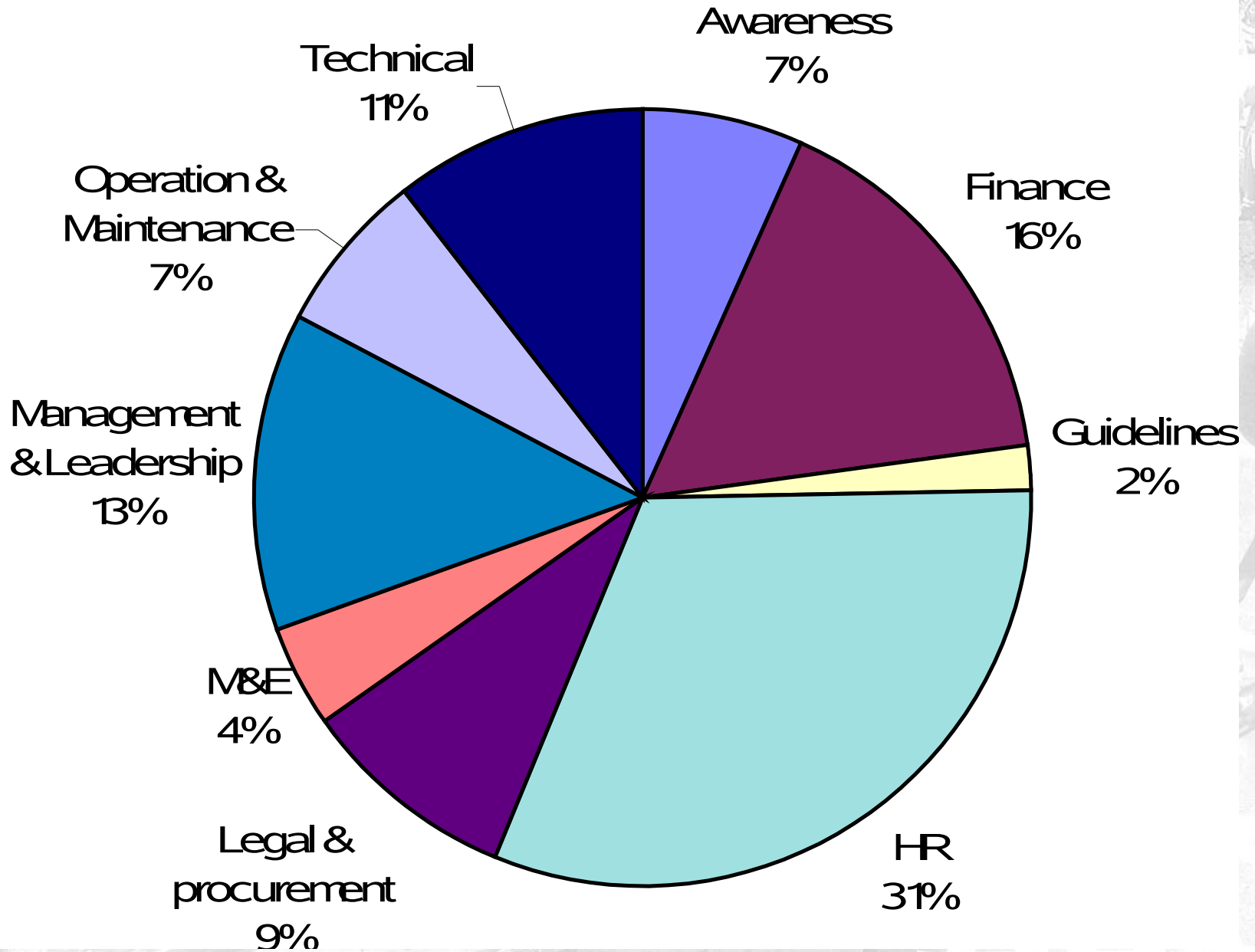
for all other areas



Chapter 2 (contd):

- Water services cycle is an integrated system, and delivery is a process. Both are only as strong as their weakest links.
- SAICE report card – and other research.
- **Findings that the weakest generic links are**

“Priority 1” solutions





The principal systemic issues underlying inadequate provision for long-term management and maintenance are:

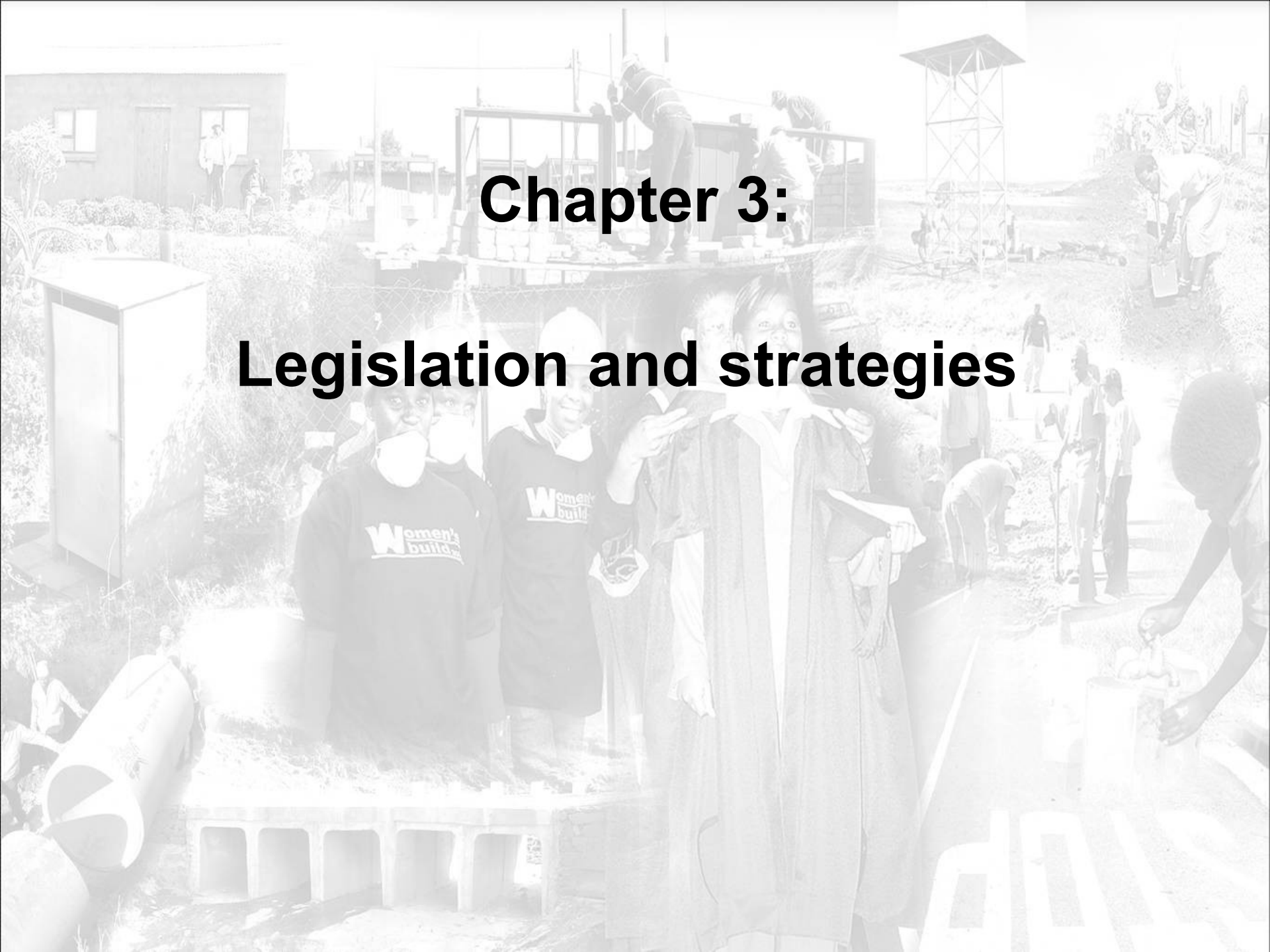
- **inadequate budgets; and**
- **inadequate skills (and especially technical skills) and experience.**

Together with:

- **Lack of will/incentives to remedy the situation.**

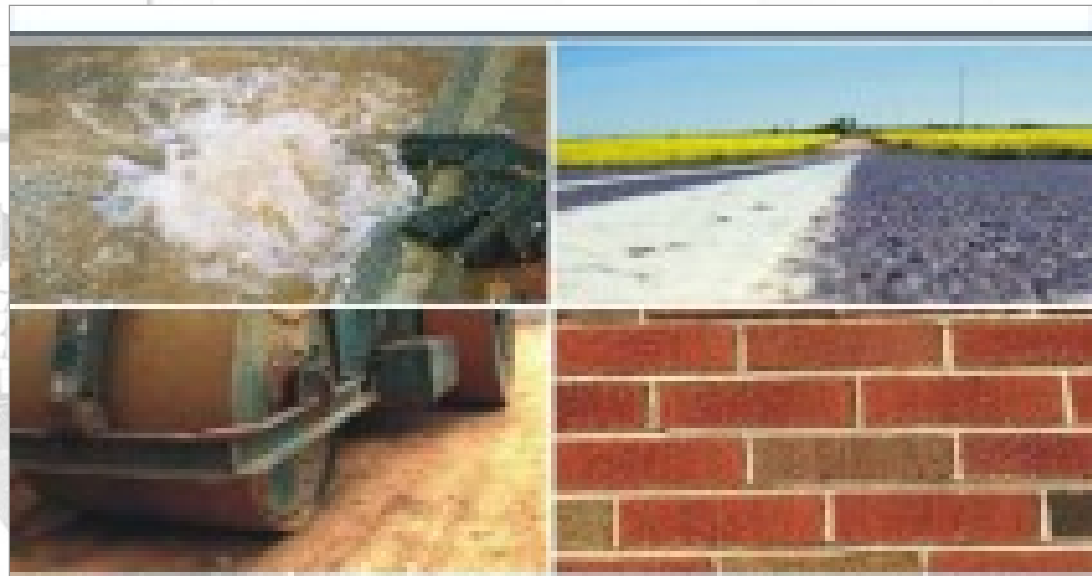
Chapter 3:

Legislation and strategies



**Approved by
Cabinet
late in 2006**

National Infrastructure Maintenance Strategy



the national infrastructure maintenance strategy

In support of ASGISA and government growth objectives



public works
Department of Public Works
and Infrastructure





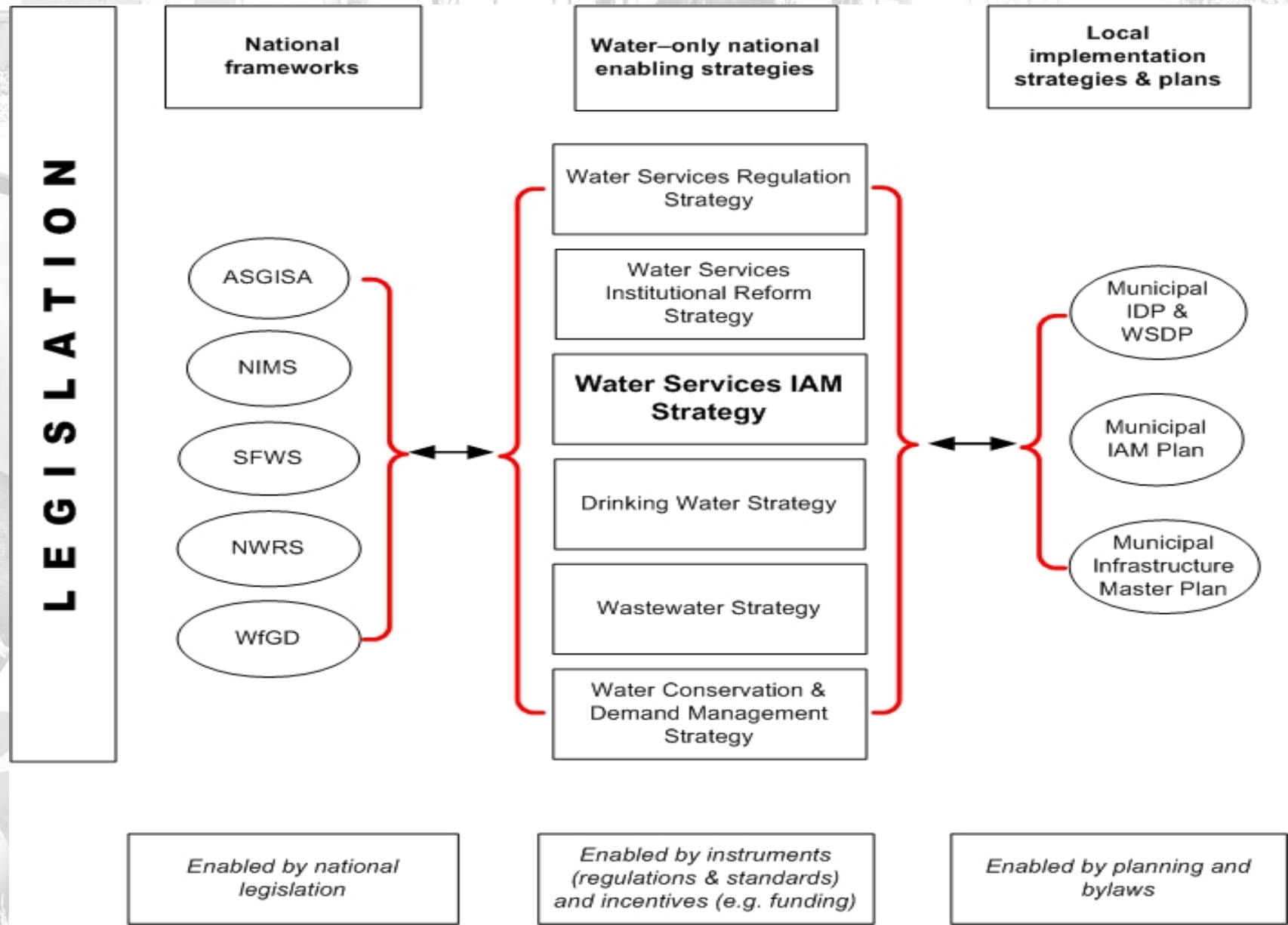
WATER SERVICES INFRASTRUCTURE ASSET MANAGEMENT STRATEGY

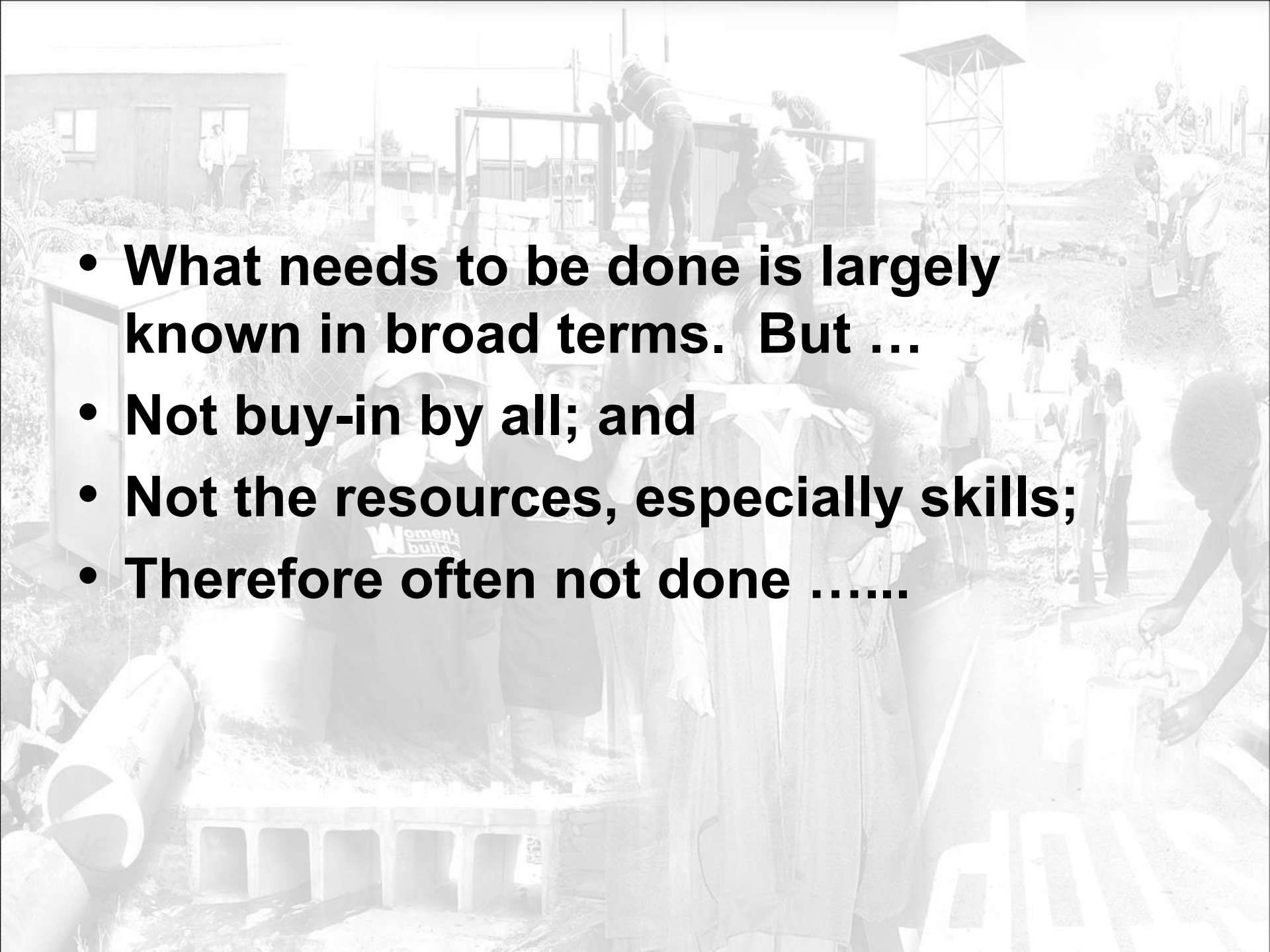


water & forestry

Department:
Water Affairs and Forestry
REPUBLIC OF SOUTH AFRICA

WS IAM strategy in context with other strategies and plans

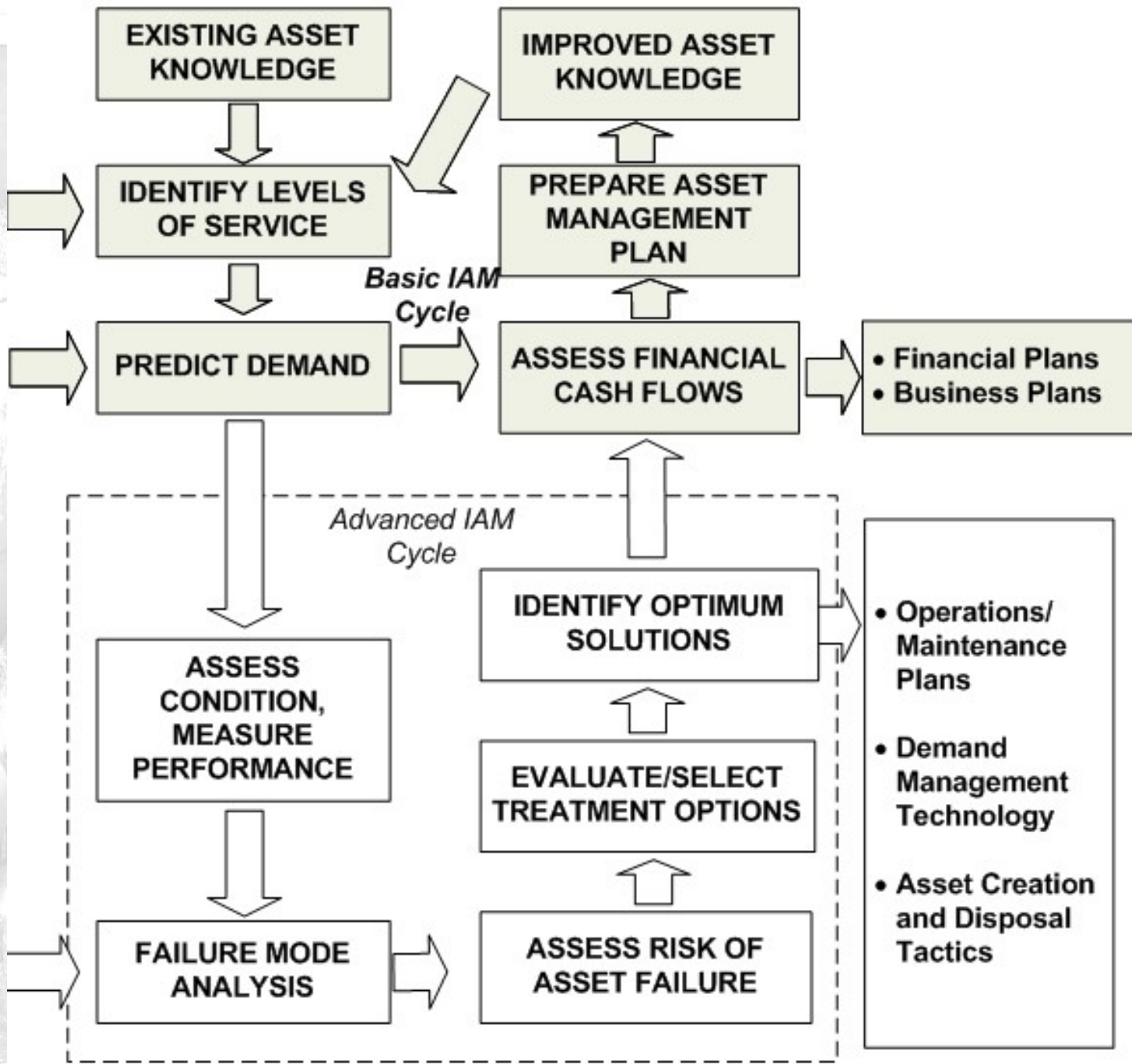


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- **What needs to be done is largely known in broad terms. But ...**
 - **Not buy-in by all; and**
 - **Not the resources, especially skills;**
 - **Therefore often not done**



Chapter 4:

Basic IAM cycle – and skills needed



EXISTING ASSET KNOWLEDGE

IMPROVED ASSET KNOWLEDGE

IDENTIFY LEVELS OF SERVICE

PREPARE ASSET MANAGEMENT PLAN

PREDICT DEMAND

Basic IAM Cycle

ASSESS FINANCIAL CASH FLOWS

- Financial Plans
- Business Plans

Advanced IAM Cycle

ASSESS CONDITION, MEASURE PERFORMANCE

IDENTIFY OPTIMUM SOLUTIONS

- Operations/
Maintenance Plans

EVALUATE/SELECT TREATMENT OPTIONS

- Demand Management Technology

FAILURE MODE ANALYSIS

ASSESS RISK OF ASSET FAILURE

- Asset Creation and Disposal Tactics

Skills needed

Skills, to populate the above cycle, include:

2. how to go about identifying existing asset knowledge;
3. how to assess the environmental, strategic, etc circumstances, make choices, and go about identifying levels of service;
4. how to assess population growth, demand management alternatives, etc, put forward scenarios, make choices, and predict demand;
5. how to assess the infrastructure required to meet the predicted demand;
6. how to assess financial cash flows (income AND expenditure) required in order to meet the various scenarios of demand prediction (and to prepare the financial plans and business plans);
7. how to prepare asset management plans;
8. how to incorporate this into improved asset knowledge.

DWAF workshop, July 2008

Skills – for example:

- (1, above, refers) Skills (and guidance) on compiling asset registers, and
- (5 refers) Skills/guidelines on the budgets needed in order to provide for IAM. (E.g. R per annum needed per kilometre of pipeline.)
- (6 refers) Skills/guidelines on how to prioritise -- for example, which assets should be regarded as "strategic infrastructure assets", and should receive priority in the asset management plan. (Possible criteria for prioritisation -- with guidelines for trading off --
 - strategic importance (including the consequences should the asset fail);
 - age of the asset;
 - that the asset is earlier in the delivery chain (for example, priority attention be given to safeguarding the water resource, and not worry as much about the infrastructure closest to the end user);
 - priorities that are politically determined.

DWAF workshop, July 2008



Chapter 5:

What should be done (long version)?

What should be done

- **Munis must be held responsible, but where there is inability to respond, external support is required.**
- **While some measures are within the power of a muni, some can only be done by, or are best done by, a larger grouping, or by another entity, such as by a government department.**
- **National initiatives notwithstanding, there is plenty of scope for munis themselves to deal with their IAM challenges.**

What should be done (1 of 2):

Below are some of the most important considerations:

- **Ensure you know the level of vulnerability of your infrastructure assets, and know if you are in trouble.**
- **Plan to influence resource allocation in the interests of ongoing financial viability and the sustainability of to-specification service delivery. This involves ensuring that the IDP and sectoral plans address basic services needs without financial overstress, taking into account the contribution of the equitable share.**
- **Implement measures, with incentives if possible, to manage the performance of services and assets, and the performance of councillors and officials responsible for the acquisition and / or operations and management of infrastructure and services.**
- **Consider how to bridge immediate skills and experience gaps in the short term, and in the medium term look at partnerships as an option to operate and manage elements of infrastructure.**
- **Retain skilled staff, recruit on merit for key personnel posts, and train and mentor inexperienced staff.**
- **Practise responsible and accountable IAM.**
- **When planning for the acquisition of infrastructure, know the total cost of providing a service – account fully for all costs of use of and management of assets (physical, financial and human resources). Ensure the total cost is reflected in the IDP and sector plans (and their financial plans over at least 10-year timeframes). Ensure that funding is identified and allocated in medium-term expenditure frameworks and annual budgets.**

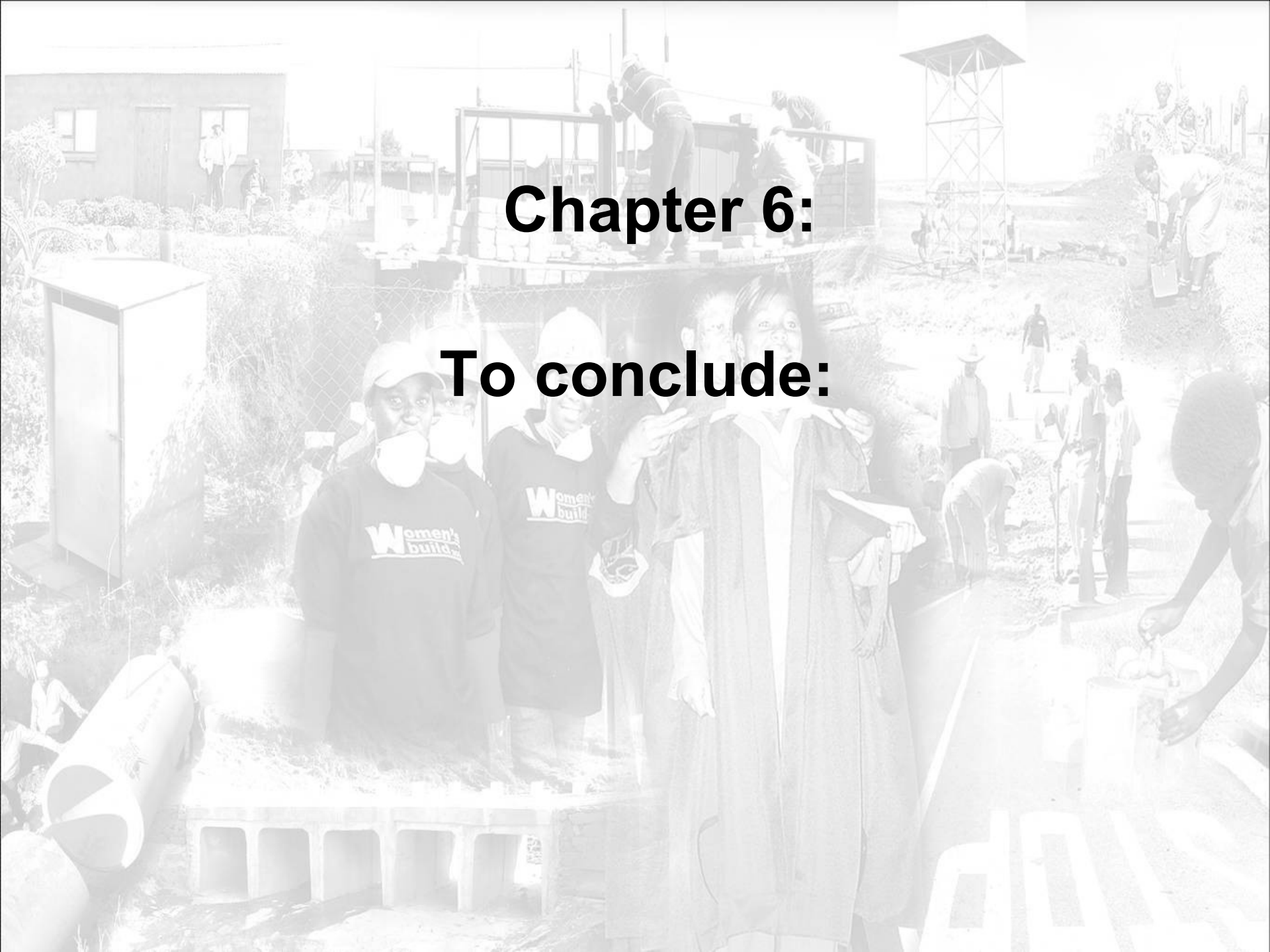
What should be done (2 of 2):

Clearly, each muni must take ownership of its situation. In the short term some of the following might be necessary:

- Identify the most important infrastructure components, and the consequences for service delivery should they fail – especially if probability of failure is significant, and these consequences could involve risk of loss of life. Then do whatever is necessary in order of priority, even at the cost of neglect of other, less important, infrastructure components, or of other municipal functions.**
- Improve revenue streams (for example, by improving the rate of payment for services), reduce current costs (for example, by reducing leakage of water), and reduce future costs (for example, by reconsidering planned acquisition of new infrastructure, or reconsidering the level of service of planned infrastructure).**
- Political leadership is essential! (Crucial to e.g. appointments (skills), revenue streams, procurement, levels of service)**

Chapter 6:

To conclude:



There are no quick fixes!

- **Essential: Sufficient budget (for repairs, for planned maintenance, for spares, for infrastructure refurbishment and renovation, etc).**
- **Essential: Staff are competent (training and experience) and committed (i.e. have correct attitude).**
- **Essential: The correct infrastructure.**
- **Essential: Councillors accept sound technical and financial advice, and lead the way.**