

## SUSTAINABLE PLANNING

Due to the legacy of apartheid planning, many of South Africa's poor communities live close to polluting industries and waste dumps. Current and future planning is aimed at alleviating these environmental challenges. This aim is supported by the Programme at all levels of government. One example is the Western Cape Province designing schemes for development permits facilitating a mixture of people in developed areas.

The Programme specifically supports Environmental Management Frameworks (EMFs) - a cutting-edge methodology of conflict resolution and spatial planning. Preparations for EMFs are currently being supported in Gauteng Province, KwaZulu-Natal Province and Sedibeng District municipality (in partnership with the Department of Environmental Affairs and Tourism). As master plans defining the principles of management and permitting, the EMFs are expected to improve the standard of planning and to save substantial resources in public administration. The process also provides an element of the interaction between the public and all spheres of governments. Some 20 EMFs are currently in place or planned.

## Sustainable Planning Cape Town

# RESIDENTIAL GROWTH MONITORING SYSTEM

### Objective

- To develop a methodology for monitoring residential growth in Cape Town to ensure the necessary planning is effective.

### Contact person

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### Timeframe

4 months

### Funding

R200 000  
(R92 000 used)

### Background

One of the functions that Cape Town's Strategic Development Information & GIS department is responsible for is collecting and disseminating demographic information that informs corporate strategy and the Integrated Development Plan. The Strategic Information branch receives frequent requests for sub-city information, at the level of suburb or planning district, from the public planning sector and private commercial sector. For instance, an entrepreneur wishing to open a pharmacy may request information about a suburb's demographics, income levels, number of households, etc..

Historically, the branch has relied heavily on external sources of data, mostly from Statistics South Africa's Census databases. The 2001 Census provides base data at the city-level and suburb-level for some 700 municipal suburbs.. However, a recent decision to drop the Census frequency from five years to ten years, left the department anticipating a 10-year void of accurate suburb-level data. Although city-level data would be updated in the interim via, for example the Community Survey 2007, these surveys are sample-based and not highly accurate. The department recognised that, without a bird's eye view of the city's urban growth, development would become reactive and, without accurate data, investment would become displaced. With the aid of an external consultant, the department set about finding a solution.

1. Aerial view of informal housing
2. Aerial view of formal housing

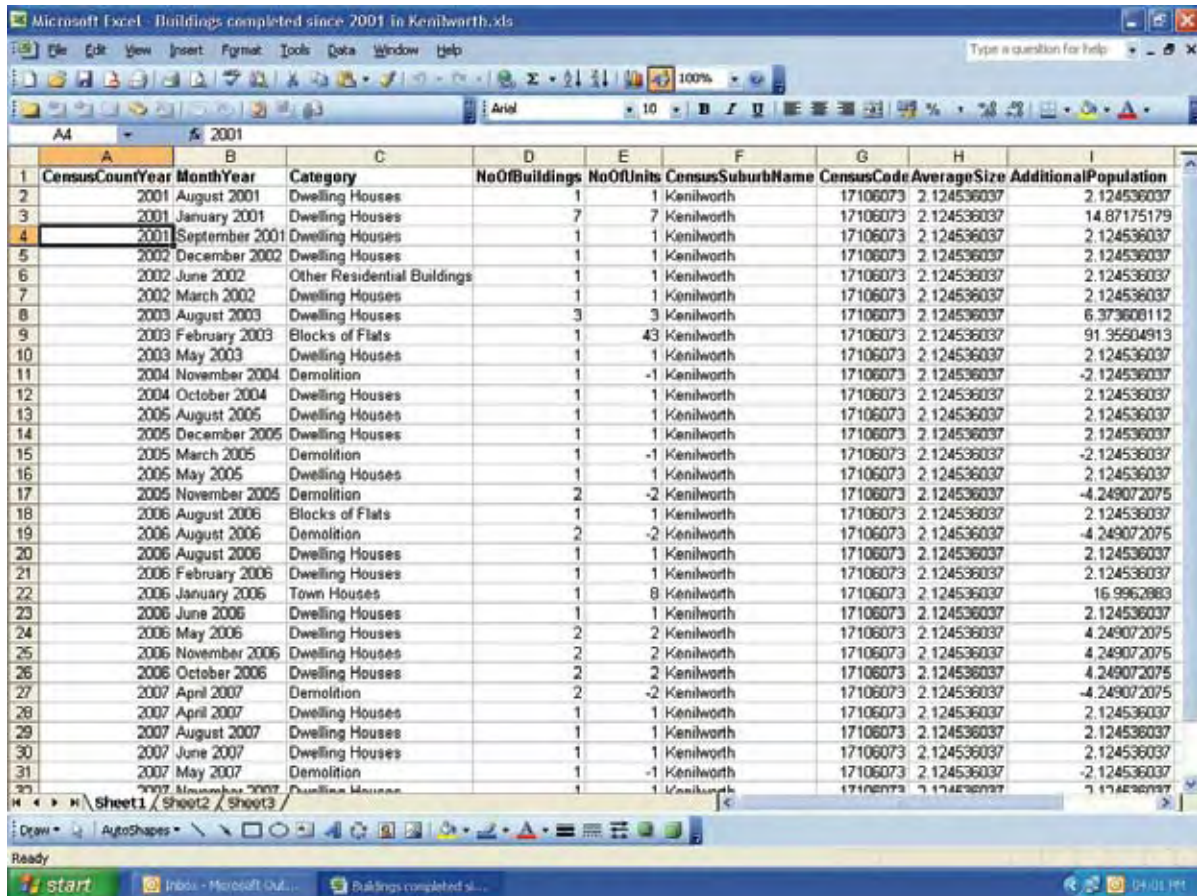


1



2

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CensusCountYear	MonthYear	Category	NoOfBuildings	NoOfUnits	CensusSuburbName	CensusCode	AverageSize	AdditionalPopulation
2001	August 2001	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2001	January 2001	Dwelling Houses	7	7	Kenilworth	17106073	2.124536037	14.87175179
2001	September 2001	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2002	December 2002	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2002	June 2002	Other Residential Buildings	1	1	Kenilworth	17106073	2.124536037	2.124536037
2002	March 2002	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2003	August 2003	Dwelling Houses	3	3	Kenilworth	17106073	2.124536037	6.373600112
2003	February 2003	Blocks of Flats	1	43	Kenilworth	17106073	2.124536037	91.35504913
2003	May 2003	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2004	November 2004	Demolition	1	-1	Kenilworth	17106073	2.124536037	-2.124536037
2004	October 2004	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2005	August 2005	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2005	December 2005	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2005	March 2005	Demolition	1	-1	Kenilworth	17106073	2.124536037	-2.124536037
2005	May 2005	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2005	November 2005	Demolition	2	-2	Kenilworth	17106073	2.124536037	-4.249072075
2006	August 2006	Blocks of Flats	1	1	Kenilworth	17106073	2.124536037	2.124536037
2006	August 2006	Demolition	2	-2	Kenilworth	17106073	2.124536037	-4.249072075
2006	August 2006	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2006	February 2006	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2006	January 2006	Town Houses	1	8	Kenilworth	17106073	2.124536037	16.9962883
2006	June 2006	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2006	May 2006	Dwelling Houses	2	2	Kenilworth	17106073	2.124536037	4.249072075
2006	November 2006	Dwelling Houses	2	2	Kenilworth	17106073	2.124536037	4.249072075
2006	October 2006	Dwelling Houses	2	2	Kenilworth	17106073	2.124536037	4.249072075
2007	April 2007	Demolition	2	-2	Kenilworth	17106073	2.124536037	-4.249072075
2007	April 2007	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2007	August 2007	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2007	June 2007	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037
2007	May 2007	Demolition	1	-1	Kenilworth	17106073	2.124536037	-2.124536037
2007	November 2007	Dwelling Houses	1	1	Kenilworth	17106073	2.124536037	2.124536037

An example of the model's results in MS Excel

**Process**

Every year, the City of Cape Town uses aerial photographs to plot the GPS co-ordinates of shacks and painstakingly counting very one. As a result, the city has highly current and accurate data on its informal settlements, which currently contain some 150 000 informal dwellings. However, figures for the formal sector are far less accurate due to lead and lag times in the building development process. Formal building plans may be approved more than two years before a site is developed. Also, plans may be approved but, without an occupancy

certificate, the city has no way of determining whether a building is occupied. The existence of a shack, on the other hand, almost always implies that it is occupied.

To address the problem of inaccurate formal sector data, the project team developed a model that cross-references building plan approvals with 'development triggers', thus determining occupancy. Building plan approvals provide the most obvious and accurate records for formal sector residential growth but suffer from the lead-and-lag time constraint. To compensate for this, the city identified triggers that could indicate occu-

pancy. Electricity and water use are potential indicators but don't necessarily confirm occupancy, as there may be builders on-site making use of these services. Finally, the dispensing of a wheely bin was found to be the development trigger with the highest potential for accuracy and shortest lead-and-lag factor.

The final model cross-checks building development statistics and cross-references them with development triggers, to produce an accurate number of occupied residential dwellings for a particular month for a particular suburb. With accurate formal and informal data, the Residential Growth Monitoring System could be completed, and datasets have been retrofitted to illustrate growth since 2001. Using Census population counts, building indicators and informal settlement data, the city is able to accurately calculate the number of households in each suburb.

The system undergoes continual tweaking to ensure its optimisation and the department currently has two staff processing about 300 data requests per year. Requests are mostly received via e-mail and the staff interface with the system via a spreadsheet linked to databases and building trackers.

## Challenges

The project presented no particular problems, however, due to administrative barriers, the city's SAP system cannot provide the department with live data. Instead, it receives data dumps every quarter whereas monthly data would be ideal. Nevertheless, the new system far surpasses the alternative, which would be based on 2001 census data and a set of assumptions, projections and risks. Not only would accuracy be low, but data would easily be two-years old.

According to former project manager Craig Haskins, one calculation constraining the system is a suburb's turnover. The system can estimate population numbers by making assumptions about household size. The 2001 Census provides suburb level household size, but over a decade the household lifecycle could change for a suburb and this system won't pick this up. For example a



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suburb like Parklands could have a household growing from two young adults (in 2001, as captured in the Census) into a family of four in 2011. Essentially, the household size doubles over a decade. Only after the next Census in 2011 will this increase be captured. Despite this small misgiving, Craig said that there is definitely a level of comfort in knowing that the system's occupancy figures are highly accurate. Combined with good data for household sizes in formal suburbs and informal sectors, this provides population numbers that are not equally accurate but still considered sufficiently reliable.



**BALANCED SCORECARD \***

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?	●				
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?		●			
<b>Total</b>	<b>8</b>				

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?	●				
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?			●		
3. Did the project have a higher than expected impact on stakeholders?					●
<b>Total</b>	<b>9</b>				

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?	●				
2. To what extent was this project relevant to the targeted beneficiaries?				●	
3. To what extent will this project be replicated sustainably in the future?					●
<b>Total</b>	<b>10</b>				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher a than expected impact in your organisation?					●
<b>Total</b>	<b>15</b>				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?				●	
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?					●
<b>Total</b>	<b>14</b>				



# Sustainable Planning Cape Town

## COASTAL CLIMATE CHANGE VULNERABILITY ASSESSMENT

### Objectives

- To assess the implications of sea level changes to the environment.
- To evaluate the associated risks if climate change predictions become a reality.

### Contact person

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### Funding

UEMP: R100 000  
City of Cape Town: R100 000

### Timeframe

6 months

### Background

The Cape Town coastline is marked by significant environmental degradation and overdevelopment in many places. Predicted sea level rise storm events, as well as possible permanent mean sea level rise, as a result of climate change, have made vulnerable much of the infrastructure, roads, railways and buildings occurring along the coastal belt.

In light of events such as the damage to the KwaZulu-Natal coastline in 2007 and the storm flooding in Cape Town in 2008 (which are accentuated by poor management), the city considers sea-level rise modelling an important way to show the implications and tangible results of climate change. This project forms part of a wider intent to raise awareness about the risks of development along the coast, and many of the project activities undertaken form part of the city's overall coastal management programme.

### Process

Four clear steps were undertaken to complete the assessment: spatial modelling, feedback workshops, economic costing and scenario-building. Using local academic expertise, the project team commissioned the building of a spatial model illustrating predicted sea-level rise events. The city's coastal infrastructure and development were then applied to the model to generate scenarios and their associated risks.

The second step entailed roadshows throughout the city government, with the aim of workshopping the model scenarios with the various line functions of city's departments. In this way, the model could be tested and further enriched by the knowledge and experience of local officials. Evaluating the economic



1. Strand: A no regrets planning approach must be adopted to avoid repeating and increasing vulnerability through proximity to the ocean.
2. Crayfish factory: Coastal infrastructure built in the active littoral zone is highly vulnerable to sea level rise events.
3. Strand: High income property is threatened by sea level rise events.
4. Kalk Bay Harbour: Key economic infrastructure - particularly to subsistence fisherman - is vulnerable to sea level rise events.

costs of rising-tide events comprised the third step of the project. A resource economist from the Stockholm Environment Institute was commissioned to establish the costs related to damage and loss of property, infrastructure and services. This exercise looked at replacement values and loss values that would be incurred by the city in the case of a rising-tide event.

The last step of the process examined possible adaptation strategies aimed at reducing the cost of climatic events. The emphasis here is on sensible decision-making. It is assumed that storms will continue to occur and that the city needs to take action if costs are to be reduced. A multi-pronged approach begins with what is termed the 'no regrets option'. The aim here is to influence forward planning so that officials are aware what actions should be avoided in the future. An example is the Muizenberg-Simonstown railway which is built right along the edge of the coastline.

Building resilience into existing structures and systems

forms a second part of the strategy. How can city officials work with current situations to mitigate the effects of climatic events. The strategy evaluates different options that support integrated coastal management and focuses on logical, simple choices, for example, using kelp beds and dune management to reduce the effects of storm tides. This is where the detail from the modelling exercise becomes invaluable as it accurately captures wind and reef information to show the most vulnerable parts of the coastline. In Muizenberg, for example, the long shallow beach helps to dissipate the energy of storm waves. Reefs have a similar effect on tides and waves, sheltering areas directly behind them, but exposing areas at their periphery. In Sea Point there is a lack of beach and promenade development right next to the sea, making this area very vulnerable to storm tides. The strategy helps to identify these high risk areas and help the city plan interventions that make effective use of its limited resources.

### Outcomes

With the Cape Town coastline continually under pressure and not well looked after, this project plays a role in highlighting the coastline as a social asset. It initiates adaptation around climate change and helps to drive a strong agenda around integrated coastal management. Documents from the project have been circulated among government officials and made available to the public, helping to generate interest and attract resources which will help prevent future destruction of the coastline.



## BALANCED SCORECARD \*

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?					●
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?				●	
<b>Total</b>					<b>14</b>

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?				●	
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?		●			
3. Did the project have a higher than expected impact on stakeholders?				●	
<b>Total</b>					<b>10</b>

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?		●			
2. To what extent was this project relevant to the targeted beneficiaries?					●
3. To what extent will this project be replicated sustainably in the future?				●	
<b>Total</b>					<b>10</b>

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher than expected impact in your organisation?					●
<b>Total</b>					<b>15</b>

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?					●
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?					●
<b>Total</b>					<b>15</b>



## Sustainable Planning eThekweni

# SOUTH SPATIAL DEVELOPMENT PLAN: PROPERTY TREND ANALYSIS

### Objectives

- To analyse property trends in the South Spatial Area and inform the South Spatial Development Plan.

### Contact person

Helene Epstein  
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### Time frame

10 months

### Funding

R185 000

### Background

eThekweni has spatial development plans (SDPs) for each of its four regions. SDPs act as a strategic guide for land-use, transport and environmental planning, directing growth and identifying investment opportunities in the city. Specialist reports and detailed plans inform SDPs and, in this case, the Property Trend Analysis feeds into the South Spatial Development Plan

### Process and outcomes

The project was primarily a desktop process carried out by consultants selected and assessed according to standard criteria. The brief required the consultants to: interrogate all land uses, salient features, development trends, key issues and their implications for the South SDP. This translated into the following tasks:

- Analyse the trends and nature of current activities.
- Identify activities that can potentially be supported.
- Demonstrate provision for a variety of land-uses.
- Demonstrate a sense of the region's growth and development.
- Demonstrate a sense of the region's residential expansion.
- Establish whether planned land-uses are well-located and in adequate amounts.
- Identify land-use trends and future land-uses that need to be accommodated.

The consultants had access to information from the deeds office and held numerous meetings and presentations with the project team during the process. The final document is organised by area of the South and by land-use sector, showing service provision and planning contexts for each. Some of the findings include:

- Malls and Retail Environments in the SMPR.
- Shoals: a proposed gated residential estate immediately south of Widenham, at Clansthal; the site is on a hill overlooking the sea.
- Amanzimtoti South street shops: this is a quiet area and exemplifies parts of the old towns in the South that have suffered from the decentralisation of retail and mall development.
- Arbour Town: Regional Scale Mall immediately south of Athlone Shopping Centre.





- The region has an oversupply of retail facilities and no further development approvals are necessary.
- Residential and commercial development in the coastal areas has positively impacted property values but negatively impacted low-income housing opportunities.
- Large gaps in service provision, between different areas in the region, will impact greatly on future service delivery.
- Catchments and estuaries are under environmental threat from industrial development, and would benefit from greater use of coastal management plans.
- Only two areas in the region are covered by the town planning scheme and only two areas are approved for

scheme extensions. A scheme and land-use plan for the whole region is needed.

### Problems

- The analysis focused largely on the formal coastal areas, neglecting traditional, hinterland areas like Umlazi.
- Rural housing, tenure and infrastructure were not covered and City's ability to deal with these issues remains constrained.
- Quantified reports and land-use ratings were expected but not supplied.
- The analysis report took longer than expected and delayed completion of the South Spatial Development Plan by almost year.

### Lessons

Although useful, the report doesn't achieve the project's objectives or expectations and perhaps these were not clearly stated in the terms of reference. The analysis showed that property trends need to be taken more seriously but didn't highlight similarities or inconsistencies with the existing spatial development plan. The report does, however, provide a bridge between economic and spatial planning in the region. It allows the City to make more informed, authoritative decisions around land use and development interventions. Additional town planning schemes (for example Umkomaas) have been approved since completion of the report.



## BALANCED SCORECARD \*

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?			●		
2. Did you have adequate funding for your project?			●		
3. Did you have adequate technical expertise to implement your project?			●		
<b>Total</b>			<b>9</b>		

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?			●		
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?	●				
3. Did the project have a higher than expected impact on stakeholders?	●				
<b>Total</b>			<b>5</b>		

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?		●			
2. To what extent was this project relevant to the targeted beneficiaries?		●			
3. To what extent will this project be replicated sustainably in the future?			●		
<b>Total</b>			<b>7</b>		

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?		●			
2. To what extent did the project link with other priorities of the organisation?			●		
3. Did the project have higher than expected impact in your organisation?		●			
<b>Total</b>			<b>4</b>		

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?				●	●
2. To what extent did you project fulfil its aims?				●	●
3. Was this project a cost effective response to the problem addressed?				●	●
<b>Total</b>				<b>12</b>	

## Sustainable Planning eThekweni OHLANGA-TONGATI LOCAL AREA PLAN



1

### Objectives

- To provide a framework for development and land-use in the Ohlanga-Tongati coastal area.
- To provide a framework for coastal activities, facilities and features in the Ohlanga-Tongati area.

### Contact person

Helene Epstein  
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### Time frame

3 years

### Funding

DANIDA: R200 000  
Total: R400 000

### Background

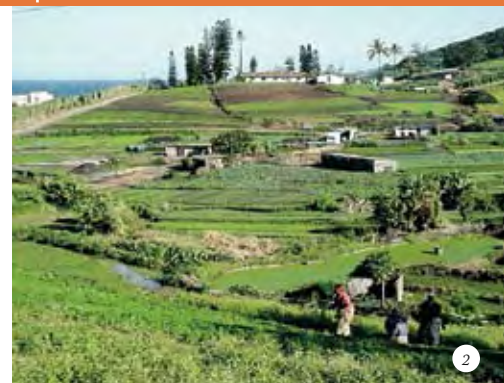
The Ohlanga-Tongati coastal area is an environmentally sensitive but highly touristed area north of Durban. Sixty-five percent of the area is owned by Tongaat-Hullet and used for sugar cane farming, with another 10% currently developed. Only a small portion of the remaining land is zoned and, with increasing applications for development in the area, the City of Durban is concerned about future urban fabric along this coastline. The old town-planning schemes also show inappropriate zoning that doesn't take into account new environmental legislation. One example is that coastal properties have the same zoning controls as central Tongaat.

In response, the City has drawn up a draft management plan for the whole coastline – one that aligns coastal planning with management planning. In the future, applications to extend the area's town planning scheme will be approved in accordance with the Local Area Plan (LAP). The City also put together a Coastal Management Plan (CMP) which guides future activities, facilities and features in the area.

### Process

For the LAP, the City commissioned a consulting team based on its expertise and knowledge of the area. A brief outlined the process, specifying standard planning phases, a strategic assessment, and environmental planning considerations. The consultants were asked to analyse the status quo, future trends, potential impacts and development pressures. Working with a vision statement defined by the City, the consultants prepared their main output: a spatial planning framework which considers and includes environmental buffers, circulation and movement, land-use and densities, landscape and visual aspects.

The framework is accompanied by the CMP - a set of land-use management guidelines which details nodes, open spaces, roles features and facilities for each precinct. The CMP informs the LAP with regard to activities that



2



3



4

1. Umdlothi's general slopes
2. Market Gardens
3. Umdlothi from the West
4. Watson Highway

Copyright: Guy Nichols

impact or erode the environment, like boat-launching and fishing.

A City steering committee was involved from the beginning of the process, with representatives from relevant city departments initially meeting on a quarterly basis. The planning department met regularly with the consultants and distributed plans and working docs to the committee. Land-use management staff (who comment on land-use applications) were also included in the process. After a review period, comments were consolidated and documents amended into a final draft to be submitted for approval.

### Outcomes

The LAP's strategic recommendations are particularly include:

- Moving the M4 inland: This major route currently runs right next to the beach and moving it inland is an opportunity to open up the coastal area for recreational use.
- Densify as much as possible: There is potential to raise the density of development to 5-15 units per hectare. Large tracts of land in less sensitive areas can potentially accommodate up to 64 000 units, greatly increasing the viability of public transport.

The land-use guidelines are highly detailed, especially in relation to environmental impact assessments, and are a valuable tool for evaluating applications. Density targets and transport plans are specified in the seven precinct

summaries of the land-use guideline and the spatial development framework, making these documents extremely practical for land-use management staff.

### Benefits

The project's broad benefits include:

- A clearer direction for development and better guidelines for developers.
- More consistent planning decisions as results of many departments referring to a single report.
- More thorough reviewing of development applications, with the aid of the framework and guidelines.
- A more proactive, less reactive City, with a dedicated plan for the coastal area.
- A useful set of recommended future actions.

### Challenges

The project presented two main challenges:

- Some City staff are not accustomed to using policy documents like the LAP and CMP. The gap between strategic planning and implementation remains a challenge for the land-use management staff.
- Transport planning issues were underestimated and took much time to resolve. The City faced capacity constraints in collecting data and struggles to source transport planners and consultants. According to Vicky, the City would have preferred more detail on traffic and local roads, but this requirement will be made clearer in future terms of reference documents.



## BALANCED SCORECARD \*

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?		●			
2. Did you have adequate funding for your project?		●			
3. Did you have adequate technical expertise to implement your project?			●		
<b>Total</b>					<b>7</b>

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?					●
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?		●			
3. Did the project have a higher than expected impact on stakeholders?			●		
<b>Total</b>					<b>10</b>

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?		●			
2. To what extent was this project relevant to the targeted beneficiaries?				●	
3. To what extent will this project be replicated sustainably in the future?				●	
<b>Total</b>					<b>10</b>

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?				●	
2. To what extent did the project link with other priorities of the organisation?				●	
3. Did the project have higher than expected impact in your organisation?				●	
<b>Total</b>					<b>12</b>

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?			●		
2. To what extent did you project fulfil its aims?			●		
3. Was this project a cost effective response to the problem addressed?			●		
<b>Total</b>					<b>9</b>



## Sustainable Planning Johannesburg

# VERIFICATION OF PRIORITY CONSERVATION AREAS

### Objective

- To verify the accuracy of information pertaining.

### Contact person

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### Timeframe

5 months

### Funding

R500 000

### Background

High levels of development in sensitive areas prompted concern around conservation issues. But without a clear idea of the extent of biodiversity features, the Department of Environment was unable to strongly motivate controls and enforcements.

With no concrete information, planners remained unconvinced and continued to pass approvals for development in sensitive areas. In response to the problem, the department created a local task team to identify eight priority sites that were under high development pressure and potentially in need of protection or conservation status.

### Process

In response to the problem, the department created a local task team to identify eight priority sites that were under high development pressure and potentially in need of protection or conservation status. The team used GIS systems and aerial photographs to identify sites, also communicating with interested stakeholders like the National Institute for Biodiversity and provincial departments. Sites were prioritised according to their connectivity with an existing open space network across the city.

Priority areas are located close to network, while isolated sites were less likely to be considered. Many of the priority sites are not designated as conservation areas. Selected sites are located in the suburbs of Midrand, Dainfern, Northriding, Soweto, Eldorado Park and Orange Farm. Many of the priority sites are not currently designated as conservation areas. Conservation status will only be considered if the site falls within the 'green corridor'.

The project team then appointed biodiversity conservation consultants to



Sustainable Planning Johannesburg  
**VERIFICATION OF PRIORITY CONSERVATION AREAS**

'walk' the priority sites and assess their biodiversity status, noting and recording fauna and flora. Where the sites are used for recreation, the consultants assessed the level and condition of facilities, noting any upgrade requirements.

To indicate the state of the sites, consultants collected information about informal settlements and dumping, in addition to scientific data. For strategic purposes, the project team also required an investigation and assessment of ownership and zoning rights. The study covers general legal issues and clarifies site sizes, should the city want to purchase the land.

**Outcomes and benefits**

- Project outcomes and benefits include the following:
- An extensive body of fieldwork covering the biodiversity features for each site.
  - Spatially represented information in the form of GIS

layers for each site.

- Document and spatial layers made available to planners as input into the city's Spatial Development Framework.
- Concrete information for Environment Department input into development applications, approvals, planning and decision-making processes.

The information generated by this project is unprecedented in the City, and the methodology is being used as a blueprint to collect data in other areas where similar needs have been identified.

**Challenges**

The only challenge reported is the late appointment of consultants, which extended into the rainy season and delayed fieldwork.

**BALANCED SCORECARD \***

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?				●	●
2. Did you have adequate funding for your project?				●	●
3. Did you have adequate technical expertise to implement your project?				●	●
<b>Total</b>	<b>12</b>				

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?				●	
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?			●		
3. Did the project have a higher than expected impact on stakeholders?				●	
<b>Total</b>	<b>11</b>				

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?				●	
2. To what extent was this project relevant to the targeted beneficiaries?				●	
3. To what extent will this project be replicated sustainably in the future?				●	
<b>Total</b>	<b>12</b>				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?				●	
2. To what extent did the project link with other priorities of the organisation?				●	
3. Did the project have higher than expected impact in your organisation?				●	
<b>Total</b>	<b>12</b>				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?				●	●
2. To what extent did you project fulfil its aims?				●	●
3. Was this project a cost effective response to the problem addressed?				●	●
<b>Total</b>	<b>12</b>				



1

# Sustainable Planning Johannesburg CAPACITY BUILDING TO BRIDGE THE GAP BETWEEN ENVIRONMENTAL MANAGEMENT AND DEVELOPMENT PLANNING

## Objective

- To provide environmental legislation training aimed at bridging the gap between the Department of Environmental Management and other city departments and municipal-owned entities (MoEs).

### Contact person

Nozipho Maduse  
011 407 6730  
noziphom@joburg.org.za

### Timeframe

1 year

### Funding

R200 000

## Background

The different core and operational activities of each City department all impact on the environment, however, there is limited integration between these departments and the environmental functions. For example, planning legislation impact heavily on environmental legislation, yet there is little engagement around relevant environmental issues. This project aims to bridge the gap by providing environmental legislation training that is linked to the daily operational activities of different departments. At a strategic level, the project aims to assist the environmental management function by improving the capacity of other departments to act as its 'eyes and ears'.

## Process

Initially, the project plan targeted land-use planners, but it later evolved to include other groups, with tailor-made training aligned to the operational activities of each department. External consultants were briefed and presentations reviewed, culminating in three days of training at Johannesburg's Civic Centre. The 86 trainees included high level staff and were from a wide range of functions including: building control, outdoor advertisement and signage, roads, water, environmental management and land-use planning.

Practical examples from City records were used as case-studies and these were related within a global context to give trainees a complete understanding of impacts. The project team also compiled an important and useful resource file for trainees. This contains information including: a summary of specialist services offered by the Department of Environmental Management, contact details



2



3

1. The Arcelor Mittal Vanderbijl Park Steel Works, showing the 1km buffer to ensure no development takes place near the industry. This buffer zone is owned by Arcelor Mittal and is kept as a green belt area.

2. Flaring of excess gas distillate from a natural gas processing plant in Dar es Salam, Tanzania.

3. The Goudkoppies Landfill site south of Johannesburg showing illegal reclaimers working and living on the landfill site.

and a checklist for handling transgressions and queries. The checklist provides guidance on who can be contacted in the event of transgressions or queries for common planning and environment related issues. An interactive case study was also developed by officials in the Environmental Management Department that involved role playing by the participants to demonstrate knowledge gained.

### Impacts

The project has been well-received and impacts include the following:

- The training evaluation forms showed positive results and informal feedback has been excellent. Participants

are generally excited about the project and there are requests for more training.

- Improved working relationships and capacitation has led to higher numbers of staff approaching the environmental management team for information, reports and help with queries.
- Trained officials are now empowered to address environmental issues on site by thinking broadly and using the most effective tool to solve a problem.
- Improved information and knowledge-sharing has helped eliminate finger-pointing and encouraged staff to take responsibility for the environmental aspects of their activities.

### Lessons

Project manager Nozipho Maduse says that adaptability is the key lesson learned from this project. "We had planned to only train the land-use staff and, during the planning process, took the decision to involve other key agencies. This worked out well as different functions were exposed to each other. The other change we made on the fly was the case study example. The case study exercise on the first day of training didn't work well because it was too long and complex. For the second and third day, we changed to a simpler case-study and used role-playing to make it more interesting and interactive."



## BALANCED SCORECARD \*

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?				●	
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?				●	
<b>Total</b>	<b>13</b>				

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?			●		
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?			●		
3. Did the project have a higher than expected impact on stakeholders?				●	
<b>Total</b>	<b>10</b>				

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?		●			
2. To what extent was this project relevant to the targeted beneficiaries?					●
3. To what extent will this project be replicated sustainably in the future?				●	
<b>Total</b>	<b>10</b>				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher than expected impact in your organisation?					●
<b>Total</b>	<b>15</b>				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?					●
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?					●
<b>Total</b>	<b>15</b>				

## Sustainable Planning Johannesburg

# UPDATE OF CAPITAL INVESTMENT MANAGEMENT SYSTEM

### Objective

- To improve and update the environmental requirements specified in the Capital Investment Management System.

### Contact person

Nozipho Maduse  
011 407 6730  
noziphom@joburg.org.za

### Timeframe

6 months

### Funding

R13 000

### Background

The Capital Investment Management System (CIMS) is a management tool used by the City of Johannesburg for budget planning and prioritising project funding. The system screens projects according to various criteria, thereby determining which projects will be funded in a particular financial year. Updating of the system was a strategic intervention aimed at better aligning it with current environmental regulations.

### Process

The CIMS screening criteria were re-shaped to include environmental requirements such as the new Environmental Impact Assessment (EIA) regulations of 2006. Relevant generic questions were added to the system, ready to be activated at the start of the next budget-planning cycle. The Department of Environmental Management was responsible for drafting the new system requirements and outlining proposals. The Development Planning and Facilitation was responsible for effecting the changes through an external supplier. After a testing phase, the new system was launched, alongside press releases and notifications to all users.

The updated system lists activities (like the surfacing of a gravel road) in relation to associated regulations (like road reserves and pipe diameters) and groups activities according to applicable departments, making it easier for project managers to navigate and complete the questionnaire. Users are required to respond to all questions and provide detailed information about activities related to each project, before the project will be accepted into the system. Questions are also smartly designed to guard against manipulation. For managers, the system can generate reports summarising all projects that require authorisations from the City.





# UPDATE OF CAPITAL INVESTMENT MANAGEMENT SYSTEM

## Benefits

The updated system has a number of benefits:

- As a strategic intervention, it ensures that City departments are able to identify, at an early stage, whether projects to be implemented will require EIA authorisation. This enables more efficient planning and budgeting.
- Related to the above, faster planning authorisations and shorter lead-times result in less non-compliance. Previously, slow procedures often resulted in projects being implemented without authorisation, in the effort to expend budget before the close of the spending cycle.
- The system creates a clear link between activities and authorisations, generating environmental requirements and assisting in the screening, monitoring and compliance processes.
- Users are provided with better guidance and greater knowledge regarding department activities requiring environmental authorisation.
- Co-operative governance is streamlined and conflicts

reduced. Previously, environmental departments had difficulty measuring the value of environmental interventions. As a result, projects showing a higher return on investment scored a better value within the system and those with environmental value scored less. The new system incorporates the factor of 'environmental return' to the City, giving the departments implementing environmental projects a fairer advantage against departments implementing projects with quantifiable values, like financial returns.

- Under the updated system, those projects prioritised (in terms of scoring) and approved for funding have a much healthier environmental profile and higher environmental standards.

The environmental requirements on the CIMS will be updated in the future to keep up with changing legislation. The only constraint facing the success of the project is the dependence on technology to keep CIMS up and running effectively.

## BALANCED SCORECARD ✱

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?					●
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?					●
<b>Total</b>	<b>15</b>				

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?			●		
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?		●			
3. Did the project have a higher than expected impact on stakeholders?				●	
<b>Total</b>	<b>9</b>				

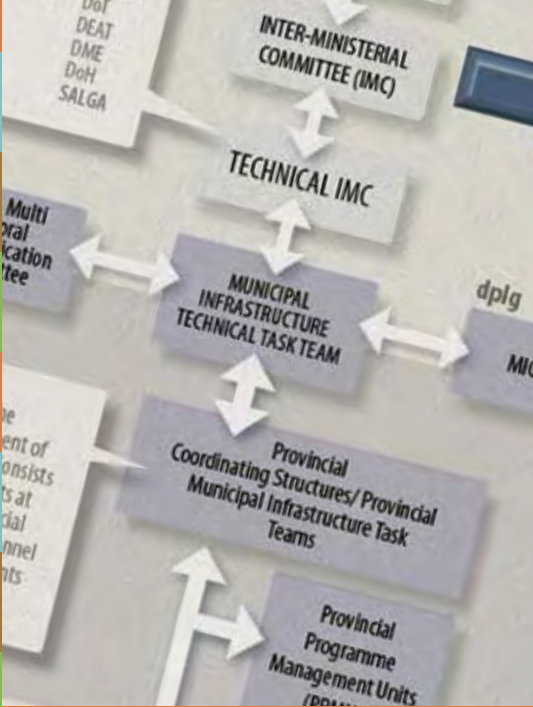
UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?		●			
2. To what extent was this project relevant to the targeted beneficiaries?					●
3. To what extent will this project be replicated sustainably in the future?				●	
<b>Total</b>	<b>10</b>				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher than expected impact in your organisation?				●	
<b>Total</b>	<b>14</b>				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?					●
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?					●
<b>Total</b>	<b>15</b>				

# Sustainable Planning Delta Environmental Centre

## URBAN ENVIRONMENTAL MANAGEMENT LEGISLATION: AUDIT AND ANALYSIS



### Objective

- To audit and analyse the powers, functions and legislation that affect municipal urban environmental management.

### Contact person

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011 888 4831  
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### Time frame

3 months

### Funding

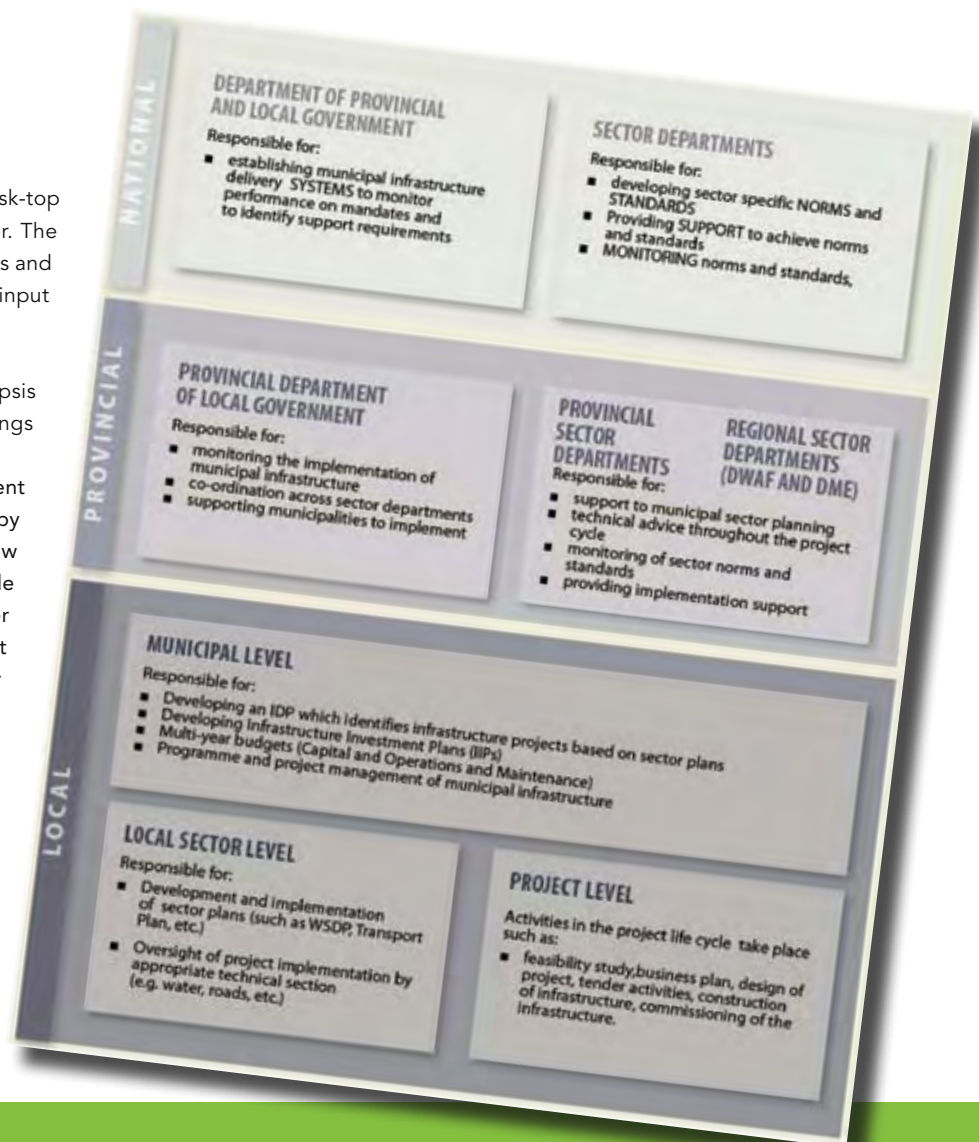
R100 000

### Process and outcome

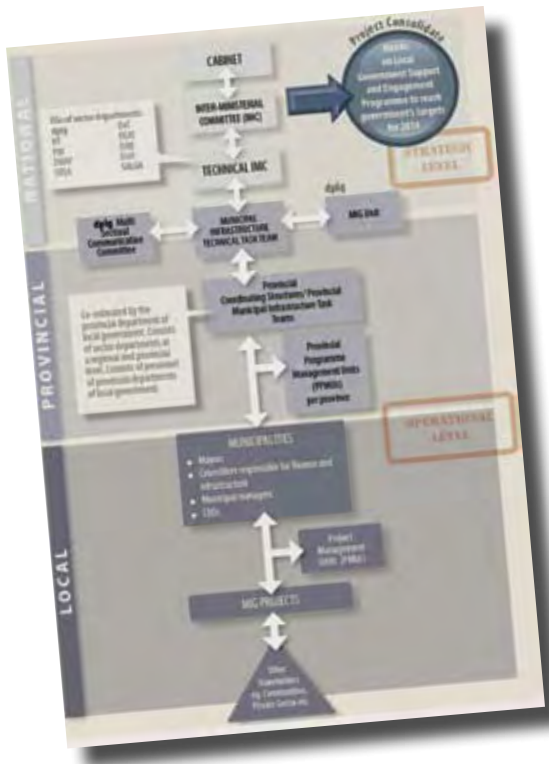
The project took the form of a desk-top survey undertaken by a researcher. The major components were interviews and questionnaires, which provided input data for the audit and analysis.

The final report contains a synopsis of the research, with major findings summarised below:

- A strong 'silo' effect is prevalent within municipalities, whereby officials operate within narrow functional areas with little understanding of larger contexts. In some cases, staff at director levels were not familiar with relevant legislation.
- Analysis shows that many gaps exist in current urban environmental management legislation and there is a clear need for legislation to be viewed holistically.
- Large discrepancies exist



# URBAN ENVIRONMENTAL MANAGEMENT LEGISLATION: AUDIT AND ANALYSIS



between the roles and responsibilities of provincial and local government authorities.

- A top-down approach exists, but with little consistency across acts and laws. Staff working with the legislation are often confused.

The 200-page report is a highly useful reference document that exceeds initial expectations and provided valuable information on urban environmental management legislation in South Africa.

## BALANCED SCORECARD \*

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?				●	
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?				●	
<b>Total</b>				<b>13</b>	

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?			●		
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?		●			
3. Did the project have a higher than expected impact on stakeholders?			●		
<b>Total</b>			<b>8</b>		

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?			●		
2. To what extent was this project relevant to the targeted beneficiaries?					●
3. To what extent will this project be replicated sustainably in the future?			n/a		
<b>Total</b>					<b>12</b>

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?				●	
3. Did the project have higher than expected impact in your organisation?			●		
<b>Total</b>					<b>10</b>

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?			●		
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?					●
<b>Total</b>					<b>13</b>



## Sustainable Planning MTech Holdings ANALYSIS AND RECOMMENDATIONS FOR SUSTAINABILITY MONITORING BY LOCAL GOVERNMENT

### Objectives

- To examine how local government integrates environmental planning into the broader Integrated Development Plan (IDP) process.
- To examine how local government implements environmental legislation.
- To examine local government sustainability reporting mechanisms and performance indicators.

### Contact person

Naomi Tsebe  
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### Time frame

5 months

### Funding

R300 000

### Background

Fragmentation in the sustainability monitoring and reporting of different local municipalities has created a need for a common performance and measurement platform. This project set out to develop a single set of standards and a complete set of indicators by which to measure and review sustainability performance of local government.

### Process and findings

The desktop study started with a review of municipal IDPs, State of Environment/Sustainability reports, policies and plans; and related monitoring programmes. Information was collected and analysed to establish existing status quo. The team developed assessment criteria based on international best practice, World Bank indicators and Millennium Development goals, and compiled structured questionnaires. These were distributed to eight targeted municipalities countrywide, for the purpose of assessing their sustainability indices and target-setting. The City of Johannesburg, Cape Town and Ekurhuleni Municipalities were selected as focus areas for establishing benchmark and baseline data, due to their more advanced sustainability reporting.

The study found that some municipalities were unable to achieve their sustainability targets due to budget limits and capacity challenges (often relying on external consultants). Staff movements often left departments unable to implement plans and complete reporting procedures. Municipalities have different indicator sets with little consistency in the types of reporting. Reporting documents were often too technical and not aimed at a broad target audience, making them difficult for local communities and the general public to understand.

Institutional arrangements were often not integrated, for example, waste management services reporting to a technical directorate whilst there is a dedicated environmental management department. As a result, reporting informa-



tion didn't correlate with sustainability targeting. The 'silo' effect in many municipalities showed that information is not distributed among departments and, in some cases, reporting was inaccurate.

Municipal representatives attended four workshops during the project. The first was aimed at soliciting buy-in and participation. The second workshop presented a status-quo assessment and gained further input into the process. A third workshop presented a first draft of the report and gathered more municipal input. The final report was delivered at the last workshop.

### Outcomes and impacts

The project's key outcome is a set of recommended indicators for adoption by local government. The indicators are aligned with the Department of Environmental Affairs' State of the Environment reporting framework and cover the areas of: health, water quality, governance, air quality, energy and climate change, waste management.

Positive impacts are reported as follows:

- Improved reporting systems.

- A single set of baseline indicators that can be further developed over time.
- Improved and more integrated municipal governance structures.
- Environmental sustainability reporting that is more holistic and considers social impacts, for example, the relationship between levels of poverty and environmental degradation.

### Challenges

The greatest challenge faced by the team was the lack of or fragmented information to inform the study. It was found that many municipalities don't record information, for example, waste volumes generated. As a result, much fieldwork was required to collect data. A lack of municipal capacity in the fields of integrated environmental resources management, planning, monitoring and performance review also presented a challenge for the team. There was a general sense that sustainability is not a priority or local government, illustrated by the poor and slow response to questionnaires.

**BALANCED SCORECARD** ✱ 1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT		1	2	3	4	5
1.	Did you have adequate internal resources to implement your project?			●		
2.	Did you have adequate funding for your project?	●				
3.	Did you have adequate technical expertise to implement your project?				●	
<b>Total</b>						<b>8</b>

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?		●			
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?			●		
3. Did the project have a higher than expected impact on stakeholders?		●			
<b>Total</b>	<b>7</b>				

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?		●			
2. To what extent was this project relevant to the targeted beneficiaries?				●	
3. To what extent will this project be replicated sustainably in the future?			●		
<b>Total</b>	<b>10</b>				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?		●			
2. To what extent did the project link with other priorities of the organisation?				●	
3. Did the project have higher than expected impact in your organisation?				●	
<b>Total</b>	<b>10</b>				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?				●	●
2. To what extent did you project fulfil its aims?				●	●
3. Was this project a cost effective response to the problem addressed?				●	●
<b>Total</b>	<b>12</b>				