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Expert Meeting: Urban Nature, Green Urban Infrastructure, & Climate Adaptation

CCT: Spatial Planning & Environment: Environmental Management

Istanbul, Türkiye – 28 May 2024

Making progress possible. Together.

Challenges for adaptation and types of support needed

- Urbanisation: High "in-migration" (housing, basic service needs, informality, inappropriate land-use)
- Species loss: Invasive species vs indigenous biodiversity
- Agriculture: Increasing food needs vs land/water shortage
- Wildfires: Increasing number and severity
- Over-exploitation: Scarce resources, especially water
- Pollution and waste management: Air, water, land

- NbS projects: OPEX programmatic vs City: CAPEX infrastructure delivery
- How to take NbS projects to scale?
- Overcome perceptions: '*Green not as good as Grey infrastructure*'
- 'Sustaining solutions': Operational & management budget 1st to cut
- Approval process complexity: External funders & Treasury
- Funding into City's budget: Complex process, timeline, allowances
- Quantifying and proving co-benefits
- Proving viability of innovative alternatives: Pilot vs full-scale projects
- Alternate funding options: "selling the unusual"
- Balancing priorities in City's project pipeline
- "Silo-thinking" vs transversal project management

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Plan and actions for urban nature and biodiversity

Integrated Development Plan

Municipal Spatial Development Framework (incl. Environmental Management Framework)

Overarching sustainability approach

Implementation through

Water Strategy

Resilience Strategy

Integrated Waste Management Policy

Environmental Strategy

Climate Change Strategy

Inclusive Economic Growth Strategy

Sectoral sustainability approach

Policies, Action plans & Bylaws

Project & Programme pipeline!

Sustainability checks and balances at each point

Sustainability & Good Governance

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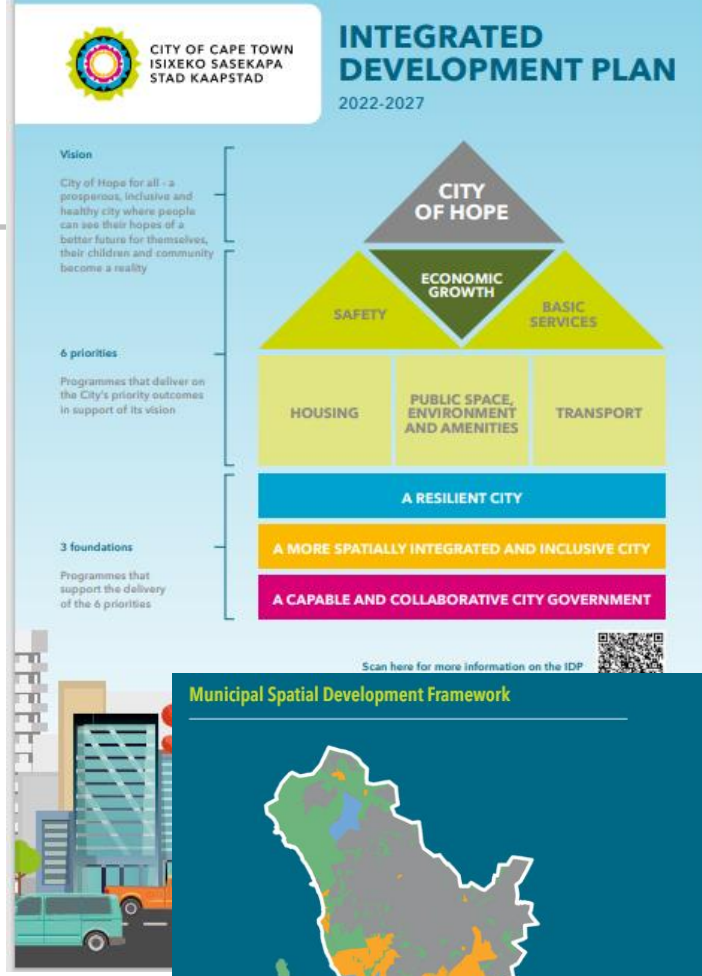
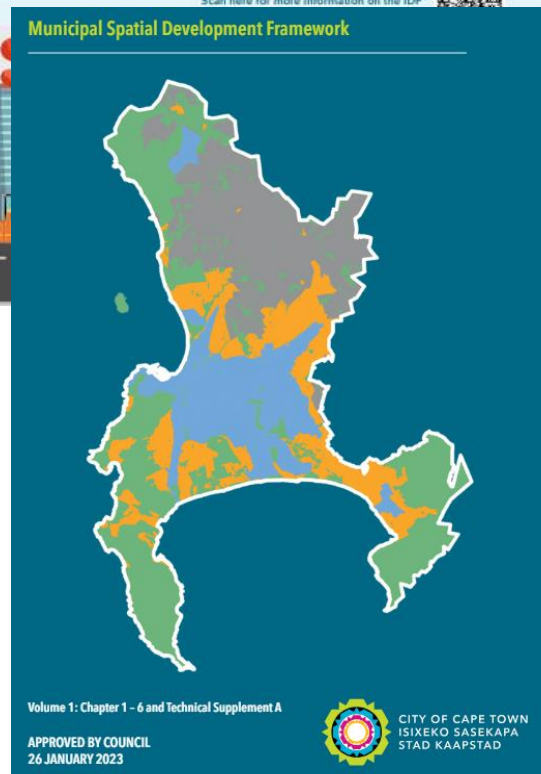
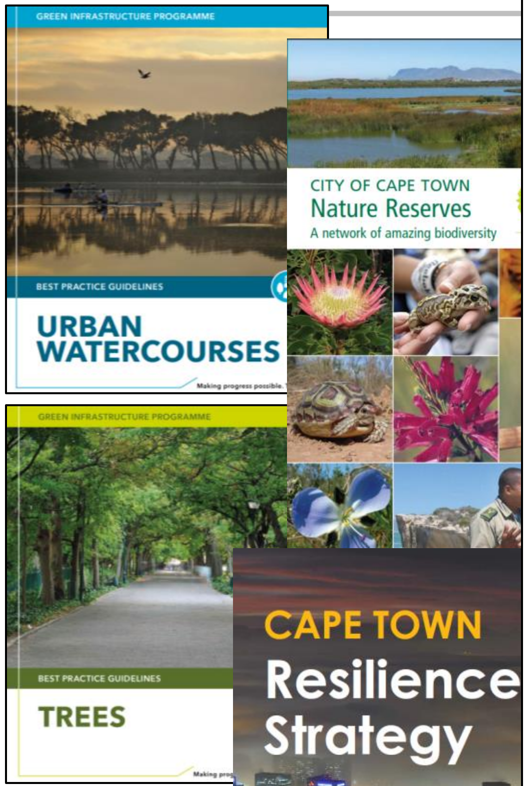




Mechanisms for implementation



LOCAL BIODIVERSITY STRATEGY AND ACTION PLAN

Green Infrastructure Programme

Green Infrastructure Network: An Overview

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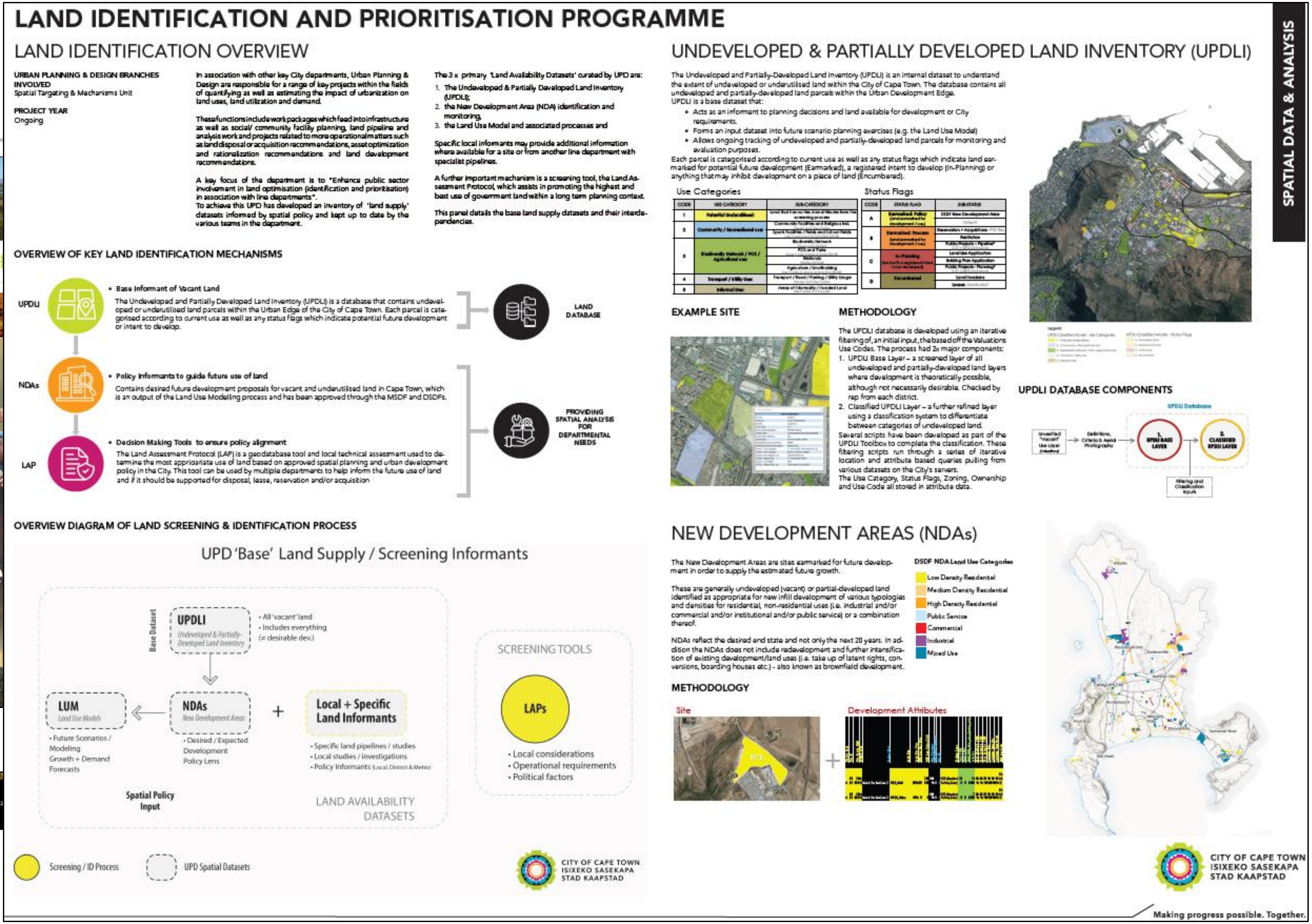

LAND IDENTIFICATION AND PRIORITISATION PROGRAMME

SPATIAL DATA & ANALYSIS

LAND IDENTIFICATION OVERVIEW

URBAN PLANNING & DESIGN BRANCHES INVOLVED
Spatial Targeting & Mechanisms Unit

PROJECT YEAR
Ongoing

In association with other key City departments, Urban Planning & Design are responsible for a range of key projects within the fields of quantifying as well as estimating the impact of urbanization on land uses, land utilization and demand.

These functions include work packages which feed into infrastructure as well as social/ community facility planning, land pipeline and analysis work and projects related to more operational matters such as land disposal or acquisition recommendations, asset optimization and rationalization recommendations and land development recommendations.

A key focus of the department is to "Enhance public sector involvement in land optimisation (identification and prioritisation) in association with line departments".
To achieve this UPD has developed an inventory of 'land supply' datasets informed by spatial policy and kept up to date by the various teams in the department.

The 3 x primary 'Land Availability Datasets' curated by UPD are:
1. The Undeveloped & Partially Developed Land Inventory (UPDLI);
2. the New Development Area (NDA) identification and monitoring,
3. the Land Use Model and associated processes and

Specific local informants may provide additional information where available for a site or from another line department with specialist pipelines.

A further important mechanism is a screening tool, the Land Assessment Protocol, which assists in promoting the highest and best use of government land within a long term planning context.

This panel details the base land supply datasets and their interdependencies.

OVERVIEW OF KEY LAND IDENTIFICATION MECHANISMS

UPDLI
- Base Informant of Vacant Land
The Undeveloped and Partially Developed Land Inventory (UPDLI) is a database that contains undeveloped or underutilised land parcels within the Urban Edge of the City of Cape Town. Each parcel is categorised according to current use as well as any status flags which indicate potential future development or intent to develop.

NDAs
- Policy Informants to guide future use of land
Contains desired future development proposals for vacant and underutilised land in Cape Town, which is an output of the Land Use Modeling process and has been approved through the MSDF and DSDFs.

LAP
- Decision Making Tools to ensure policy alignment
The Land Assessment Protocol (LAP) is a geodatabase tool and local technical assessment used to determine the most appriopriate use of land based on approved spatial planning and urban development policy in the City. This tool can be used by multiple departments to help inform the future use of land and if it should be supported for disposal, lease, reservation and/or acquisition

LAND DATABASE

PROVIDING SPATIAL ANALYSIS FOR DEPARTMENTAL NEEDS

OVERVIEW DIAGRAM OF LAND SCREENING & IDENTIFICATION PROCESS

UPD 'Base' Land Supply / Screening Informants

Base Dataset
UPDLI
Undeveloped & Partially Developed Land Inventory
- All 'vacant' land
- Includes everything
(≠ desirable dev.)

LUM
Land Use Models
- Future Scenarios / Modeling
Growth + Demand Forecasts

NDAs
New Development Areas
- Desired / Expected Development
Policy Lens

Spatial Policy Input

+

Local + Specific Land Informants
- Specific land pipelines / studies
- Local studies / investigations
- Policy Informants (Local, District & Metro)

LAND AVAILABILITY DATASETS

SCREENING TOOLS
LAPs
- Local considerations
- Operational requirements
- Political factors

Screening / ID Process
UPD Spatial Datasets

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UNDEVELOPED & PARTIALLY DEVELOPED LAND INVENTORY (UPDLI)

The Undeveloped and Partially-Developed Land Inventory (UPDLI) is an internal dataset to understand the extent of undeveloped or underutilised land within the City of Cape Town. The database contains all undeveloped and partially-developed land parcels within the Urban Development Edge.
UPDLI is a base dataset that:
- Acts as an informant to planning decisions and land available for development or City requirements.
- Forms an input dataset into future scenario planning exercises (e.g. the Land Use Model)
- Allows ongoing tracking of undeveloped and partially-developed land parcels for monitoring and evaluation purposes.

Each parcel is categorised according to current use as well as any status flags which indicate land earmarked for potential future development (Earmarked), a registered intent to develop (In-Planning) or anything that may inhibit development on a piece of land (Encumbered).

Use Categories

Status Flags

EXAMPLE SITE

METHODOLOGY

The UPDLI database is developed using an iterative filtering of, an initial input, the based off the Valuations Use Codes. The process had 2x major components:
1. UPDLI Base Layer – a screened layer of all undeveloped and partially-developed land layers where development is theoretically possible, although not necessarily desirable. Checked by rep from each district.
2. Classified UPDLI Layer – a further refined layer using a classification system to differentiate between categories of undeveloped land.

Several scripts have been developed as part of the UPDLI Toolbox to complete the classification. These filtering scripts run through a series of iterative location and attribute based queries pulling from various datasets on the City's servers.
The Use Category, Status Flags, Zoning, Ownership and Use Code all stored in attribute data.

UPDLI DATABASE COMPONENTS

NEW DEVELOPMENT AREAS (NDAs)

The New Development Areas are sites earmarked for future development in order to supply the estimated future growth.

These are generally undeveloped (vacant) or partial-developed land identified as appropriate for new infill development of various typologies and densities for residential, non-residential uses (i.e. industrial and/or commercial and/or institutional and/or public service) or a combination thereof.

NDAs reflect the desired end state and not only the next 20 years. In addition the NDAs does not include redevelopment and further intensification of existing development/land uses (i.e. take up of latent rights, conversions, boarding houses etc.) - also known as brownfield development.

DSDF NDA Land Use Categories
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Public Service
- Commercial
- Industrial
- Mixed Use

METHODOLOGY

Site

Development Attributes

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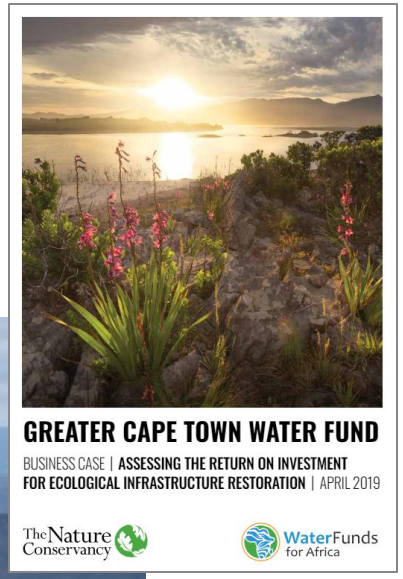
Future direction: Innovative programmes – *'thinking outside of the box'*



- About **55 billion litres** of water, approx. 2 months water for Cape Town, is lost every year to invasive species
- City working with The Nature Conservancy, helped establish **Greater Cape Town Water Fund** in 2018
- GCTWF clears alien invasives from mountain catchments feeding City's main water reservoirs, enhancing and protecting Cape Town's water supply – **increases water supply, protects natural biodiversity**, **reduces fire risk**
- To date: **46,000 ha** cleared, recovered **15.2 billion ℓt water per year** (42 million ℓt per day)
- Most cost effective and sustainable way to **secure** Cape Town's water supply and meet **future water demands**
- City's contribution to date: approx. **US$ 5.23 million**

- In addition, City runs extensive alien invasive clearance projects within City boundaries

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Thank You

Contact: Bronwen Griffiths Bronwen.Griffiths@capetown.gov.za

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