EThekwini (Durban), South Africa

A municipality's climate protection program

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EThekwini Municipality is undertaking an evidence component led approach to developing and implementing its Municipal Climate Protection Program. A strong focus of the municipality's is an early response strategy on climate change adaptation. Supported by ongoing monitoring and evaluation, locally relevant adaptation strategies are being researched and piloted, improved and, where appropriate, rolled-out more widely.

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Abstract

In response to climate change, the eThekwini Municipality's Municipal Climate Protection Program (MCPP), initiated in 2004, seeks to mainstream climate change adaptation in the general city planning and development framework. This approach attempts to harmonize local urban responses to climate change with key development priorities. Subsequent adaptation plans have been developed, building on the MCPP.

Firstly, following an initial assessment of local climate change impacts, the Headline Climate Change Adaptation Strategy (HCCAS) was prepared in 2006. Furthermore, sector-specific adaptation plans for health, water and disaster management were developed in 2009. These highlighted the required interventions needed to adapt to climate change. An integrated assessment tool has also been developed to enable the simulation, evaluation and comparison of development strategies of the city under different climate change scenarios. These plans are essential to ensure that climate concerns, including mitigation and adaptation, are fully integrated into the urban planning and development framework, and to build resilience.

Population / Land area
~3.5 million (2010)
2,297 km^2

Municipal budget
ZAR 28.5 billion
US$ 3.3 billion.

Durban joined ICLEI in 1994

African cities and climate change adaptation

Global climate change is a pressing concern for cities especially those located in coastal areas. Africa is among the fastest urbanizing regions in the world. Of the nearly 1 billion African residents, currently 40 percent live in urban areas. By 2050 over 60 percent or 1.2 billion people will live in urban areas.

The urban poor in African cities are among the most vulnerable to the negative effects of climate change. They will experience most profoundly the increased economic, social and environmental hardship from climate change as they are among the least endowed to adapt. This is especially evident when one considers the high level of dependence on biodiversity and ecosystem services for livelihoods, and their vulnerability to environmental risks, including natural disasters such as flooding, storm surges, and mudslides.

Municipal governments need capacity to provide basic services, build resilience, and disaster risk reduction methods, and emergency responses. The challenge is to mitigate risk and to avert major humanitarian crises. Adaptation allows the institutionalization of climate proofing a city while simultaneously renewing focus on vulnerable urban dwellers and effective resource management.

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City context

South Africa and eThekwini Municipality are progressing in addressing climate change. South Africa formed the National Committee on Climate Change (NCCC) in 1994, ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1997, and ratified the Kyoto Protocol in 2002. EThekwini Municipality was also host to COP17 (UNFCCC) in December 2011 at which over 900 mayors adopted the Durban Adaptation Charter for Local Governments committing local authorities to developing adaptation plans that assist in directing urban development and investment.

Photo: © EThekwini Municipality

Part of Durban moving towards becoming a Low Carbon City is installing LEDs in the city's traffic. lights.

South Africa has also undertaken a number of policy and legislative reforms to ensure compliance with international obligations and commitments. These include the 2004 Climate Change Response Strategy for South Africa and the National Climate Change Response White Paper from 2011.

Durban was the first city in South Africa to adopt the Local Agenda 21 mandate in 1994 and was also the first city in South Africa to accept the Local Action 21 mandate in 2003. The city's Integrated Development Plan (IDP) (2003-2007) at that stage had already provided the vision and mechanism for achieving long-term sustainability.

The Municipal Climate Protection Programme (MCPP) was initiated in 2004. 'Climatic Future for Durban' was then published in 2006 to propose possible responses. The next step was the development of a Headline Climate Change Adaptation Strategy (HCCAS) in 2006. It highlighted key interventions required by the municipality to adapt to climate change. Sectorial municipal adaptation plans were piloted in three high risk sectors: water, health and disaster management. They focused on specific actions and emphasized institutional prerequisites for effective decision making and actions within the context of adaptation.

Following the HCCAS an integrated assessment tool was developed to evaluate and compare strategic development options in the city within the context of climate change. It was considered vital to mainstream climate change concerns in city planning and the development framework. This has led to a more embedded and improved institutionalization of the Municipal Adaptation Plans and enables the effective mobilization of line function resources towards the implementation of an integrated strategy.

The original driver of the eThekwini Municipality MCPP was the Environmental Management Department, which became the Environmental Planning and Climate Protection Department (EPCPD) in 2009. This institutional change underscored the importance of climate change response in municipal development strategy. These plans are currently under the jurisdiction of the Environmental Planning and Climate Protection Department (EPCPD) in 2009. From an early stage, the adaptation focus in eThekwini Municipality has sought to ensure that development

priorities are addressed. Key partnerships that have been developed with the Water and Sanitation and Health Departments and the Disaster Management Unit, part of the safety and security cluster of the municipality. These partnerships have influenced both the strategic and sector-based response planning for climate change as well as to mobilize resources.

EThekwini's Municipal Climate Protection Program pioneers local adaptation strategies.

In 2004 eThekwini Municipality responded to the climate change challenge with the initiation and implementation of a Municipal Climate Protection Program (MCPP).

There are three key components to eThekwini Municipality's MCPP: municipal adaptation to ensure the integration of key activities into relevant line functions; community-based adaptation focused on building capacity; and a series of interventions focused on urban management challenges such as urban heat island effect and sea-level rise. While protecting ecosystem services is intrinsic to the design and management approach of the Durban Metropolitan Open Space System, it has also provided a platform for the development of an Ecosystem Based Adaptation (EBA) component of the MCPP.

The MCPP has been developed over time through the following phases:

- **Phase 1 Impact Assessment:** The Climatic Future for Durban Report (2006) assessed local impacts of climate change and proposed possible adaptation and mitigation responses.
- **Phase 2 Adaptation Planning:** A Headline Climate Change Adaptation Strategy (HCCAS) (2006) highlighted some key interventions for successful adaptation. This has been, and is being, extended through various adaptation initiatives including reforestation projects, sea level rise modelling, community adaptation plans and development and implementation of municipal adaptation plans for the water, health and disaster management sectors.
- **Phase 3 Developing the Tool Box:** Development of an integrated assessment tool to enable evaluation and comparison of strategic plans and policies in the context of climate change.
- **Phase 4 Mainstreaming:** Initiatives have included the integration of climate change considerations into city planning and development by the creation of a Climate Protection Branch within the Environmental Planning and Climate Protection Department (EPCPD) and the establishment of an Energy Office in 2009. Other interventions have included hosting a carbon neutral 2010 FIFA World Cup™ and COP17-CMP7 in Durban.

The eThekwini Municipality's MCPP is continuously being developed and evolving. A key aspect is stakeholder and partnership support is the Durban Climate Change Partnership which was endorsed by stakeholders at Durban's first Climate Change Summit in 2009. Established in 2011, it involves public and private representatives and addresses both climate change adaptation and mitigation issues. The partnership raises awareness on climate change to ensure that Durban's climate message is united and coherent. It co-ordinates stakeholder climate change mitigation and adaptation action.

South Africa's National Climate Change Response White Paper, October 2011

In response to urban climate change challenges, South Africa will:

- Investigate how to leverage opportunities presented by urban densification to build climate-resilient urban infrastructure.
- In the implementation of low-cost housing, ensure access to affordable lower-carbon public transport systems, incorporate thermal efficiency into designs and use climate-resilient technologies.
- Develop effective information, monitoring and assessment tools to evaluate the resilience of our cities and towns to climate change.
- Encourage and develop water-sensitive urban design to capture water in the urban landscape and to minimise pollution, erosion and disturbance. Urban infrastructure planning must account for water supply constraints and impacts of extreme weather-related events.
- Acknowledging the current modelling limitations, encourage and support the appropriate down-scaling of climate models to provincial and, where possible, metropolitan and district levels to provide climate information at a scale that can be integrated into medium- and long-term spatial development plans and information systems.
- Ensure that land-use zoning regulations are enforced and that urban land-use planning considers the impacts of climate change and the need to sustain ecosystem services when considering settlements and infrastructure development proposals."

In addition, while protecting ecosystem services is included in the design and management of the Durban Metropolitan Open Space System, a focused Ecosystem Based Adaptation (EBA) component is being developed. EBA for Durban presents an opportunity for investing in 'green infrastructure' or 'bio-infrastructure' at various scales and enables a range of co-benefits including: maintaining essential ecosystem services that provide a safety net to poor urban communities; improving carbon storage in biomass; improving the contribution to the conservation of the Maputaland-Pondoland-Albany global biodiversity hotspot; community participation and ownership and research partnerships. The EBA will also provide support for the second major future focus area of Community-Based Adaptation (CBA). Both of these areas are being united in the pioneering concept of Community-Ecosystem Based Adaptation (CEBA) which is being launched as part of the COP17-CMP7 greening program.

Photo: © EThekwini Municipality

The Green Roof Project, Durban.

Results

The Disaster Management Unit and the Environmental Planning and Climate Protection Department are working together to raise the strategic profile of the disaster management function within the Integrated Development Plan (IDP) process.

An audited institutional risk assessment process is being undertaken across all municipal structures to ensure risks are identified, assessed, treated, monitored and reported on, in the municipality's operations. This has underlined climate change as a key priority within municipal planning and management.

Focus on tool development to assist the evaluation of strategic plans and policies within the context of negative climate change impacts. The first of these is an integrated assessment tool, which employs a stand-alone GIS platform that allows visualizing and overlaying the impacts of climate change in key sectors to help identify high risk areas. Climate change concerns can subsequently be integrated with the disaster-linked citywide risk assessment process.

Approval of the disaster management framework by council in 2009 provides a critical first step in the reconfiguration of the disaster management functions. This has been followed by the establishment of a Municipal Disaster Management Committee in 2011.

A common interest in risk management has resulted in an institutional partnership emerging between the Disaster Management Unit and EPCPD. By virtue of its position in the city's Development Planning & Management Unit, the EPCPD is better linked to strategic planning functions and can assist in highlighting the disaster management.

Numerous other initiatives and projects have resulted from the MCPP, which include:

- Community Based Adaptation Plans (CAPs).
- Durban Climate Change Partnership (DCCP):

- Green Roof Pilot Project.
- Low Carbon Durban Research Project.
- Sea-level rise assessment.
- Municipal Adaptation Plans Cost-Benefit Analysis.
- Sectoral Municipal Adaptation Plans.
- Luganda School Water Harvesting and Micro Agricultural Water Management Technology.
- Buffelsdraai and Inanda Mountain Reforestation Projects.
- Greening Durban 2010 Program and Greening COP17-CMP7 Program.
- Community-Ecosystem Based Adaptation Program.
- Integrated climate protection and biodiversity planning workstreams to focus on Ecosystem Based Adaptation.

Photo: © EThekwini Municipality

A Durban Climate Change Partnership meeting.

Lessons learned

Political endorsement was an important aspect in the implementation of the plans. Political support for adaptation planning and developing sector specific adaptation plans is essential. This ensures that new adaptation strategies are fully aligned with existing business plans, development objectives and available funding and skills. This was a practical means to begin mainstreaming adaptation planning in a municipal environment which can be dominated by competing and often conflicting sectorial and political interests.

Adaptation strategies that can garner a range of co-benefits need to be prioritized as these initiatives can attract political, community-based support, as well as the direct co-operation from relevant line functions within a municipality.

The 'learning by doing' approach needs to be supported by robust monitoring and evaluation which is supported by defensible research. Research partnerships are essential in order for evidence-based learning to inform the roll-out of pilot tested strategies.

Various challenges are evident throughout the programs and processes implemented in the eThekwini MCPP. These have included shortcomings in the development of the HCCAS which include:

- The high level and generic nature of the strategy.
- High workloads.
- Urgent development challenges/pressures that result in issues perceived as less urgent being ignored.
- Perception of climate change as a distant and unlikely threat; and, a shortage of skills and funds.

Further challenges to the MCPP include:

- Engaging with the threat of "total climate risk" may require fundamental institutional restructuring of local government activities.
- Development of new institutional partnerships will be required.

- Despite the serious risks posed by climate change, basic institutional and resource challenges currently delay appropriate disaster management planning.
- Need for a "learning-by-doing" approach. There must be a willingness to experiment and an acceptance that the outcome is likely to be locally specific and often non-transferable.
- The lack of social cohesion is a substantial barrier to effectively engaging communities around climate change. Early indications suggest working with individuals and small groups and building local level champions, rather that operating at a community level through traditional means such meetings and distribution of media material. It may be a more effective means of community engagement.

Replication

EThekwini Municipality is not unique. However, the municipality has taken enormous steps to continually improve on its reporting as well as to identify appropriate strategies and implementation programs. It sets an important model for South Africa and Africa as a whole. The processes undertaken are certainly replicable and much can be learned from the process to date. Key principles for replication are:

- Political will and buy in.
- An institutional design which embeds disaster management in policy formulation as a core constituent of a city's strategic planning team.
- Development of new institutional partnerships.
- Overcoming basic institutional and resource challenges which delay appropriate disaster management planning.
- A strong focus on ecosystem based adaptation, a key tool for improving the adaptive capacity of cities, especially in the Global South.
- Evidence-led adaptation strategies need to be appropriate to the specific urban contexts and continually refined through piloting studies, monitoring and evaluation. The 'learning by doing' principle adopted by the eThekwini Municipality is a robust approach for the development of local urban adaptation strategies.

Budget & finances

The details of funds allocated to the MCPP over the past seven years are not readily available. The sources of funds have been international donors as well as national, provincial and municipal sources. In line with the sectoral engagement, some of this funding is not necessarily specifically earmarked as climate change response funding.

The eThekwini Municipality is in the process of undertaking a cost-benefit analysis for various adaptation strategies. The results of this study will further inform planning and fund allocation.

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