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STATUS QUO OF THE CITY OF ETHEKWINI

1. OVERVIEW

Gender into Urban Climate Change Initiative (GUCCI) & Planned Gender Assessment

According to the UN IPCC 1.5C degree report, human activities have been responsible for approximately 1C degree increase in temperature globally since before the industrial revolution. If we continue to increase greenhouse gas emissions at the same levels, we are likely to reach a 1.5C degree increase within the next 20 years or sooner. Research has shown that extreme climate and weather conditions were observed around the 0.5C degree increase mark. The report states that “trends in intensity and frequency of some climate and weather extremes have been detected...” (IPCC 2018), and this increase in frequency and intensity will only continue to worsen as temperatures continue to rise.

Climate change is extremely serious in the African context, with high levels of inequality, poverty, limited resources, and industrial led environmental destruction. Africa is going to experience some of the worst extremes of climate change and increasing temperatures. The IPCC 1.5-degree Report tells us that Sub-Saharan Africa, has already been experiencing more frequent and intense climate extremes, and an overshoot of 1.5C degree increase will mean devastating consequences for the region. The temperature increases that the region will face are projected to be at least twice higher than the global average.

Gender CC – Women for Climate Justice commissioned this desktop study to explore the nexus between gender issues and the impacts of climate change in cities, under the scope of the Gender into Urban Climate Change Initiative (GUCCI) project. The project attempts to analyse options for integrating gender and social issues into urban climate policies in several pilot cities. This study forms a basis to explore the specific climate change challenges that women are exposed to in cities and urban areas. While there is an increased recognition of the impacts of climate change on women, gender issues are rarely considered in urban climate policy. There is thus a need to review and intervene on climate change policy at a local government level. This report is a status quo of the pilot city, eThekwini, South Africa.

2. PILOT CITY OF ETHEKWINI

Durban or eThekwini is located on the east coast of South Africa and is famous for being the busiest port. It is the largest city in the Kwa-Zulu Natal province and the third most populated city

in South Africa. eThekweni Municipality is the local government body responsible for governing and managing Durban.ⁱ The City's vision is to become the most caring and livable city in Africa by 2030. One of the core aspects towards this vision is to place environmental assets and resources as central to the sustainability of the city.

The City of eThekweni enjoys a warm subtropical climate which makes it ideal for tourism. The landscape ranges from the rural to the urbanized and is described on the official city website as “a multicultural society, which faces a complex mix of social, economic, environmental and governance challenges.”ⁱⁱ

2.1. General information

The eThekweni municipality is 2,297 square kilometres in area with a population of approximately 3.5 million people. The population makes up for almost a third of the people living in the province and has a population density of 1.5 per square kilometre. The main economic sectors are manufacturing (30%), tourism (24%), transport and finance and account for 60% of the province's economic output.ⁱⁱⁱ

2.2 Socioeconomic factors

While the municipality can boast about its economic capability, it also faces numerous socio-economic challenges. The city of eThekweni has an unemployment rate of approximately 30%, with this number much higher if it only focuses on youth (39%). There is a growing number of people living in informal settlements as housing backlog amounts to 190000. According to South Africa's official statistics “70% of people have access to flush toilets and only 2% have no access to toilets at all. Within the metropolitan region, almost two thirds of the people have water in their homes. 11% only have taps in their yards and 17% obtain water from the street taps. A little over 86 % of households use electricity for cooking, 11% use paraffin and only 2% still use wood, mainly those households in informal and traditional dwellings”^{iv}.

It is estimated that about 67% of people in informal settlements do not have access to any water or sanitation infrastructure and directly or indirectly discharge effluent into municipal rivers, which then has an impact on water quality.^v

Largest proportion of the population is within the age group (15-64 years), with 25% of the population below the age of 14.^{vi} Forty percent of households are female headed. Between 2016 and 2017, the municipality recorded more than 400 cases of rape.^{vii} In terms of health, there is a high mother-to-child HIV infection rate. Other key social development challenges in the city include high levels of teenage pregnancies, homelessness, overcrowding and exposure to disasters such as fires, floods and landslides.^{viii ix}

3. CLIMATE CHANGE IN THE CITY of eTHEKWINI

The City of eThekweni is environmentally rich with four of the country's eight biomes; over 2000 plant species; 97 kilometres of coastline; 4000 kilometres of rivers, and 18 catchments, 16 estuaries. However, **the natural environment of eThekweni has been put under severe pressure due to rapid**

urbanization and climate change. For example, sand mining removes almost a third of sediment from rivers resulting in river shoreline and beach erosion. With climate change, further strain is placed on the environment. According to a World Bank Report, this has not only contributed to “the degradation of the City’s environmental assets, and threatened ecosystems, rivers and coastal wetlands” but also undermines the wellbeing of people and the economic prospects of the City.^x

The City of eThekweni is regarded as a leading municipality in terms of recognizing and responding to the challenges that climate change is having on the city.

3.1 Climate hazards affecting city of eThekweni

The expected climate change impacts that are being experienced in the City of eThekweni includes an increase in rainfall, extreme weather events, flash flooding, coastal storms, heat waves and sea level rise. These impacts will affect the urban area by changing water availability, potentially damaging infrastructures, threaten food security and health and increase energy consumption.^{xi} It is further projected that Durban will have an annual temperature increase of between 1.5 C and 2.5°C by 2065.

These changes in climate may affect the functioning of Durban’s ecosystems, resulting in the loss of biodiversity and ecosystem services, like water provision and atmospheric cooling. Climate change will likely exacerbate existing water and food security challenges and increase existing socio-economic vulnerability within the City. Rising temperatures could increase heat stress related mortalities and incidences of vector-borne diseases such as malaria, and water-borne diseases, including cholera.

Poor communities, especially those that live in rural areas and informal settlements, are expected to be most affected by climate change in Durban. These communities often reside in areas at risk of flooding, often in houses that are not resistant to extreme weather conditions, and do not generally have the resources to cope with shocks from extreme events thus escalating their vulnerability. These problems are expected to be exacerbated by climate change.^{xii}

3.2 Greenhouse gas emissions of the City of eThekweni

The City of eThekweni is responsible for almost 5.2% of the country’s total greenhouse gases.^{xiii} This is quite high for a city and thus the municipality has recognized the need to reduce emissions. The Greenhouse Gas Inventory has been developed for the city. The most recent GHG inventory compiled for Durban was for the 2012 calendar year. The total amount of greenhouse gas emissions recorded for the entire city was approximately 29,360,395 tCO₂e and is approximately 8.4 tCO₂e per person.^{xiv}

Durban’s GHG Inventory is divided into two sub-inventories as required by GHG reporting standards and are categorized as follows:^{xv}

- Direct emissions that result from the combustion of raw materials such as coal to generate energy and combustion of diesel or petrol for transport. The total for Stationary Fuel Combustion, Mobile Fuel Combustion, and Waste-water Treatment, Solid Waste Disposal amounts to approximately 3.8% of total emissions in the city.
- Indirect emissions that result from the production of purchased electricity and steam. The calculation was for Electricity Consumption, Electricity Transmission & Distribution (Technical and Non-technical losses) and was about 2.4% of the total GHG emissions in the city.

- All other indirect emissions. Employee Air Travel, Transit vehicles operated by contractor, Electricity consumption by Eskom owned streetlights

4 THE CITY'S RESPONSE TO CLIMATE CHANGE

The City of eThekweni, through the Environment Management Department launched the Municipal Climate Protection Programme (MCP) in 2004 (and was updated in 2010) that focused on adaptation and created an Energy Office in 2008 that specialized on climate change mitigation.^{xvi} The eThekweni Municipality signed the Durban Adaptation Charter for Local Governments adopted by 900 mayors, during the COP17 in 2011. This Charter committed the city governments to develop adaptation plans.^{xvii}

In addition, the City has developed the Durban Climate Change Strategy (DCCS) that incorporates the following key sectors: water resources and infrastructure, biodiversity and ecosystem services, resilient food system, public health and safety, efficient energy sector and a transition to a low carbon. To ensure implementation, the Durban Climate Change Strategy Committee and the Durban Climate Change Technical Task Team has been established.^{xviii}

4.1 Governance and services

The City administration is led by the City Manager, supported by an Executive Management Team assisted by seven Deputy City Managers, Chief Strategy Officer, Chief Operations Officer and a Chief Audit Executive.

The Council comprises an elected Mayor, Councilors, executive committee and several implementation committees. The city of Durban is managed by **eThekweni Municipality**, whose elected Council serves to facilitate the provision of infrastructure, services and support to the people of eThekweni.

With regards to environmental issues and climate change, the city has established the Environment Management Department and an Energy Office. In addition, services related to water and transport are managed through separate departments. Furthermore, the DCCS establishes an Implementation Guidance Document (IGD) that outlines a governance framework for implementation including both the political and administrative structures. The Municipal Climate Change Committee provides political oversight of the climate change work of the municipality. The administrative oversight will be convened within the Disaster Management Advisory Forum (DMAF) where the DCCS Technical Task Team currently reports. Chaired by the City Manager, within the DMAF, the DCCS TTT will be responsible for the implementation and mainstreaming of the DCCS into sector and project plans and to report on the progress made.

4.2 Climate policies/action plans

4.2.1 National framework

South Africa's governance in climate change is influenced by several international, national and sub-national entities. Climate change is already being addressed through projects and programmes that are implemented across all spheres of government. At the national level, the Department of

Environmental Affairs (DEA) is responsible for leading policy implementation. The DEA is responsible for formulating and implementing the Climate Change Act, the National Climate Change Response Plan. National departments are responsible for integrating climate change into their policies and programmes. In addition, the national department and central government is responsible for the National Development Plan, Vision 2030 Sustainable Development Goal (SDG) Agenda, and the Nationally Determined Contributions to the UNFCCC, and the implementation of sectoral strategies.^{xix} At a local government level, the eThekweni Municipality is one of the most pioneering cities in South Africa on sustainability policies. It adopted the Local Agenda 21 mandate in 1994 and went on with the Local Action 21 mandate in 2003. Further, the city has produced an array of policy documents and plans outlining possible strategies for mitigating these consequences and adapting to this environmental phenomenon.

4.3 City-level commitments, strategies, e.g. mitigation and adaptation in various sectors.

The Municipality has numerous strategies such as the Climate Change mitigation and adaptation programmes such as Reforestation, Durban Metropolitan Open Space Systems and Community Adaptation programme. However, the key policy is the Durban Climate Change Strategy, which is the city-wide climate change adaptation and mitigation strategy. The strategy was approved and adopted by the Municipal Council in 2015 and is in line with the city’s responsibilities to national legislation – in particular the Disaster Management Amendment Act (Act 16 of 2015) that emphasizes that local governments engage with the issue of climate change and develop response strategies and action plans for each sector.

The DCCS has five themes on adaptation - Water, Sea level rise, Biodiversity, Food security, and Health; three themes on mitigation - Energy, Transport, and Waste and Pollution; and two themes on Economic Development and Knowledge Generation and Understanding.^{xx}

List of the urban policies (e.g. strategies/programmes/regulations) at place (sector-overarching programmes may be listed on top)

Sector	Mitigation (<i>name and short description</i>)	Adaptation (<i>name and short description</i>)
Building settlements and urban planning		
(Urban) agriculture, fishery and food security		Durban Climate Change Strategy Food Security Report: http://www.durban.gov.za/City_Services/energyoffice/Documents/DCCS%20Food%20Security%20Theme%20Report.pdf

		<p>Climate change is predicted to cause a 3-4°C temperature rise and an increase in severe weather events in Durban (Naidu, Hounscome and Iyer, 2006). Climate change is expected to negatively affect existing levels of urban food security and these are likely to fall disproportionately on the poor (Ziervogel and Frayne, 2011). The focus on climate change impacts on food security has been primarily on food availability and production (Ziervogel and Ericksen, 2010). It is however important to consider the effects of climate change on food access, utilization and stability</p>
<p>Biological Diversity</p>		<p>http://www.durban.gov.za/City_Services/energyoffice/Documents/DCCS%20Biodiversity%20Theme%20Report.pdf</p> <p>In terms of climate change, the key challenge facing biodiversity is likely to be relatively rapid changes (within a geological timeframe) in local conditions. Early climate modelling indicated that increases in temperature and precipitation would decrease habitat suitability for several vegetation types, resulting in changes in the distribution and status of biodiversity. For example, the modelling indicated that some species may retreat inland. The ability of species to retreat and adapt to changes in conditions is however compromised by large scale transformation and fragmentation of the remaining natural open spaces in Durban. It is estimated that 53% of the eThekweni Municipal Area has already been transformed and that this is likely to continue with future human population growth, 3 development and urbanization. Further to this, early climate modelling indicated that climate change will favour the spread of alien invasive plants,</p>

		<p>resulting in further transformation and fragmentation of indigenous vegetation. Importantly, over-exploitation and pollution of remaining natural open spaces also compromises their ability to adapt to climate change.</p>
Disaster risk reduction		<p>The Adaptation Flagship Programme: This programme will see Durban acting as the Secretariat for the Durban Adaptation Charter (DAC), which aims to commit its 1,100 global signatories to the ten climate change adaptation principles contained within the Charter. Locally, the Central KZN Climate Change Compact is a partnership between eThekweni Municipality and its surrounding district and local municipalities for enhanced and integrated implementation of the ten DAC principles. As part of the Municipal Climate Protection Programme, the city will also continue to implement its Municipal Adaptation Plans (MAP) in the Water, Health and Disaster Management sectors until these plans are integrated with their relevant themes within the Durban Climate Change Strategy.</p>
Economic and business activities		
Energy supply and demand	<p>DCCS Sustainable Energy report http://www.durban.gov.za/City_Services/energyoffice/Documents/DCCS%20Sustainable%20Energy%20Theme%20Report.pdf. The Energy Efficiency and Energy Demand Management Flagship Programme: Durban Climate</p>	

	<p>Change Strategy September 2014.</p> <p>This programme will consist of several sub-components including:</p> <ul style="list-style-type: none"> a) An aggressive energy efficiency programme in industry; b) An aggressive energy efficiency programme in the residential sector; c) An expanded solar water heating (SWH) programme; d) A municipal buildings energy efficiency programme. 	
Health		<p>DCCS Health report http://www.durban.gov.za/City_Services/energyoffice/Documents/DCCS%20Health%20heme%20Report.pdf</p> <p>Climate change is a major public health issue (Samet, 2009). Potential climate change impacts such as extreme weather events, droughts, sea level rise, water shortages, poor air quality and food shortages (Samet, 2009; Kjellstrom, 2009; Vörösmarty, McIntyre, Gessener, et al., 2010) are anticipated to increase the burden of disease, which includes, but is not limited to mental health, cardiorespiratory ailments, infectious diseases, malnutrition, and injuries (Campbell-Lendrum, Corvalan, & Neira, 2007; WHO, 2008; Nerlander, 2009; Berry, Bowen and Kjellstrom, 2010; McMichael & Dear, 2010). It is projected that the impacts will be particularly severe in the developing world and among the most vulnerable sub-</p>

		population groups such as young children, the elderly, those with pre-existing diseases, and those of poor socio-economic background (Ebi, Kovats & Menne, 2006; WHO, 2008; Kjellstrom, 2009; Bell, 2013). The situation underscores the importance of developing appropriate and proactive adaptation strategies to protect the health of eThekweni Municipality residents from the impacts of climate change (Nerlander, 2009; Naidoo, 2012; Bell 2013).
Tourism		
Mobility, transport and transport infrastructure	http://www.durban.gov.za/City_Services/energyoffice/Documents/DCCS%20Transport%20Theme%20Report%20.pdf . The Transport Flagship Programme: This programme will include participation in the National Energy Efficient Low-carbon Transport Programme which will see the development of an enhanced public transport programme to promote lower-carbon mobility in Durban. The programme will also include a Municipal Vehicle Efficiency Programme that will improve the efficiency of the City Fleet vehicles stock by 2020.	
Water and water regime	http://www.durban.gov.za/City_Services/energyoffice/Documents/DCCS%20Water%20Theme%20Report.pdf .	. The Water Conservation and Demand Management Flagship Programme: This programme will include the implementation of water demand management measures,

		including water recycling, to reduce water demand in the face of projected climate change impacts. It will also include the accelerated provision of rainwater harvesting tanks in rural and low-income settlements in the city.
Coastal erosion and flooding		
Climate Friendly consumption and waste management	The Waste Management Flagship Programme: This programme will see the establishment of a waste and pollution statistics collection system relevant to GHG emissions. This will form the basis of a Waste-Related GHG Emissions Mitigation Action Plan.	

5. IMPLEMENTATION STATUS

The implementation of the strategy is being done through the Environmental Planning and Climate Protection Department (EPCPD) and the Energy Office (EO) of eThekweni Municipality.

5.1 Gender considerations

The key gender consideration in the City of eThekweni is aligned to the national commitments and targets in the constitution and the South African National Policy Framework for Women's Empowerment and Gender Equality. As such it is aimed towards gender equality and women empowerment within eThekweni Municipality. The key areas of the Gender programme in the City is as follows:^{xxi}

1. Occupational and community capacity building targeting men and women young and old
2. Gender machinery
3. Institutional development
4. Community action support and
5. Social integration projects.

5.2 Relevant policy frameworks

There is a strong recognition that the municipality needs to develop adequate mechanisms to respond to gender issues that can respond to the challenges facing women in the city include

unemployment, lack of economic opportunities experienced by women and inadequate economic participation. As mentioned above the main guiding principle to address gender mainstreaming is the South African National Policy Framework for Women Empowerment and Gender Equality (2000).^{xxii} At a local government level, the City has the Local Government Gender Policy Framework (2000). These frameworks, among others, provide the necessary policy and legislative basis for promoting gender equality and gender mainstreaming.

5.3 Possible gender dimensions of climate change in the City of eThekweni.

The City has mainstreamed a gender programme called, eThekweni Municipality's Gender Vision which is working towards the attainment of gender equality in all development processes. Climate change should be one of these processes but there is a lack of information and focus on women and climate change in general.

6. KNOWLEDGE GAPS/CHALLENGES

While the eThekweni municipality has one of the strongest focus on climate change, there are still some challenges and gaps as follows:

- There is a lack **sex and gender disaggregated data**.
- There is a lack of co-ordination between the various departments within the eThekweni municipality.
- A lack of co-ordination across the different spheres of government.
- A lack of understanding and knowledge of climate change issues among municipal officials, and
- According to the municipality's information, many of the projects on climate change are in their infancy, even though Durban initiated a Climate Change Protection Programme in 2004 (2009/2010 IDP Review).
- Climate change has not been mainstreamed with the policy programmes of the service departments such as water, health etc.

7. PRELIMINARY CONCLUSIONS

- The City of eThekweni is a good example of a city's implementation of mitigation and adaptation programmes. Not only have they developed a strategy very early, but they have also recognized the need to develop a budget to ensure implementation.
- The City has further established task teams that have a direct link to the Mayor's office and thus elevates the issue of climate change.
- The City of eThekweni has created a coherent policy framework within which to respond to the challenges posed by climate change.

- While there are good policies on climate change there is a glaring gap on the gender dimensions of climate change.
- There was a lot of good policies, plans and strategies, however the gender lens was conspicuously absent from most of the policies, which showed that a lot of capacity building on gender and climate change needs to be carried out for the officials as well as the communities.
- Although there is an emerging awareness of the direct impacts of climate change, there is still a need for effective capacity-building of the city as a 'system' to integrate Gender and Climate Change. The formation of networks, both informal and formal, to assist in these efforts would be a useful next step.

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