

# Cities and Climate Change Initiative

Launch and Conference Report  
Oslo 17 March 2009



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**CITIES AND CLIMATE CHANGE INITIATIVE**

**LAUNCH AND CONFERENCE REPORT**

**OSLO 17 MARCH 2009**



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# Introduction

The future of hundreds of millions of people in urban areas across the world will be affected by the different impacts of climate change. However, mitigation and adaptation capacity is not equally distributed worldwide and in developing and least developed countries vulnerability is substantially different compared to developed countries. Climate change impacts can undermine a country's efforts to achieve the goals of sustainable development and will worsen poverty in developing and least developed. At the same time certain aspects of urbanisation provide an opportunity to relieve the pressure on ecosystems.

Cities are centres of innovation and can provide opportunity to introduce clean energy systems, sustainable transportation and waste management to reduce greenhouse gas emissions. With access to updated climate science, cities can also work with scientists and experts to assess impacts and vulnerability, and with local stakeholders to design and implement effective adaptation strategies to respond to the unavoidable impacts of climate change. A number of projects in Northern country cities are advancing the understanding of the roles that cities can play to respond efficiently and effectively to climate change.

In the developing world, the impacts of climate change are manifold, ranging from longer and more intensive drought periods, heavier rainfalls and an increased variability of precipitation, inland flooding and sea level rise, increasingly intensive tropical cyclones, water scarcity among others. In general, poor people will be more affected. In an era of rapid urbanization, mainly in developing countries, cities are increasingly at risk, as climate change impacts add to and reinforce existing environmental, economic and social problems.

The Cities and Climate Change Initiative (CCCI), a component of the Sustainable Urban Development Network (SUD-Net) was established in 2008 within the vision of UN Habitat's Medium-Term Strategic and Institutional Plan (MTSIP); to promote, monitor and report on progress in the implementation of the Habitat Agenda, with the twin objectives of shelter for all and sustainable human settlements development - focusing on urban governance, decentralization and strengthening local authorities, environmental planning and management, and mitigation and adaptation to climate change impacts on human settlements.

The CCCI is expected to contribute to the attainment of Millennium Development Goal 7; to integrate principles of sustainable development into country policies and programmes, and reverse the loss of environmental resources in developing countries through promoting resilience to climate change.

***The Cities and Climate Change Initiative was formally launched at an international conference in Oslo Norway on 17 March 2009.***

# International Launch and Conference

The main objectives of the International Conference in Oslo on 17 March 2009 were:

- To **launch** the CCCI: To present what the CCCI network intends to achieve, as well as to receive contributions from players in the North and identify possibilities for networking.
- To **share experiences** on how to address the Cities and Climate Change challenge in both developing and developed countries highlighting capacity needs at global, national and local levels and strategize on how to make best use of these experiences and lessons learned and to effectively network with Norwegian partners.
- To **contribute to the Climate Conference in Copenhagen** in December 2009; especially in developing an "Oslo Statement", this will be presented to the COP15 in Copenhagen in December 2009.

The Conference brought together about 100 participants from core CCCI partner pilot cities of Sorsogon (Philippines), Kampala (Uganda), and Maputo (Mozambique), from the city of Aguascalientes (Mexico); from public, private and civil society in Norway, UN-HABITAT staff and resource persons from partner institutions such as UNEP, UNDP, UNIDO, ICLEI, UCLG, Cities Alliance and TEI, as well as from universities and research institutions and donors, such as SIDA (Sweden) and GTZ (Germany).

The Conference was structured into plenary sessions and group sessions. Participants were encouraged to share their experiences highlighting capacity needs at global, national and local levels and strategize on how to make best use of these experiences and lessons learned and to network with Norwegian partners particularly within the sectors of building, transport and waste management. The Working Groups aimed at identifying how north-south city partnerships can be strengthened for effective technology, finance and knowledge transfer at the local, national and global levels.

The Conference was organized jointly by UN-HABITAT and the Norwegian Ministry of Foreign Affairs as technical focal point. The Conference was additionally supported by the Confederation of Norwegian Enterprises (NHO), Young Friends of the Earth Norway and the Norwegian Association of Local and Regional Authorities (KS).

The Conference was chaired by David Simon, Professor of Development Geography and Head of the Department of Geography at Royal Holloway, University of London UK

# Conference Programme

## Session 1 Official Opening and Launch of the CCI

- Opening statement by Anna TIBAIJUKA – Executive Director UN-HABITAT
- Statement by Gry LARSEN – Junior Minister of Foreign Affairs Norway
- Challenges and Need for Action – Representatives from Sorsogon, Kampala, Maputo and Aguascalientes

## Session 2 Plenary Opening Session

- The Need for Action: How To Address the Impacts of Climate Change in the Cities of Developing Countries, *Dr. Haakon VENNEMO – Econ Pöyry - Norway*
- How changing climate affects cities and why urban areas in developing countries are most vulnerable, *Dr. Paul CHAMNIERN – Thailand Environment Institute*
- Road Map to Copenhagen, *Yunus ARIKAN - Local Governments for Sustainability - ICLEI*
- The Cities and Climate Change Initiative (CCCI), *Lars REUTERSWARD – Director Global Division UN-HABITAT and Rafael TUTS – Chief Urban Environmental Planning Branch UN-HABITAT*
- Bridging the sessions and introducing the working groups, *Prof. David SIMON – Royal Holloway, University of London and Cecilia NJENGA – UN-HABITAT*

## Session 3 Strengthening North-South Cities and Climate Change Partnerships

- Working group 1, on *buildings*
- Working group 2, on *transportation*
- Working group 3, on *waste*

## Session 4 Wrap-up and Official Closing

- Plenary Discussion of the Working Group's themes and "Oslo Statement". Introduction by Erik BERG, *Senior Advisor Ministry of Foreign Affairs Norway*
- Business sector closing remarks, *Inger AARVIG, Director Climate Policy, Confederation of Norwegian Enterprises*
- Local Authorities closing remarks, *Rune Kloster TVEDT, Norwegian Association of Local and Regional Authorities*
- Civil Society closing remarks, *Ingeborg GJÆRUM, President of Young Friends of the Earth Norway*
- Closing Remarks, *Anna TIBAIJUKA, Executive Director UN-HABITAT*

## Welcome by the Conference chair, Prof. David SIMON

It is a great pleasure to act as Chair of today's landmark conference, which heralds the launch of UN-HABITAT's Cities and Climate Change Initiative (CCCI), one of the principal activities of its Sustainable Urban Development Network (SUD-NET). The CCCI testifies to the way in which UN-HABITAT, the United Nations' specialist urban development agency, has understood the importance of global environmental and climate change and is assimilating this awareness into its core agenda. Ultimately, of course, mitigation and adaptation to the effects of the profound environmental changes that are already beginning to affect urban areas in various parts of the world, need to be 'mainstreamed' into all its activities.

The process leading up to today's launch commenced formally with the calling together of an Expert Group on Cities and Climate Change at UN-HABITAT's Nairobi headquarters in late 2007. I was delighted to be a member of that Group and have been assisting UN-HABITAT in this field since then.

That we are holding today's Conference in Oslo is no coincidence. It is a particularly environmentally conscious city and capital of Norway, a country with a long record of leadership in international environmental awareness-raising. This stretches back at least to former Prime Minister, Gro Harlem Brundtland's, chairing of the World Commission on Environment and Development, the famous report of which, *Our Common Future*, was published in 1987. The Norwegian government has been a key sponsor of UN environmental and housing activities. This continues today in its sponsorship of the CCCI and the hosting of today's launch Conference. Accordingly, it is fitting that our proceedings are to be opened by Anna Tibaijuka, Executive Director of UN-HABITAT, and Gry Larsen, Norway's Junior Foreign Minister.

## Opening Statement, Anna TIBAIJUKA – Executive Director UN- HABITAT

### *Urbanisation and Climate Change*

It is no coincidence that climate change has emerged at the forefront of international debate precisely at the same time as the world becomes predominantly urban. This is because urbanisation brings about irreversible changes in our production and consumption patterns. How we plan, manage and live in our expanding cities determines, to a large extent, the pace of global warming.

With just over half of humanity living in cities, cities already account for 75% of global energy consumption and a similar proportion of all waste. According to the latest estimates, cities contribute directly to about 50 to 60% of green house gas emissions. However, if we factor in the green house gas emissions induced by urban consumption and production patterns the estimate goes as high as 80%.

There is no doubt that climate change exacerbates existing social, economic and environmental problems, while bringing on new challenges. The most affected today, and in future, will be the world's urban poor – and chief among them, the estimated 1 billion slum dwellers.

It is only last week that a UN panel of scientists issued a dramatic new warning that the sea level is rising twice as fast as was forecasted only two years ago, threatening hundreds of millions of people living in deltas, low-lying areas and small island states. But the threat of sea-level rise to cities is only one piece of the puzzle. More extreme weather patterns such as intense storms are another. Tropical cyclones and storms, in the past 18 months alone, have affected some 120 million people around the world, mostly in developing and least developed countries.

Indeed, in some parts of the world, inland flooding is occurring more often and on a more intense basis. Not only are human settlements in low lying countries like Bangladesh being affected, recurrent inland flooding has occurred recently in Europe, and for the first time in modern history, in large parts of Africa.

Also, we are witnessing more frequent flooding and drought in the same year, causing heavy impact on food security, energy and water supply. We recently witnessed extensive media coverage on the devastating fires in Australia. Yet similar destruction is practically daily occurrence for many of the world's less fortunate people who live in life-threatening slums. For them, the climate is already out of control and, perhaps equally important, out of comprehension. Indeed in the slums of Africa, about one in three slum dwellers can be considered as an environmental refugee, driven off the land by advancing desert frontiers and failing farming systems.

### ***The role of cities***

It is crucial to recognize that cities and urban residents are not just victims of climate change but also as part of the problem. And if cities are part of the problem, that means they must also be part of any solution.

We all agree that mitigation measures are urgently required. However, and to date, the measures we envisage at the global and national levels have yet to be accompanied by concerted measures at the city and local levels. While we fine-tune carbon trading instruments, we need to take immediate actions to make our cities more sustainable by revisiting our land-use plans, our transport modalities, and our building designs. There is a unique opportunity to bridge our global efforts in emissions control with local efforts to improve the quality of life and the productivity of our cities. Our cities are, after all, the driving force of our economies, and what better measures can we take than to reduce traffic congestion, improve air and water quality, and reduce our ecological footprint.

At the same time, there is rising consensus that we must take immediate adaptation measures to reduce vulnerability. Yet, here again, we have yet to recognize the need to plan our cities and settlements to prevent loss and destruction of lives and properties. In the view of UN-HABITAT, the time to act is now and the

place to act is in the cities of the world. Cities not only have to take preventative measure, they must plan to offset the worst. By planning we mean the taking of deliberate and informed decisions and actions.

In this respect, there is no doubt that local authorities will be the front line actors in finding local answers to these global challenges. There are no one-size fit all solutions and each local authority will have to assess its own risks and vulnerability and plan accordingly, whether in coping with rising sea levels, cyclones, droughts, flooding, environmental refugees, in addition to already existing problems.

It is obvious that local authorities, especially secondary cities in developing countries that are growing the fastest, will be the most severely tested by these challenges. These cities, despite their rapid growth, contribute a minimal share to global greenhouse gas emissions. Yet they are the cities that are most at risk in terms of suffering the impacts of climate change.

### ***The role of the UN-HABITAT***

It is in this context and in response to these challenges that UN-HABITAT has launched two new initiatives.

The first initiative is the ***World Urban Campaign***. This Campaign is coordinated by UN-HABITAT and is designed as a global advocacy front end to elevate the visibility of and attention accorded to the twin challenges of urbanisation and sustainable development. It mobilizes a wide range of partners representing all major stakeholder groups to share their knowledge and experiences in sustainable urban development and to better inform public policy.

The second initiative is the ***Cities in Climate Change Initiative***. This initiative is designed to support local action. It focuses on supporting the efforts of government agencies and local authorities in adopting more holistic and participatory approaches to urban environmental planning and management, and the harnessing of ecologically sound technologies. The ***Initiative*** uses adaptation as a starting point to engage people, their local authorities and the

private sector in risk abatement action. In doing so it recognizes that the effects of climate change on cities are not class, age or gender neutral and that special efforts are required to reduce the differentiated risks and vulnerabilities to these segments of the population.

This starting point leads to mitigation. Here, the ***Cities in Climate Change Initiative*** argues that the measures required for adaptation and mitigation are the same, namely better land use planning, better urban management, more participatory governance focusing on more resilient housing and smarter infrastructure and basic services.

***The Cities in Climate Change Initiative*** starts off in the four pilot countries of Mozambique, Uganda, Philippines and Ecuador. Four cities, namely Maputo, Kampala, Sorsogon and Esmeralda will implement pilot initiatives while UN-HABITAT will provide capacity building support and help ensure the documentation, sharing and transfer of knowledge, expertise and lessons learned from experience.

The challenges facing cities in climate change are numerous and daunting, and no entity, public or private, governmental or non-governmental can face these challenges alone. For this reason I would like thank the Government of Norway for their support to this initiative and for their warm hospitality, and at the same time, I welcome all those who are committed to turning ideas into action to join us in our quest for more sustainable urban development.

## **Statement by Gry LARSEN, Junior Minister Norwegian Ministry of Foreign Affairs**

It is a great pleasure and honour to welcome you to the "Oslo Conference on Cities and Climate Change", jointly arranged by UN-HABITAT and the Norwegian Ministry of Foreign Affairs. This is an event which I trust will make a difference.

Firstly, on the short term road to the December climate summit in Copenhagen, by highlighting the important task of strengthening the climate change response of cities and local government. But also in a longer time perspective, by identifying policies and practical measures that national and local government need to apply together with civil society and corporate business. We have an old proverb in Norway that slightly amended says: "everybody talks about the climate, but nobody does anything with it". For me this conference by launching the "Cities in Climate Change Initiative (CCCI)" represents an initiative to take action on a development dimension that often is neglected: that of cities, climate and poverty. The days of urban climate and poverty inertia might now be over.

The Government of Norway is proud to be the main funder of the "Cities in Climate Change Initiative" as part of the wider UN-HABITAT "Sustainable Urban Development Network" (SUD-Net). Its goal of bringing together local and national governments, academia, NGOs and international organizations with the aim to alert cities to the action they can take, and by strengthening capacities of cities and their partners to respond to Climate Change, is very commendable. The key components of this Initiative such as advocacy, policy dialogue and policy change, tool development and tool application are crucial. The same is knowledge management and dissemination through the UN-HABITAT partner universities of which the Norwegian University of Science and Technology in Trondheim (NTNU) already is an active associate. The four pilot countries/cities of Mozambique, Uganda, Philippines and Ecuador will undoubtedly have an important innovative role to play.

Cities and local government have in many ways been a forgotten factor, or should I say actor, in state-led international climate negotiations. This is a paradox as cities are key drivers of climate change due to high energy consumption, land use, waste generation and other activities that result in the release of the vast majority of Greenhouse Gases. At the same

time, it is cities, and in particular the urban poor of the developing world, that are the most vulnerable victims of climate change and have the least resilience against for example storms, floods and droughts. The negative impacts of climate change seems however unavoidable – it is already there. For most cities in the developing world - adaptation to the risks is therefore necessary. But, as recent research initiated by UN-HABITAT shows: it is not the level of urbanisation in a country, nor the size of a city that determine the quantity of green house gas emissions per capita. Rather the level of emissions is determined by factors such as consumption patterns, life styles, income levels, urban form and structure and national and local environmental policies. Can we handle these factors? Yes, I think we can!

One of the alarming prospects of climate change is its impact on sea level rise and its potential consequences for coastal, urban areas. Sea level rise is not any longer a question of if, but when and how much. This is also a challenge for a country like Norway and the Arctic, where melting ice is now becoming a hot topic. Environmental and welfare problems are spreading in cities and villages of the Arctic because of erosion and rising sea level. Roads, railways, airports and buildings are being threatened because of melting permafrost. In one way or another we all are in the same boat, aren't we?

As publicly stated by the Norwegian Minister for Environment and International Development Mr. Erik Solheim at the Habitat Day in 2007 "Cities represent hope". They represent hope because they carry both the problem as well as the solution: high urban living density significantly shrinks per capita ecological footprints by reducing energy and material needs. Cities thus represent a real opportunity to minimize environmental impacts by improving energy efficiency, minimizing urban sprawl, promoting the use of energy-efficient public transport and improving disaster preparedness. How to define in practice and how to make cities operationalize this so called "urban sustainability maximizer" will be one of the

major challenges for the "Cities in Climate Change Initiative". Cities are in fact like acupuncture points. Interventions in cities can affect the health of our whole planet.

Climate change also has gender and generational dimensions. I hope the "Cities and Climate Change Initiative" will challenge these. In this context I would like to commend the efforts done by UN-HABITAT to operationalize the "Opportunities Fund for Youth - led Urban Development" subsequent to a Norwegian proposal adopted at the last Governing Council Meeting in Nairobi in April 2007. As almost half the world's urban population is young people below the age of 25, it should be easy to understand that urban children and young people are the most vulnerable group in relation to the four pronged global challenges of floods, fuel, food and finance. As employment creation particularly for young girls, is one of the main targets for the Fund, I would particularly like to point out the need to support creation of green jobs, especially in sectors such as renewable energy, sustainable transportation, environmentally sound construction and organic agriculture.

The other day – preparing for this conference - I came across what for me is a new concept: glocalization. The way I understand this concept is that it implies that one of the main challenges of longer term urban sustainability depends on policymakers' ability to take a broader view of the utilization of space and to link local development with their global consequences. Such a broader perspective improves the effectiveness of local actions while promoting longer -term sustainability. For instance local planning for coastal development requires, at a minimum, a broader vision that connects proposed economic plans with such things as spatial aspects, land use, rates and characteristics of demographic growth, shelter and service needs of the poor, infrastructure, energy efficiency and waste disposal. It also needs a vision inspired by global environmental concerns, in order to avoid damaging sensitive ecosystems and other resources.

Urban issues offer unique opportunities to translate scientific research into concrete policies. They involve a large number of stakeholders, at national, city, neighbourhood and household levels, including governments, the private and the civil sector. Given the increasing attention from a number of international organisations, and from national and local governments, raising global awareness starting from the local urban context, should be easier. This conference being the product of a joint planning process involving Norwegian civil society ("Friends of the Earth), local and national government (The Norwegian Association of Local and Regional Government and the Ministry of Foreign Affairs) and corporate business (The Confederation of Norwegian Enterprise) represents a "best practice", an exemplary model to be repeated at later occasions.

Let me conclude and sum up with a reference to the very recent Norwegian White paper no.13 to the Parliament titled "Climate, conflict and capital - Norwegian development policy in a new context", that reflects the commitment of the present Government: "Vast amounts of climate gases will be emitted in the large, emerging economies of the world in the coming years. Population growth will compound these challenges. Yet the rich part of the world must assume responsibility for demonstrating that an environmentally friendly economic growth is both possible and profitable. Rich countries must cut emissions and contribute convincingly to the sustainable economic growth of poorer countries. That means increasing investments and technology cooperation, increased trade, and developing financial mechanisms that provide longer term predictable sources of income to developing countries".

## Cities and Climate Change Initiative – The Oslo Statement

We, the participants at the UN-HABITAT Cities and Climate Change Initiative launch conference in Oslo, 17 March 2009, would like to draw the attention of the participants at the Copenhagen Conference of Parties (COP15) on Climate Change to the crucial role of cities in climate change adaptation and mitigation. Now that over half of humankind lives in urban areas of all sizes, it is imperative for global efforts at mitigation and adaptation to be refocused accordingly.

Coastal cities are particularly vulnerable to the impacts of global environmental change, which has two mutually reinforcing elements: the increasing frequency and severity of extreme events like hurricanes, and slow-onset but long-lasting environmental changes like sea level rise and increasing atmospheric greenhouse gas concentrations. It is estimated that 383 million people live in coastal cities threatened by sea level rise, freshwater salinisation and other environmental impacts of climate change. Millions more are threatened by droughts, flooding, landslides and other impacts of extreme weather events. While there are certainly encouraging examples of cities in both poor and wealthy countries adapting to the increasing threat of climate change, these achievements are few and far between. There is an urgent need to scale up adaptation efforts, especially in highly indebted poor countries, where there are limited capacities within local governments and communities to integrate climate change concerns in often fragile urban planning and management systems. Therefore, it is essential that the Copenhagen Conference agrees on substantial reductions in greenhouse gas emissions that are consistent with the need to keep the rise in global temperature well below 2°C from pre-industrial levels, in line with the lowest climate stabilization levels assessed by the IPCC to date. Further, the climate change Adaptation Fund should also be designed to address cities' needs.

**Simultaneously to being vulnerable, cities are also essential for mitigation of greenhouse gas emissions and their effects.** Cities must have greenhouse gas footprint inventories and set their mitigation policies. Mitigation requires innovations in the transport system of cities and innovations in urban building materials, insulation and construction techniques. Well targeted measures can promote both mitigation and adaptation, for instance, innovations in urban spatial planning, and improvements in industry, the power sector and individual households' energy efficiency and attitudes to energy use, which are the responsibility of cities. The cities of the future need to rely on low-carbon technologies and leave significantly lower carbon footprints than they do today.

**Developing low carbon cities offers significant co-benefits** since many cities are facing problems of congestion and urban air pollution. These can be reduced as a by-product of low carbon technologies. And, conversely, solutions to problems of local air pollution and congestion may reduce greenhouse gas emissions as a by-product. Urban environment restoration and protection; greening the parks/open areas and roads are easy mitigation options. Moreover, the development of low- carbon technologies for cities offers important income possibilities for the future. It is essential that the decisions agreed upon at the Copenhagen Conference facilitate the mitigation of greenhouse gas effects and the development of low-carbon cities. Particularly for urban areas in poor countries and the transition economies, the challenges are formidable.

**The low-carbon vision requires new technologies and solutions, some of which are not available today.** Therefore it is important for cities' mitigation and adaptation efforts that the Conference agrees on substantial long term and medium term cuts in greenhouse gases that ensure that, in aggregate, reductions in developed countries must be at least at the top end of the 25-40% range identified by the IPCC by 2020, with the large majority of these

reductions made domestically. An agreement on substantial and systematic long-term cuts coupled with credible mid-term targets is the only way to give incentives for entrepreneurs and planners to develop new, low-carbon technologies and solutions.

**Technology is available today that would reduce greenhouse gas emissions if introduced more widely.** Therefore it is important that the Copenhagen Conference agrees on measurable, reportable and verifiable technology, financing and capacity building support from developed countries for nationally appropriate and affordable mitigation and adaptation actions in developing countries. Appropriate mechanisms should therefore devote special attention to the need for transformational structural programmes, in order to address the particular needs of cities for knowledge and technology transfer in the areas of construction, transport infrastructure, energy generation, spatial planning and so forth. These are complex issues with soft as well as hard elements. The mechanisms should also be tailored and be used to spread future innovations affordably.

**Further, there is wide support for the establishment of new mechanisms under the UNFCCC** whereby low-carbon investments are financed by the developed world to achieve measurable, reportable and verifiable emission reductions in addition to the required emission reductions in developed countries.

**The UN-HABITAT Cities and Climate Change Initiative Conference acknowledges** the significant human resources available in cities to help mitigate greenhouse gas emissions and adapt to climate change.

**Enhancing the role of the cities requires the strengthening of local governance and of the capacity to plan ahead.** There is also a need to improve the participation of the people most affected by this; the poor, women, children and the elderly. The international community should focus on strengthening the resources directed to these issues,

and focus on substantive decentralisation and local democracy. A well-functioning local democracy needs a strong and functioning civil society that has the resources to provide strong voices, and that is given the opportunity to participate in arenas where real decisions are made.

**Change is not possible without a strong educational and efficient research sector.**

Researchers are finding new ways of coping with the challenges, but this is not yet being translated adequately into university curricula or the (re)training of practitioners and decision-makers. Existing knowledge must be mainstreamed within universities but also towards the community, and tertiary institutes must be open to research emerging priorities to make their knowledge more relevant in their context. Equally, decision-makers must be more open to using such research evidence in formulating policies and programmes.

**Cities and local democracy are not viable without a well functioning business sector,** which is the supplier of both work and livelihood. It is crucial that the business sector adopts and implements Corporate Social Responsibility policies at all levels of operation.

**Example 1:** One priority area is the treatment of solid waste, where strategies must address the disposal and treatment of existing waste streams as well as proactively seeking to reduce waste generation. New technologies exist but are often costly and not necessarily universally appropriate. Hence North-South partnerships and appropriate mechanisms outlined above will be essential to provide affordable access, training and maintenance capacity in poorer cities. Landfills need to be planned carefully since poorly designed or maintained sites may be worse than not collecting waste at all because of problems caused by leaching into the groundwater and methane generation. Appropriate financial mechanisms are also vital in order to cover costs and provide the necessary incentives.

Refundable deposits on containers can help reduce disposal; charging for waste disposal and valorizing sorted and treated waste as resources in reuse industries provide profit incentives. Cities like Aguascalientes (Mexico) and Maputo (Mozambique) – one of the CCCI pilot cities – are demonstrating how taxes or charges for such collection services, perhaps linked to existing utility payment bills, can contribute to solutions. Many private companies are utilizing Clean Development Mechanism (CDM) incentives under the Kyoto Protocol to fund waste treatment activities, including energy generation. New approaches can achieve multiple objectives, e.g. using separated organic waste that would previously have entered landfills to produce biogas and then still having the sludge available as organic compost.

**Example 2:** The construction industry represents another important sector in the context of mitigation and adaptation. The life-cycle approach to building/construction represents a useful framework for exploring opportunities for climate change mitigation in buildings. The CCCI pilot cities represented in Oslo need assistance in putting the rules and regulations in place which will help them to reduce greenhouse gas emissions in the future, while local authorities should provide compliance incentives to the private sector through building and planning regulations. Local governments can demonstrate climate change mitigation in their own operations, e.g. street lighting, waste recycling. The CDM provides opportunities for retrofitting existing housing estates that should be utilised more frequently. All humanitarian responses should integrate climate change adaptation and mitigation as part of the “building back better” approach. Provision of affordable land with security of tenure in areas safe from the environmental effects of climate change, especially for those needing relocation from vulnerable areas of cities, is important.

Moreover, traditional building methods which were often energy friendly and environmentally more sustainable should be revived or adapted to meet current needs. Universities should include Zero Energy Building as part of curricula. Local governments can capacitate citizens through technical advice on climate friendly building options. The Copenhagen Summit should intensify support to international organisations to support city administrations in developing in-country capacity to improve building and planning regulations with the aim of reducing GHG emissions throughout the building lifecycle.

**Example 3:** Transport represents another crucial sector since it provides the lifeblood of cities through mobility for urban residents, their food supply, commerce, industry and waste products. Progressive policy should combine parking restrictions with the promotion of public transport, including low-emission buses, to make it more attractive than private vehicles. Support

for cycling and other non-motorised transport as appropriate to particular cities is also important. Changes to urban spatial planning should aim to reduce intra-urban travel requirements, with incentives for multiple vehicle occupancy and multi-purpose journeys.

## The Way Forward

The Conference participants appeal to the international community, the international financial institutions, the UN, global civil society, the international business sector, researchers and local and national politicians to prepare for the global environmental changes challenges ahead, and to create a co-operative environment in which the different stakeholders can meet and make change happen. The UN-HABITAT Cities and Climate Change Initiative is one such arena.

# Conference Presentations

## Session 1 – Official Opening and Launch of the CCCI

In addition to the opening statements by Anna TIBAJUKA Executive Director of UN-HABITAT, and Gry LARSEN Junior Minister of the Norwegian Ministry of Foreign Affairs presented separately above, representatives of the four pilot cities gave an introduction to challenges and actions related to the effects of climate change to their cities;

- Mr. Leovic Dioneda, City Mayor Sorsogon City, the Philippines
- Mrs Florence Namayanja Mukasa, Deputy Mayor Kampala City Council, Uganda
- Mr. Alexandre Manguel, Councillor, Maputo Municipal Council Mozambique
- Mr. Jorge Ponce Hernandez, Secretary of Public Services and Environment Aguascalientes, Mexico. (substituting a representatives of Esmeralda, Ecuador, who could not attend the conference)

*Power-point presentations given by the above four persons are included as appendices to this report.*

## Session 2 – Plenary Eye-opening

**Dr. Haakon VENNEBO, Econ Pöyry**, underlined that climate change gives an amplifier to existing weather extremes, that cities have to apply policies both for mitigation and for adaptation to climate change. Cities play a crucial role in reducing energy consumption and emission of green house gases. He believes however it is too optimistic to stabilize the global temperature rise to + 2 degrees and a CO2 level of 450 ppm, noticing that the CO2 level is currently at 410 ppm and increasing by 4 ppm per year.

There are many win-win opportunities for city policies for mitigation and adaptation. Reducing emissions will

improve local air quality. Using best technology can reduce emission from coal plants in China by 50 %. Dr. Vennebo recommends keeping energy prices high to encourage density. He gave an example of Atlanta USA and Barcelona Spain having both a population of about 2,5 million; Atlanta currently occupies an area of 4200 sq km versus Barcelona which occupies only 162 sq km, much a result of low energy prices in the United States. He also recommended turning to more climate friendly construction, especially using less glass in buildings.

Serious problems of Climate Change will start after 2050. Therefore countries and cities should apply policies and actions having long term effects. It is an opportunity for cities to engage more in having CDM projects.

**Dr. Paul CHAMNIERN – Thailand Environment Institute**, stated initially that climate change and global financial melt down are real, making it more difficult to reach the Millennium Development Goals (MDG). Access to water will be critical. Local governments are in a key role, and should involve schools in raising awareness about climate change effects. Training of municipal governments is of vital importance as is involvement of the private sector.

Dr. Chamniern underlined the role of human spirituality in dealing with climate change, the role if ethics and morality, equity and peace and the need for applying holistic thinking for living in harmony with the Earth.

*The power-point presentation used by Mr. Chamniern is attached to the report*

**Lars REUTERSWARD – Director Global Division UN-HABITAT and Rafael TUTS – Chief Urban Environmental Planning Branch UN-HABITAT**, presented the Cities and Climate Change Initiative and its connection to the UN-HABITAT Sustainable Urban Development Network (SUD-Net). More than 50 % of the world population is living in cities and towns, growing by the size of the Norwegian city

Bergen every day (having about 200 000 inhabitants). One billion people are currently living in urban slums, estimated to grow to two billion by 2050, being the most vulnerable to climate change. New tools are needed for this challenge, for politicians, bureaucrats and technicians. Mitigation and adaptation have to go hand in hand. Finally Mr. Tuts also underlined the link between climate change and human rights, especially concerning rights to housing and to property.

*The power-point presentation used for the above presentation is attached to the report*

**Yunus ARIKAN representing ICLEI** stressed the need for voices of local partners in the international processes on climate change, firstly in the up-coming Copenhagen conference, COP 15. Cities are both a source and victim of climate change, but present also a hope for the future. Local governments need a roadmap for dealing with climate change.

*The power-point presentation used by Mr. Arikan is attached to the report*

**The Conference chairman Dr. Paul SIMON** summed up the session by underlining that, different from weather extremes, climate change has slow developing effects, but they are permanent in nature. Cities can not avoid taking action, which should be part of day to day policy, and should start now.

*The power-point presentation used by Dr. Simon is attached to the report*

## Session 3 - Working groups

Brief points from the discussions in the three Working Groups are summarized below;

### *Working group 1 on buildings*

- Important to look at the entire lifecycle of buildings, including demolition and re-use of building materials
- Access to land and finances crucial for safe construction and for those who will have to move

- Private Public Partnership could play an important role in housing and construction
- Local governments can demonstrate climate change mitigation in their own operations, e.g. street lighting, waste recycling, etc
- CDM opportunities for retrofitting existing housing estates should be tapped more frequently by developing countries
- Remember that tradition building methods were often energy friendly.
- Universities should include Zero Energy Building in their curricula.
- Local governments can capacitate citizens through technical advice on climate friendly building options

### *Working group 2 on transportation*

- Make public transportation the best alternative
- Implement parking restrictions
- More use of buses with low emission
- Support non-motorised transport
- Make denser cities through effective land use planning
- Increase taxes on use of private cars
- Increase congestion charges and parking fees
- Discourage financial institutions to finance private car ownership
- Increase taxes on fuel
- "All" cities should construct metro lines

### *Working group 3 on waste*

- Handling of solid waste a problem to most cities in developing countries
- Technologies for dealing with waste exist, but is not accessible to poorer communities
- Opportunity for producing biogas from waste a win-win case

In the plenary presentation a number of other issues came up:

- Stressing the importance of land use planning – most urban areas are not built yet
- Agenda 21 should be revitalized

- For developing countries adaptation will be a main challenge, industrialized countries should as well focus mitigation
- North –South partnerships of local authorities should be facilitated

## Session 4 - Closing

The closing session contained the following 5 statements:

### **1. Inger AARVIG, Director Climate Change Policy, Federation of Norwegian Enterprise;**

It is an honour for me to speak today on behalf of the Norwegian business society. NHO, The Confederation of Norwegian Enterprise, is the largest and most influential private business organisation in Norway. Our members represent companies from the smallest to the largest, from different service sectors, R&D, industry and technology.

The climate change challenge is taken seriously among our member companies, that is why the NHO last year has set up a CEO Climate policy Forum consisting of 32 CEOs from different branches of business. The discussions in this forum covers various themes as from transport, energy efficiency to emission challenges, and more precisely how can business contribute to solve the climate problem?

The CEO Climate policy Forum has presented the Climate Policy Declaration. The ambition is to come up with an action plan with concrete proposals that we will present to the Norwegian Government in the course of this year. The Declaration is a commitment from the business sector and states that:

- The Norwegian business and industry sector has an important role to play when practical solutions to complex energy and climate change challenges are to be developed and implemented.
- The Norwegian business and industry sector will play an active part in the development of practical measures throughout the value chain from research and development, pilot and demonstration projects to commercial products and system solutions.
- The Norwegian business and industry sector will contribute to the creation of a common, realistic understanding of the practical solutions needed, their costs, a realistic timeframe for implementation and their affect on Norwegian business and industry and society in general.
- The Norwegian business and industry sector holds the opinion that the best solutions will be achieved through good interaction with the authorities, research institutions and the general public.
- The challenges relating to climate change will involve considerable costs, and the most cost-effective solutions must therefore be selected. At the same time, new business opportunities are being created within the fields of energy efficiency, energy production from renewable energy sources, climate friendly transport solutions and carbon capture and storage.
- The business and industry sector will develop the best solutions when markets are characterised by innovation and competition. Technology constitutes a decisive factor both in relation to innovation, and with regard to utilising the best available technology.
- The business and industry sector aims to:
- Ensure that the best available, commercial technologies, individual components and systems are being utilised as quickly as possible both locally and globally. The business and industry sector will contribute actively towards the identification and removal of barriers preventing rapid implementation.
- Make an offensive effort in relation to energy efficiency, including the raising of competence for the actors within the different sectors and with regard to further development and implementation of technologies and systems.
- Strengthen long-term technology development within the area of energy efficiency, renewable energy, carbon capture and storage.
- Include climate assessments and climate costs in

all investment decisions and offer products that in a lifecycle perspective will yield low energy consumption and low emissions. Demonstrate through product information and labelling schemes the options that are available to environmentally-conscious consumers.

- Increase corporate awareness as to how each individual enterprise both directly and indirectly contribute to climate change. Raise awareness of the corporate effort to reduce greenhouse gas emissions, and in collaboration with the employees initiate common measures at the workplace.

As to the discussions today, it is important that the Norwegian Authorities should aim to:

- Give the Norwegian business and industry sector an active role in the development and implementation of emission-reduction projects abroad, as the Norwegian Authorities in the years ahead will be spending substantial amounts of money on foreign emission trading, forest measures and development aid.

In our work we have identified many business opportunities for Norwegian companies in other countries. But, if these business opportunities shall give concrete results, the Norwegian Government must have dedicated means especially made to engage Norwegian companies in commercial activities that will reduce the emission of climate gasses outside Norway. Norwegian Business has the competence and the capacity to make these reductions. It is however necessary also to have general means for industrial development and internationalisation aiming to increase the engagement of Norwegian companies in fields like energy, environment and climate change outside Norway, especially in developing countries.

This has been a long and interesting day with examples and discussions of the challenges numerous cities are facing due to climate change. Through our work in NHO I will urge Norwegian companies

to engage in the work to find solutions to these challenges.

## ***2. Rune Kloster TVEDT, of the Norwegian Association of Local Authorities;***

In February this year the Minister of the Environment and International Development, Mr. Erik Solheim invited the 12 largest cities in Norway to participate in the "Cities of the Future" program. The Association of Local Authorities actively supports this initiative.

The Assembly of local authorities has called for all municipalities and counties to:

- Establish measurable targets related to climate and the environment, being a basis for a concrete commitment of the local sector to reduce their own emission in the period till 2020.
- Establish climate and environment related action plans as an integrated part of their local plans, especially targeting transport, energy and waste
- Establish binding partnerships with their inhabitants, businesses and state authorities on actions to reduce emission of green house gases
- Prepare plans to reduce effects of climate change as well as plans for handling critical climate change related events
- Actively use planning and building regulations to reduce energy consumption in buildings

The Association itself will particularly collect and disseminate information on good and less good examples, analyse criteria for success, monitor and prepare statistics, identify barriers for action and actively advocate the demands of local authorities in respect to their climate and environment related actions. On the road to Copenhagen - COP 15 - , the Association will in June arrange a work shop on the "Cities of the Future" program.

Finally I am very encouraged and glad to see the active participation of the CCCI pilot cities of Sorsogon, Kampala, and Maputo and as well of Aguascalientes,

in this Conference, underlining the crucial role of cities and local authorities in responding to the challenges of climate change.

### ***3. Ingeborg GJÆRUM, President of Young Friends of the Earth Norway***

In nine months some of us will be gathered in Copenhagen at COP 15 where leaders of the world must agree on a new international climate change agreement. In my view, this is the most important conference of our time.

I believe that it is the responsibility of our leaders to find the main solutions to the issue of climate change. They have to agree on a new climate deal that safeguards the survival of all peoples and nations. But even though it is the heads of states and the ministers that have to settle the final agreement, I believe they do need our help to be able to do so.

The negotiations under the United Nations Framework Convention on Climate Change are moving slowly. The conference that was held in Poznan in December last year, was a huge disappointment. We were not able to take some of the crucial steps that are needed on the road towards a new climate agreement. This year's conference in Copenhagen needs to be different. We have to reach an agreement that limits the temperature rise to two degrees Celsius at the most. That means global emissions have to peak by 2015 at the latest, and that the industrialized countries should reduce their emissions with 40 percent by 2020 while they at the same time contribute to a lower rise in emissions in the developing world than what is now expected. That is indeed a major challenge. But I am certain that a problem created by man kind, like climate change, can also be solved by mankind. We've just got to hurry up.

And between all these numbers and figures, we must never forget what climate change is really about. It is the biggest threat humanity is facing right now. In the worst scenario from the Forth Assessment Report by the IPCC the temperature might increase by six

degrees. A report from the Christian Aid in Great Britain states that if it gets six degrees warmer, 182 million people in Sub-Saharan Africa might die from diseases caused by climate change. Climate change is a question of justice. It is caused by my part of the world, but it is the poor countries that have to bear the burden.

I have been to several climate conferences, and they are (among) the most depressing experiences I've had. The developing world is waiting for the so-called Annex I-countries, the rich countries, to take responsibility and reduce their emissions. And I definitely think they have the right to do so. But at the same time, many of the rich countries refuse to sign an agreement that does not put pressure on developing countries such as China, Brazil, and India for them to lower their emissions. And there we are: The rich and the poor countries waiting for each other to take the lead. At the climate conference in Nairobi in 2006, Mr. Kofi Annan, at that time the general secretary of the UN said that "while the Kyoto Protocol is a crucial step forward, that step is far too small. And as we consider how to go further still, there remains a frightening lack of leadership."

I guess we are all hoping that Mr. Barack Obama will come and save us all. But we cannot depend only on one man and one nation. I believe that what will rock the international climate regime is that if one country could actually come to the negotiations and tell the world: "Look at us. We did reduce our emissions. We were actually able to do it. We are able to maintain a high living standard but with low emissions."

That is my target. I want Norway to become the proof that a no-emissions-society do exist. And I hope that after today's conference some of you will go back and work towards the same goal. Because it all starts with the cities. Countries will not be able to reduce their emissions if the cities are not aboard. And there won't be a new climate deal if countries do not take the lead. What if your city became the state of the art when it comes to low-emission-cities? What if you

could inspire other cities to follow what you do?

The first thing you should do when you get back from this conference is that you think through an ordinary day at work. No matter what your daily job is, check how often you meet people that are not dressed in suits, people that are below 25 years old and people that represent civil society. If you don't meet civil society daily, it is not good enough. And if you don't meet people below 25 years old in your office at least twice a week, and I am not talking about your secretary, you have to change something. Because we are the ones inheriting the planet, and we are not interested in taking over what is problems created by you.

Finally, I want to stress the need for thinking not only on mitigation, but also on adaptation.

I know that for some cities, a new global climate agreement is not enough. The temperature has already gone up by 0.7 degrees and no matter what we do it will continue to rise. Because of this, adaptation is an important issue. I believe that it is the responsibility of the developed world, and especially countries as my own that has earned our wealth on producing fossil fuels, to put financial means on the table to pay for the effort to ensure adaptation. And not least to find the measures we can take that will both ensure mitigation and adaptation.

For those suffering from increasing water shortage and declining crops, Copenhagen is not important. What is important, is survival. Every day. And survival is not negotiable.

One of the great leaders of our time, Mr. Nelson Mandela, once said the following: "Some times it falls upon a generation to be great. You can be that great generation."

Past generations have fought against racism and segregation, for female suffrage and the right to education. And even though, if you look at the world today, many of these battles are not yet won

– I believe it falls upon our generation to be the environmentalists. The planet needs us, but more important: We depend on this planet, and we, as youngsters and as the civil society, are ready to do our part of the job.

#### **4. Erik BERG, Senior Advisor Ministry of Foreign Affairs Norway**

On behalf of the Ministry of Foreign Affairs, that has been the technical organizer of this conference, let me make a few concluding remarks. This conference has shown that urban issues offer unique opportunities to translate scientific research into concrete policies and practices. These opportunities carry the potential to involve a large number of stakeholders at international, national, city, neighbourhood and household levels, including governments, the private and the civil sector. Raising global awareness starting from the local urban context should thus become easier. But there are still battles to be fought to secure the full recognition of urban development issues and providing necessary resources to challenge urban climate and poverty problems. The most important challenge on the road ahead is probably to pave the way for both local government's and civil society's proper representation in international fora where decisions are being made: Global urban governance is generally not there.

This conference, being the result of a joint planning process involving Norwegian civil society (Friends of the Earth), corporate business (The Confederation of Norwegian Enterprise), local and national government (The Norwegian Association of Local and Regional Government/The Ministry of Foreign Affairs), the multilateral UN programme UN-HABITAT, represents a model, a better practice, in how stakeholders on all levels from the individual to the global effectively can work together.

To conclude: let me thank you all for your active contributions in making this launching conference a success.

## **5. Anna TIBAIJUKA, Executive Director UN-HABITAT**

From the rich discussions today, it is true that the future of hundreds of millions of people in urban areas across the world will be affected by the different impacts of climate change. However, mitigation and adaption capacity is not equally distributed worldwide and in developing and least developed countries vulnerability is substantially different compared to developed countries.

The urban poor in developing countries and most of all women, elderly and children are the most vulnerable. You may actually call them “double losers”. Least developed countries in Africa and Small Island Developing States are the hot-spots where impacts of climate change, such as sea level rise, inland flooding, drought periods and their subsequent consequences hit people most.

The vulnerability of local populations is also related to the capacity of local governments to efficiently address the impacts of climate change. Indeed, local authorities are often overburdened with tasks related to coping with climate change impacts as these are only part of the bouquet of services they have to deliver, next to basic urban infrastructure, for example. Very often, and this is mainly true for developing countries, local authorities lack the skills, capacities, and human and financial resources to efficiently tackle the impacts of climate change on the community. What is needed, therefore, is an improved responsiveness for achieving greater resilience toward any negative impact on the city metabolism, and the ability of faster reaction to decrease risks at an earlier stage. To this end, training and capacity building toward disaster preparedness is indispensable.

There is no doubt that in addition to efforts at the global and national levels, local authorities must lead the way in finding real solutions to these global challenges. To date, there are few comprehensive examples of mitigation and adaptation at the local level, particularly in the developing world where

Climate Change risks undermine years of development achievements. There clearly is an urgent need to form a global platform to enable discussion, exchange of good practices as well as practical action for local authorities to mitigate and adapt to climate change.

The technologies to address the impacts and vulnerabilities of climate change are there. The solutions exist. They range from water harvesting to solar energy, and from affordable mass transit to bio-fuel production. But turning the huge unmet needs into market demand requires the right mix of political will and commitment, well-founded policies and strategies, and an enabling business environment.

The decision at this meeting to address three critical urban development issues, namely sustainable transport, solid waste management and sustainable housing and construction, offers an opportunity to jointly come up with concrete ideas, technological solutions and resources to the pressing development challenges of climate change.

This important international meeting on cities in climate change takes place in the midst of a financial and economic crisis. This crisis will inevitably have implications for the availability of public funds for social services and private capital to finance the much needed improvements in housing, basic infrastructure and services. In our next session of the Governing Council, there will be a special dialogue on cities and climate change, and I invite you all to make your inputs. I also look forward to the outcome of this meeting feeding into the discussions at the Governing Council and the upcoming COP15 to be held in Copenhagen in December.

Excellencies,

I would like to thank all our partnering cities and Norwegian partners and to encourage them to continue doing the good work.

I would once again like to thank the Government of Norway for your warm hospitality in this beautiful city of Oslo and your continued generous financial contribution and technical support to UN-HABITAT.

# Appendices

## 1 LIST OF PARTICIPANTS

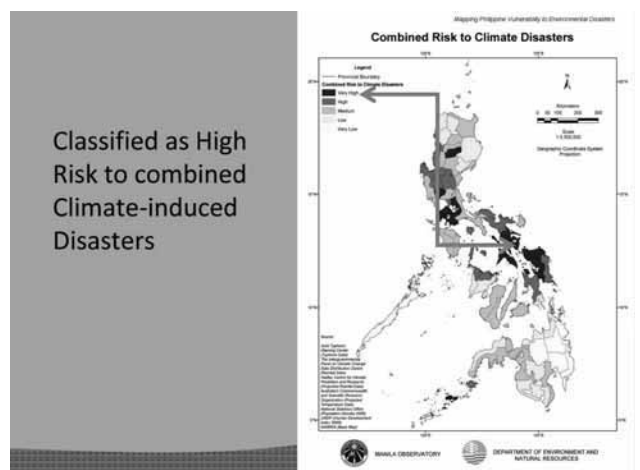
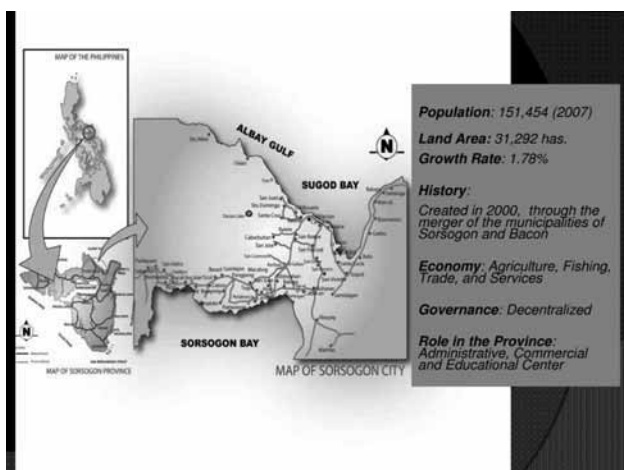
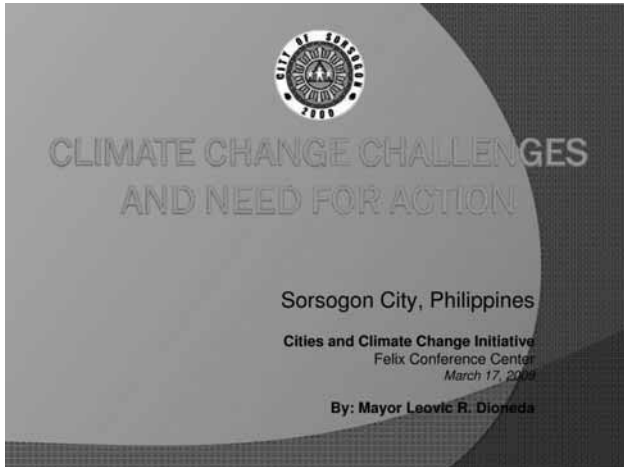
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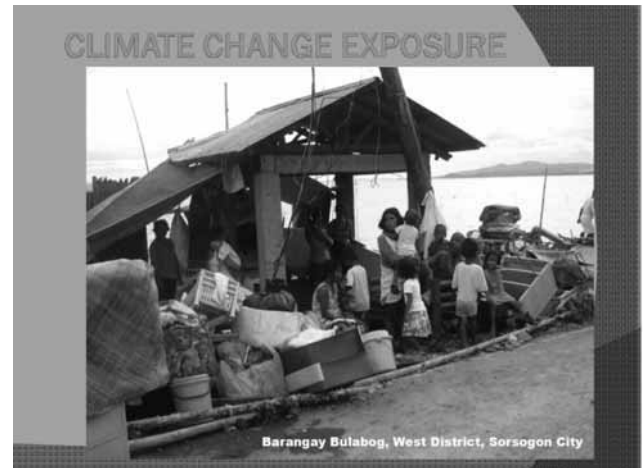
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## 2 Power-point presentations



### 2.1 Sorsogon CCCI pilot city; Mr. Leovic Dioneda, City Mayor





### CLIMATE CHANGE EXPOSURE




- Extreme Rainfall and Flooding

Increased Precipitation



### CURRENT AND PROJECTED VULNERABILITIES

- Agriculture and Fishing:

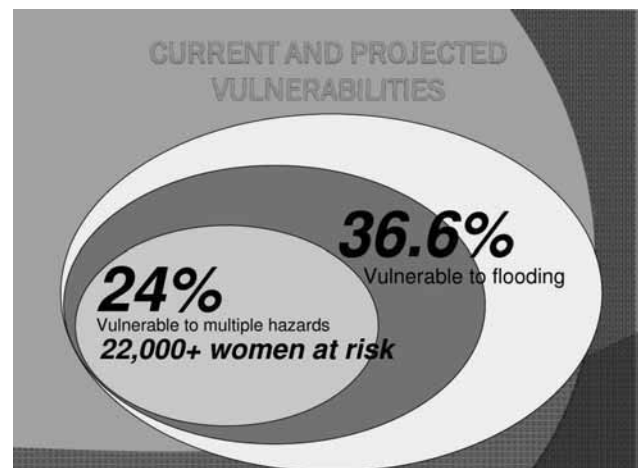




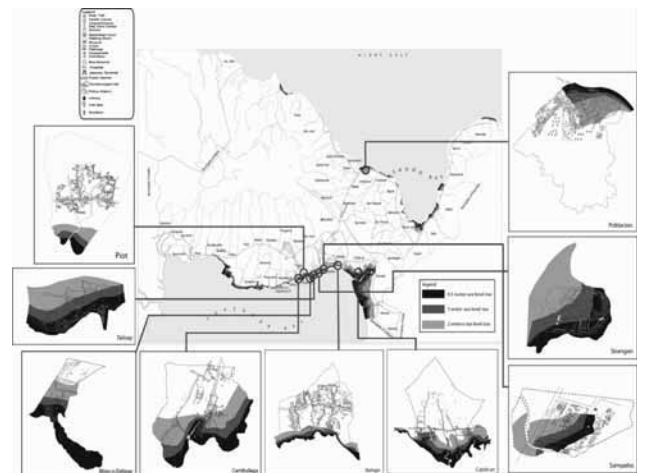
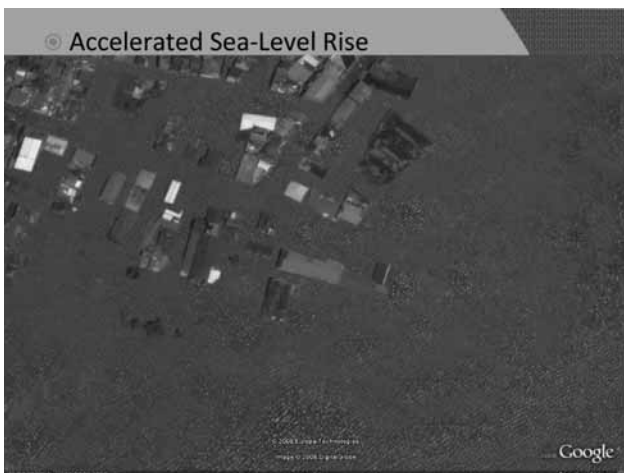
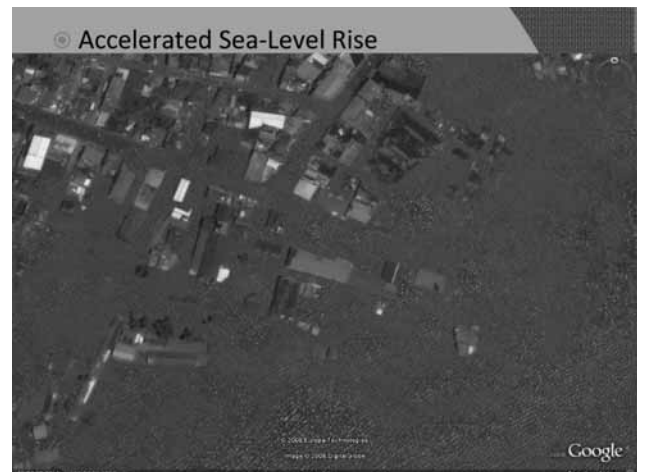
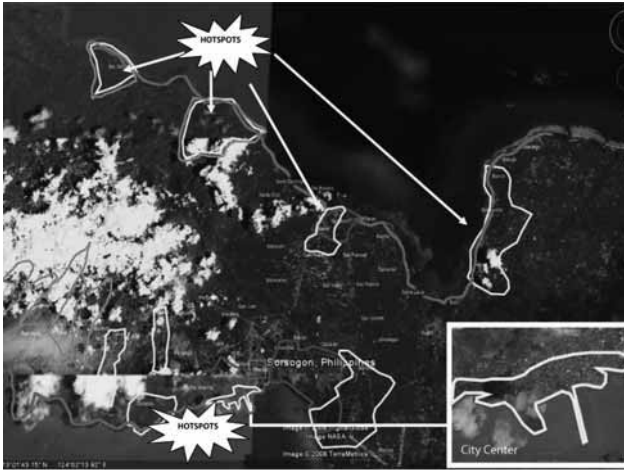
### CURRENT AND PROJECTED VULNERABILITIES

Poverty incidence is at 43%

Presence of slum communities in the coast





## THROUGH CCCI:

- The City intends to collaborate with other cities and partners in:

Technology/Tools Development  
Institutional Strengthening and  
Policy Advocacy

... this would help Sorsogon City to pursue its action agenda...

## NEED FOR ACTION:

- Promote and advocate awareness on climate change among the general public
- Learn from good practices and available knowledge products
- Build capacities of the local government including improving its resources and equipment (e.g. GIS) to enhance our planning capacities and governance processes in general

- Establish partnerships with LRIs, CBOs, NGOs



## NEED FOR ACTION:

- Encourage and increase business sector participation (CDM, Structural Designs, Green Building, etc)
- Demonstrate projects that present great feasibility and high impact in creating climate change resilient settlements to influence local and national policies
- Further develop city GHG profiling and sustain/enhance current Environmental Management initiatives- Solid waste Management, Mangrove rehab, Reforestation



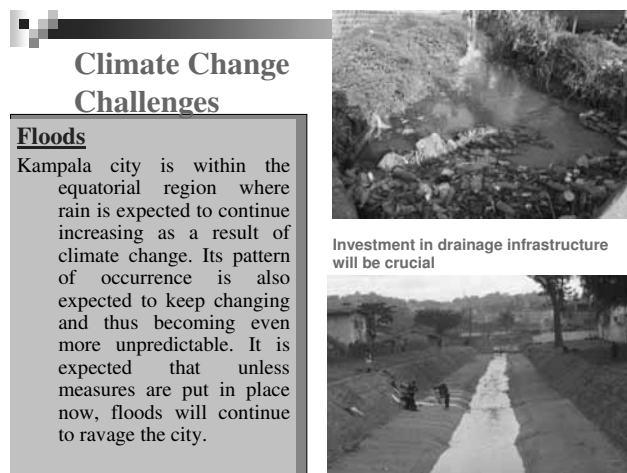
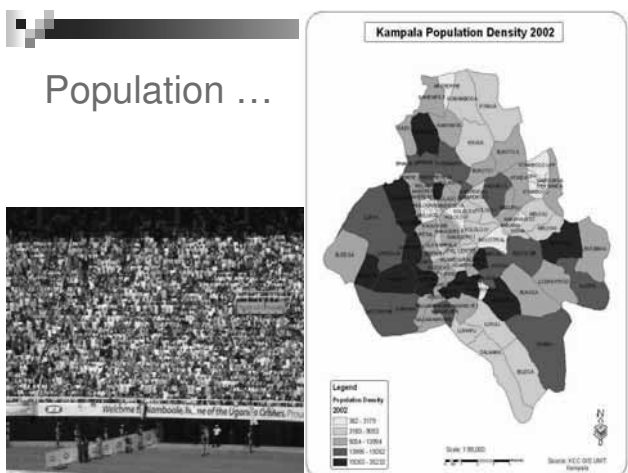
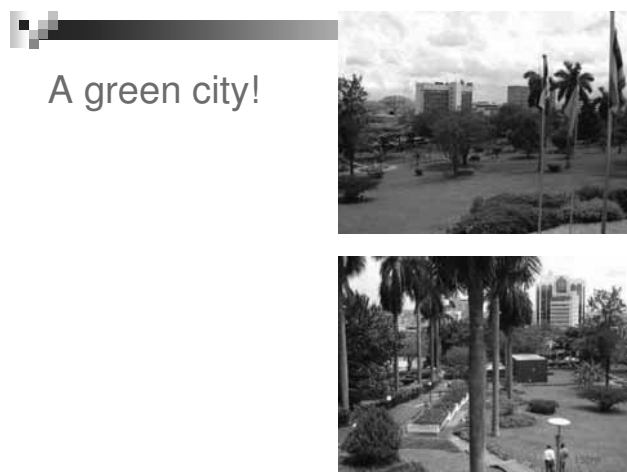
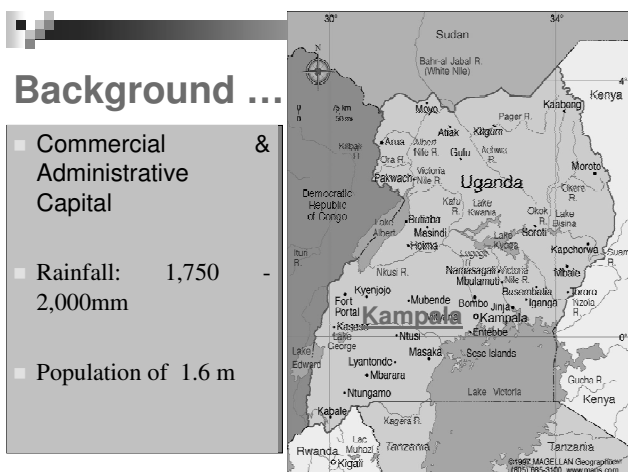
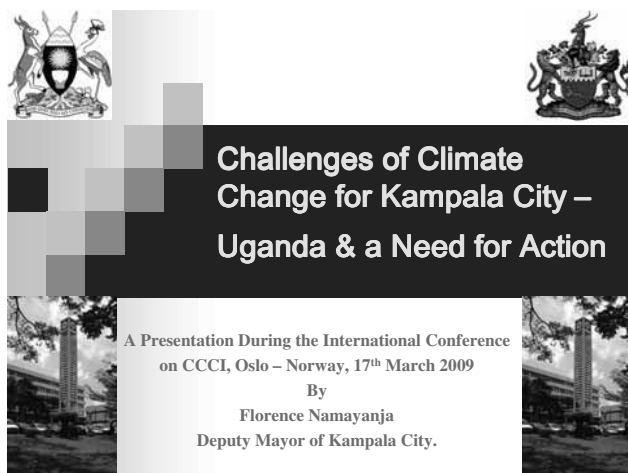
## KEY CHALLENGES

- Paradigm shift: "instilling the culture of safety and preparedness" against the culture of living for what's "here" and "now"
- Framing current exposure and vulnerabilities as an opportunity for sustainable urban development planning
- Integrating and mainstreaming climate change initiatives and disaster risk reduction (DRR)
- Maintaining city competitiveness while pursuing adaptation processes



Thank you.

## 2.2 Kampala CCCI pilot city; Mrs. Florence Namayanja Mukasa, Deputy Mayor



## The Challenges ...



### Poverty

- Floods and other problems related to increased precipitation are expected to worsen the poverty situation in Kampala. Problems related to housing, increasing food prices, access to utilities, etc, will leave the poor urbanite worse off.

## Challenges ...

### 3. Increased Energy Costs

- It is not well known how climate change will impact Kampala's energy costs. The current trend indicates increasing clean energy costs which forces the population to resort to less clean & unsustainable wood fuel sources.



## Challenges ...

### 4. Impact on Social & Physical Infrastructure

Management of pollution, sanitation, waste disposal, water supply, and public health, as well as provision of adequate infrastructure in urban areas, are becoming increasingly difficult and costly under changed climate conditions. Rain of El Niño proportions makes provision & maintenance of the above a nightmare.

### 5. Impact on Human Health.

Altered temperature and rainfall patterns could increase the incidence of cholera, malaria, & a host of other water related diseases.

## Challenges ...

### 6. Food Security.

Kampala is not an island. Its inhabitants need a constant supply of food both from within and outside of its boundaries. In a country where farming depends entirely on the quality of the rainy season, populations are particularly vulnerable to climate change.

Widespread floods like the country has experienced lately, washing away of bridges and generally unexpected heavy rains occurring during harvest time, will continue to harm food supply.

## On going & Proposed Action

### Halting the trend

- Kampala needs to implement measures aimed at reducing green gas & carbon dioxide emissions.
- There is need for strategies such as tree planting, cleaner production measures, encouraging clean energy options such as HEP, solar, wind, etc, rather than wood and oil products.
- The city is in preliminary stages of revising its land use management framework (The Kampala City Structure Plan) and intends to adopt energy efficient plans & designs, including compact rather than spread development, encouraging of building designs that depend on natural aeration, etc

## On going & Proposed Action ...



### Adaption:

- Kampala, like other cities with a proven vulnerability to climate change, requires to put in place a number of adaption measures. These include;
  - Relocation of populations from the most prone areas, which in Kampala's case, are the majority, and also the poorest.
  - a "hardening up" of the infrastructure systems, including storm water drainage systems, clean water supply and treatment plants

### On going & Proposed Action ...

- protection or relocation of solid waste management facilities, energy distribution systems and other utilities to ensure that they will survive the vagaries of adverse weather.
- Move away from traditional physical planning approaches to approaches that take care of environmental & climate change issues
- Strict enforcement of land use plans to minimise the impact of floods, and increase percolation.
- Well thought out bylaws on storm water management

### Way Forward & Conclusion

- The Political leadership of Kampala city is committed to championing the formulation of a clear climate change policy & taking all the necessary action to implement it.
- Personally, as a woman political leader, I shall ensure the participation of women in climate change initiatives at all levels
- Awareness about climate change issues will be one of the major driving forces.
- While the CCCI will go a long way to support Kampala city develop the necessary policies and other necessary tools to address climate change, we shall need enormous resources to put in place the necessary measures to cope with it. Relocation of vulnerable populations, reinforcement of drainage and other infrastructure, etc, all will require colossal sums of money which we do not have as of now.
- We call upon all of us to unite in the fight against climate change.

### On going & Proposed Action ...

#### Capacity building, training and education.

- There is need to identify relevant staff, build their capacity to monitor and evaluate climate change impacts.
- We will also need to sensitize all decision makers (technical and political) and get them to appreciate the causes and impacts of climate change as well as the required responses.

Thank You for Listening to Me!



## 2.3 Maputo CCCI pilot city; Mr. Alexandre Manguel Councillor,



### Maputo Municipal Council Climate Change Challenges and Need for Action

In International Conference on Cities and Climate Change  
and the  
Launch of the "Cities and Climate Change" Initiative (CCCI)  
Felix Conference Centre, Oslo 17 March 2009

**UN HABITAT**  
FOR A BETTER URBAN FUTURE

By: Dr. Alexandre Manguela – Council for Environmental,  
health and social affairs of MMC  
Email: [misaudns@tropical.co.mz](mailto:misaudns@tropical.co.mz) Phone+258 823033600

### Why are we here?

- Because we "have a dream":
- to elevate the MMC quality life
- to make Maputo City beautiful, clean prosperous, sheltered and supportive and,
- Our dream meet with:
  - the Kyoto Protocol
  - UNFCCC convection

(United Nations Framework convection on climate change)



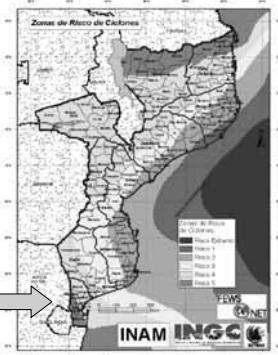
### Mozambique vulnerability to climate change

- Given its geographic location, the country is highly vulnerable to natural disasters, in particular those of hydro-meteorological origin (floods, drought and cyclones)
- (Floods risk zones)



### Mozambique vulnerability to climate change

- During February to March 2000 a combination of torrential rains and tropical cyclones caused the most devastating floods in the history of Mozambique. (McBean and Henstra, 2003; Kundzewicz et al, 2001).
- (Cyclones risk zones)



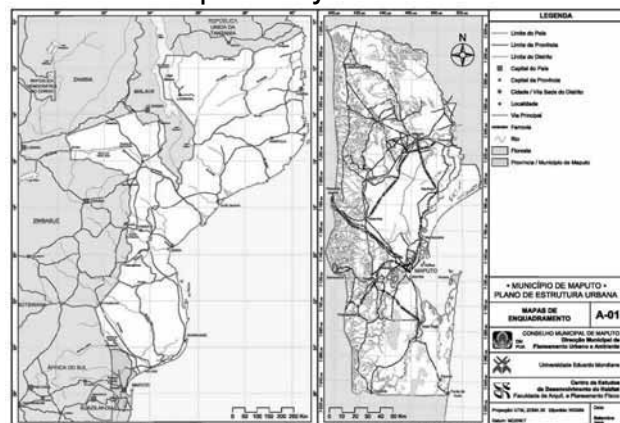
### Mozambique vulnerability to climate change

- 2000 floods impacts:
  - 700 people were killed
  - damages worth's cost about 600 million dollars (McBean and Henstra, 2003; Kundzewicz et al, 2001).



(Flooding in the city of Xai-Xai in 2000)

### Maputo city's location



## Maputo City Overview by indicators

- Population 1.1 million inhabitants
- 70% of inhabitants lives in informal areas
- 54% of inhabitants lives bellow poor line conditions
- Maputo City contribute in 40% for the PIB
- Solid residues coverage collection rate (25%-50%)
- Sanitation (25%-30%)
- Maintenance of roads (15% not paved, 47% paved)

## Maputo City Overview by indicators

Table 1: Distribution of Maputo's population by its 7 municipal districts

Municipal District	1997 Population Census	2007 Population Census (Preliminary Data)	Difference 1997:2007
Municipal District n. 1	154,284	108,353	-45,931
Municipal District n. 2	162,750	155,264	-7,486
Municipal District n. 3	210,551	224,181	+13,630
Municipal District n. 4	228,244	289,864	+61,620
Municipal District n. 5	211,008	293,716	+82,708
Municipal District n. 6 (Catembe)	15,853	19,605	+3,752
Municipal District n. 7 (Inhaca Island)	4,672	3,956	-716
Total	987,362	1,094,939	+107,577

Source: National Institute for Statistics (Instituto Nacional de Estatísticas - INE, 2008)

## Maputo Development Plan - PROMAPUTO

- PROMAPUTO defined the vision for the near 10 years and a strategy of 3 years.
- Conceived in two phases, being the first phase of 3 years (2007- 2009) concentrated in tree priorities areas:
  - the slope of institutional development,
  - improvement of the municipal finances and
  - integrated urban planning
- The second phase (2010-2016) will continue it deepen the institutional development, the reinforcement of the municipal finances, with significant growth of interventions in the services delivery

## Maputo Development Plan - PROMAPUTO

- During the first phase significant activities/actions have been completed like:
  - New simplified organizational structure of the MMC
  - Rehabilitation of primary infrastructures
    - Drainage system, roads, coastal protection
  - New Maputo's Municipality Urban Master Plan
  - Recruitment of competent Human resources
  - Engagement of the private sector by PPP mechanism
    - Example: cooperation with ADASBU on waste collection within the neighborhoods

## Maputo city's vulnerability to climate change

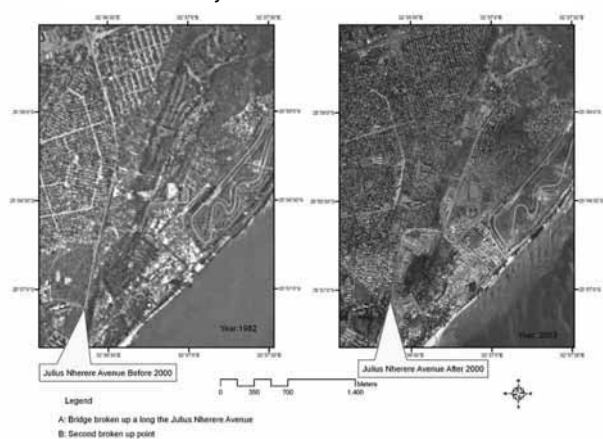
Table 2: Sectors and areas of Maputo city vulnerable to extreme events related to climate change

Sector or area	Climate change related-event	Impact or produced effect
Coastal zone and ecosystems	Tropical cyclones	Damage to coastal infrastructure, dunes, beaches and other natural features
		Increased erosion or damage to coastal infrastructure, dunes, beaches, and other natural features
	Sea level rise and storm flow	Loss of coastal wetlands and other coastal habitats
		Increased costs for maintenance and expansion of coastal erosion control (natural or man-made)
		Saltwater intrusion into coastal aquifers
		Increased risk of pollution from coastal hazardous waste sites
Transportation system	Variations of Temperature and heavy precipitation	Reduced effectiveness of sea walls
		Increased road surface and bridges damage
Wetlands and urban agriculture	Heavy precipitation	Increased maintenance requirements for roadside/pavement
		Increased risk of flooding
	Dry season	Crop failures, water scarcity, drying of water reservoirs and demand for water irrigation
		Increased risk of habitat loss (mangroves), salt intrusion

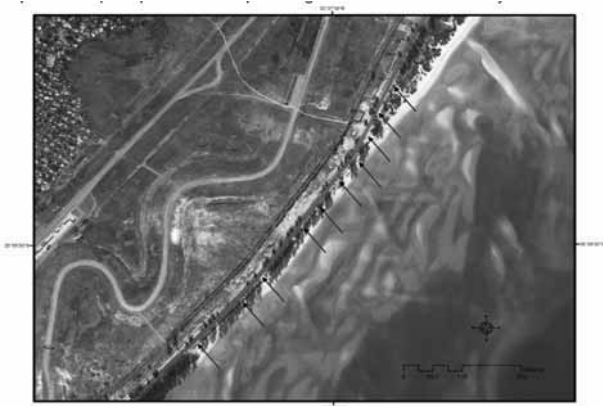
## Maputo city's vulnerability to climate change

Sector or area	Climate change related-event	Impact or produced effect
Wetlands and urban agriculture	heavy precipitation	Increased risk of flooding
	Dry season	Crop failures, water scarcity, drying of water reservoirs and demand for water irrigation
		Increased risk of habitat loss (mangroves), salt intrusion
Human Settlements and Infrastructure	Tropical cyclones	Housing and infrastructure damage
	Heavy precipitation	Housing and infrastructure damage
		Need for new or upgraded flood control and erosion control structures
		Landslides, road washouts and flooding
		Increased demands on storm water management systems and sewer overflows
	Sea level rise	Reduced effectiveness of sea walls Housing and infrastructure damage
Health, food and waste management	Heavy precipitation	Increase in vector-borne diseases (malaria, cholera, etc.)
		Need for a new waste collection, management and treatment system

View of the Julius Nyerere Avenue before and after the 2000 floods



Points of the Marginal Avenue susceptible to be impacted by the erosion process linked to the sea level rise effect



Actual Maputo city's land use



## Rapid SWOT Analysis of MMC

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>✓Decentralized organizational structure set up through municipal elections</li> <li>✓New transparency governance policy</li> <li>✓Improved managerial/technical capacity for dealing with urban management/planning issues</li> </ul>	<ul style="list-style-type: none"> <li>✓No managerial/technical unit dealing with CC related impacts at city level</li> <li>✓Lack of methods and tools to address CC related impacts at city level</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>✓Excellent financing partnership with the World Bank, producing positive capital investments on urban infrastructure</li> <li>✓Increased sense of responsibility of service delivery for the urban poor</li> <li>✓Openness for bringing the CC urban dimension to the discussion table and for drafting a first CC Adaptation and Mitigation Master Urban Plan of Maputo city</li> </ul>	<ul style="list-style-type: none"> <li>✓Budget constraints</li> <li>✓Limited human resources compared to the needs</li> </ul>

## Challenges and Need for Action

Table 5: Identified key sectors for applying CC adaptation and mitigation measures in Maputo city

Key sectors	Type of mitigation and/or adaptation measures
Urban infrastructure and planning	<ul style="list-style-type: none"> <li>• Improved drainage/storm water system</li> <li>• Edification of coastline protection dikes</li> <li>• Development and implementation of adaptation/mitigation urban plans</li> </ul>
Housing and building codes	<ul style="list-style-type: none"> <li>• Construction of environmentally sustainable social houses</li> <li>• Development and application of building codes which confer resistance to natural disasters</li> </ul>
Water, sanitation and health	<ul style="list-style-type: none"> <li>• Sustainable use and supply of water resources</li> <li>• Provision of basic services to the urban poor</li> <li>• Health education and promotion</li> </ul>
Urban environmental quality and green areas	<ul style="list-style-type: none"> <li>• Improved solid waste management</li> <li>• Support of urban agriculture development</li> <li>• Protection of green areas and wetlands</li> <li>• Installation of ecological water treatment systems</li> </ul>

## Challenges and Need for Action

- There is a strong political willing for CCCI project implementation
- Need of strong institutional involvement and communication with all stakeholders
- Need of multi dimensional assessment study on the impacts of climate change in Maputo city
- *Need of proper climate change adaptation/mitigation strategies, tools and methods for urban areas in Mozambique to be tested in Maputo city*
- Implementation of CDM (Clean Development Mechanism) projects regarding i.e. energy saving by applying waste & solid residues transformation technologies. These type of project are very welcome for MMC.



## In conclusion



- The Government of Mozambique and MMC is full committed with CCCI and we would like to express our



- Thanks to the Norwegian Government

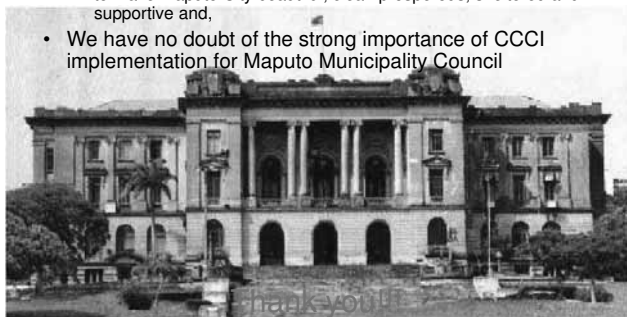
- Thanks to **UN HABITAT** FOR A BETTER URBAN FUTURE and,



## finally, we are here



- Because we "have a dream":
  - to elevate the MMC quality life
  - to make Maputo City beautiful, clean prosperous, sheltered and supportive and,
- We have no doubt of the strong importance of CCCI implementation for Maputo Municipality Council



## 2.4 Aguascalientes city; Mr. Jorge Ponce Hernandez, Secretary of Public Services and Environment



MUNICIPIO DE AGUASCALIENTES

## Recolección





- \* 617 toneladas de Residuos Sólidos Urbanos al día
- \* 4,500 contenedores de diferente capacidad
- \* Los 365 días del año.

Secretaría de Servicios Públicos y Ecología

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## Sistema GPS









Secretaría de Servicios Públicos y Ecología

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## Microchips

Secretaría de Servicios Públicos y Ecología

MUNICIPIO DE AGUASCALIENTES

## Centros de compactación y transferencia

A través de este proceso se obtiene un ahorro de 130,000 kilómetros mensuales de las unidades que ingresan a los Centros de Compactación y no hacen el recorrido hasta el Relleno Sanitario "San Nicolás"





Secretaría de Servicios Públicos y Ecología

MUNICIPIO DE AGUASCALIENTES

## Barrido Manual




En la Zona Centro se cuenta con 32 rutas de barrido manual y 1 de recolección de cestos papeleros. Se barren manualmente un promedio diario de 432 km., esto equivale que cada trabajador barre diariamente 3.13 kms.

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## Barrido Mecánico




Un padrón vehicular de 15 unidades. Que en promedio barren 253 kilómetros diarios en las principales calles y avenidas de la ciudad.

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### “Centros de Acopio de Residuos Sólidos Reciclables”



Se cuenta con 13 centros y desde la instalación del primer centro de acopio en noviembre de 1999 hasta agosto de 2008, se han recuperado 1,334 toneladas de residuos sólidos reciclables, lo que representa 8,492 metros cúbicos que no se ocupó en el Relleno Sanitario.

Secretaría de Servicios Públicos y Ecología



Se han captado 776 toneladas de papel y cartón entre 1999 y 2008, lo que equivale a 13,197 árboles salvados.

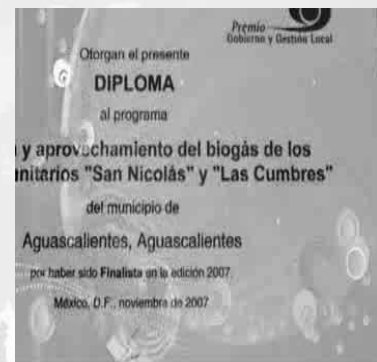
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### Relleno



En la actualidad se tiene un depósito promedio diario de 950 toneladas de residuos sólidos urbanos generados en los 11 municipios del Estado de Aguascalientes.

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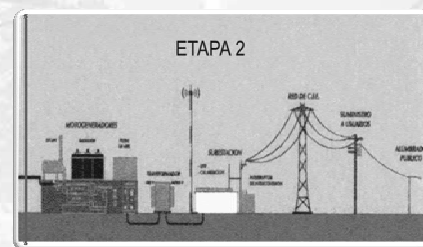
### Aprovechamiento del Biogás



A la fecha se han comercializado 123,544 CERs obteniéndose a la fecha aproximadamente 650 mil dólares.

Secretaría de Servicios Públicos y Ecología

### Generación de Energía Eléctrica



Se generará energía eléctrica entre 2.8 y 4.0 megawatts.

Secretaría de Servicios Públicos y Ecología



Desde su inicio hasta el mes de agosto de este año se han recopilado aproximadamente 13 mil kilogramos de pilas.

Secretaría de Servicios Públicos y Ecología



Secretaría de Servicios Públicos y Ecología

## Composta



Durante este año se han producido un total de 650 metros cúbicos de Composta.

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Secretaría de Servicios Públicos y Ecología



Se han atendido un promedio de 16,000 personas por año.

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## Programa Piloto de Segregación y Recolección Selectiva de Residuos Sólidos Urbanos





Este pilotaje se realizará durante 6 meses en 12 colonias de la capital y a partir del segundo semestre se incrementará sustancialmente el número de colonias participantes.

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## Centro de Separación y Optimización de Residuos Sólidos Urbanos




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**EL AYUNTAMIENTO DE Aguascalientes**  
*Compartamos Responsabilidades*

Secretaría de Servicios Públicos y Ecología

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Secretaría de Servicios Públicos y Ecología

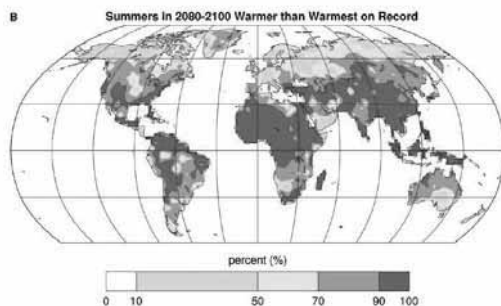
## 2.5 The need for Action, Mr. Haakon Vennemo, Econ, Pöyry group Norway



The need for action: How to address the impacts of climate change in the cities of developing countries

March 17, 2009  
Cities and Climate Change Initiative – UN Habitat  
Haakon Vennemo

An indication of the problem



Source: Battisti et al. (2009) *Science*

Why cities?

- They are located on flat land by [seas and rivers](#)
  - Hence they are vulnerable to sea level rise, floods and storms. About 10% of the global population lives on the 2% of global area that is lower than 10 m above sea level
- They are built of dark material
  - Hence they absorb heat and become warmer than the surrounding area
- They are built of hard material
  - Hence it is difficult to absorb precipitation and the drainage system is stressed
- They rely on ocean transport
  - Hence the supply of vital goods such as food, oil, medicine is at risk
- They rely on electricity
  - If electricity breaks down, everything breaks down: Traffic-lights, pcs, elevators, heating...
- *The urban poor are particularly at risk* – since homes are more vulnerable, drainage systems poor, electricity infrastructure low etc.

What can cities do?

- To mitigate?
- To adapt?

What can cities do to mitigate?

- Spatial planning: [Dense cities](#)
- Transport planning and pricing: Metros, busses, motorbikes
- Building materials: Insulation
- Energy supply: Efficient district heating, fuel switch, upgrading of power plants
- Manufacturing industry: Efficiency improvement

## Will it be expensive? Not necessarily

- The **co-benefit perspective**:
  - Most big cities are fighting local air pollution, congestion, insufficient waste management etc.
  - Interventions in these areas leave city inhabitants better off, *and* they save carbon emissions.
- CDM perspective: *Incremental* cost of low-carbon alternatives to be finance by CDM and its successors
- Partnership perspective:
  - Cities in richer countries should partner with cities in poorer countries.
  - Public/private partnerships such as Build-Operate-Transfer reduce capital requirement and give stable income to private partner

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## What can cities do to adapt?

- Spatial planning
  - Avoid sea-front properties etc.
- Infrastructure
  - Drainage system etc
- In general, economic development and growth will improve climate resilience
  - Win-win
- **Wait where you can**
  - Natural climate events dominates over man-made change until about 2050.
  - Focus on decisions with long-term consequences
  - Meanwhile, increased attention to climate

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## In conclusion, win-win opportunities

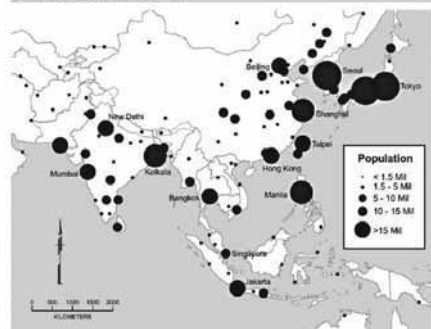
- It will get very hot and stormy, and maybe especially so in cities of the South
- It will begin in earnest about 2050
- Cities troubled by local air pollution and congestion should start with mitigation opportunities that are win-win: reduce air pollution and congestion as well as greenhouse gas emissions
- When these are done cities (and countries) in the developed world should help cities of the developing world on to a low carbon path
- Cities should look for adaptation opportunities that are win-win: that improve development opportunities and prepare for climate change
- At the present stage cities should focus on decisions with long-lasting consequences: Spatial planning, basic infrastructure etc.

**haakon.vennemo@poyry.com**

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FIGURE 1.4 / Mega cities in East Asia



Source: Gill, I. and H. Khouri, *Asia's Economic Revival* (Washington, D.C.: World Bank, 2007).



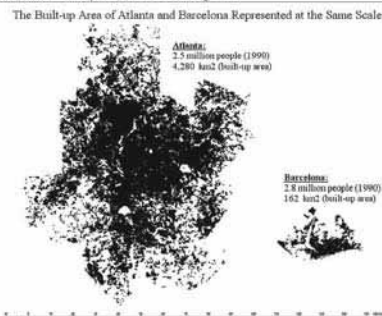
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FIGURE 6.2 / Urban footprints – the choice facing cities



Source: Bernard, A., and T. Pelt, Jr., *Swamp in Atlanta: Implications for Design and Planning* (Los Angeles: Reason Foundation, 2007).



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## 2.6 Climate Change, Impacts and Carrying Capacity, Mr. Chamniern, Thailand Environment Institute

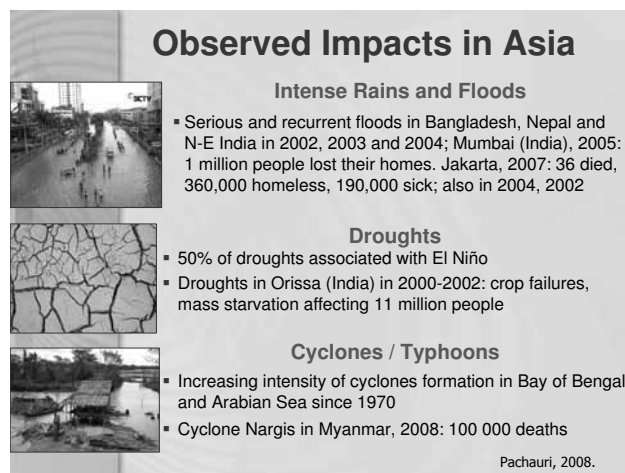


**Developing Countries Most At Risk: 6 Climate Threats**

Asia-Pacific countries

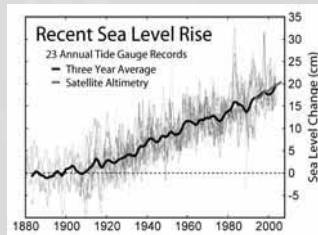
Drought	Flood	Storm	Coastal 1m	Coastal 5m	Agriculture
Malawi	Bangladesh	Philippines	All low-lying Island States	All low-lying Island States	Sudan
Ethiopia	China	Bangladesh	Vietnam	Netherlands	Senegal
Zimbabwe	India	Madagascar	Egypt	Japan	Zimbabwe
	Cambodia	Vietnam	Tunisia	Bangladesh	Mali
Mozambique	Mozambique	Moldova	Indonesia	Philippines	Zambia
Niger	Laos	Mongolia	Mauritania	Egypt	Morocco
Mauritania	Pakistan	Haiti	China	Brazil	Niger
Eritrea	Sri Lanka	Sumatra	Mexico	Venezuela	India
Sudan	Thailand	Tonga	Myanmar	Senegal	Malawi
Chad	Vietnam	China	Bangladesh	Fiji	Algeria
Kenya	Benin	Honduras	Senegal	Vietnam	Ethiopia
Iran	Rwanda	Fiji	Libya	Denmark	Pakistan

Source: World Bank, 2008



## Regional Impacts: East Asia and the Pacific

- Decreased freshwater availability
- Endemic morbidity and mortality due to diarrhoeal disease associated with floods and droughts
- Degradation of marine and coastal ecosystems by sea-level rise and temperature increases
- Sea-level rise potential results in displacement of millions of people
- Damage to aquaculture industry by sea water intrusion
- Increased threats to the ecological stability of wetlands, mangroves and coral reefs



Source: The World Bank, 2008, Concept Paper Annex 1

<http://www.mps.mpg.de>

## Regional Impacts: South Asia

- Increased intensity and frequency of storm surges, cyclones, floods and droughts
- Negative impact on agricultural yields particularly in arid zones and flood-affected areas
- Decrease in river flows in the Himalayan countries, unreliable supplies of fresh water and the need for management of shared transboundary systems
- Sea-level rise and its impact on coastal livelihood through flood, damage to groundwater aquifers, loss of wetlands and ecosystems



Source: The World Bank, 2008, Concept Paper Annex 1

## Water resources issues : poor water supply, sanitation

- Increasing water shortages – a result of seasonal water scarcity
- Urbanisation - Increasing water consumption, surface water pollution problems
- Access to safe drinking water and sanitation - environmental issues, urban poverty

(Marcotullio 2007)



## Intensity and frequency of extreme weather events

- increase in the number of heavy rainfall events resulting in more floods
- increases prolonged periods without precipitation resulting in more frequent and more severe droughts



IPCC 2007

## Human settlement displacement caused by sea level rise

- Rising sea levels:-
  - Coastal erosion rapidly
  - flood risk and salt water intrusion



- Disappearing coastal ecosystems, including mangrove and coral reefs – impact on biodiversity and tourism



## Why urban areas in developing countries are the most vulnerable

### The vulnerability of a system to climate change is determined by

- its exposure
- its physical setting and sensitivity
- and its ability and opportunity to adapt to change.

## Why urban areas in developing countries are the most vulnerable

- Vulnerability can be high because of high exposure, e.g. severe cyclones, high sensitivity, e.g. settlements built on low-lying coastal areas
- Many developing countries are very sensitive to climate change because of their dependence on agriculture and forestry

## Why urban areas in developing countries are the most vulnerable

- Urban population growth is largest in developing countries
- Urbanisation process increases vulnerability to natural disasters through concentration of people and assets

### Critical Issues:

Uncontrolled land use

Unsorted Municipal Waste

Uncontrolled dumpsites, leachate

- Industry concentration (Quarantelli 2003)
  - Concentration of industry increases risks of losing production and services through extreme weather events and disasters
- Climate change impact on poverty (Sperling 2003)
  - Poor people live in areas which will be particularly affected by climate change – increased climate variability will increase poverty as more floods and droughts will reduce their income and destroy their properties
  - Poor people lack the adaptive capacity to cope with changes in climate due to lack of education and access to information
- Impacts on health due to climate change will be felt most by the poor who often have reduced resistance to diseases, which are likely to increase due to climate change, e.g. cholera, diarrhoea and malaria

### Adaptation Framework to Global Warming

Study the risks of communities and other groups  
(at a level of impact might cause the different damages different communities and groups)

Community's Risk  
Evaluation from the impacts  
of climate change

Carrying Capacity and Adaptation  
Evaluation of different groups and  
community

Community

Technician/Researcher

Government

### Adaptation to Climate Change

Local  
wisdom

Economic and Social  
Mechanism

Government  
Policy

Reduce impacts  
(Prevention)

Reduce damages  
(Increase Carrying Capacity)

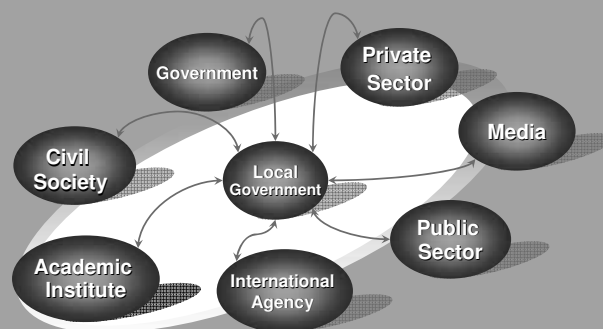
สถาบันสิ่งแวดล้อมไทย (สอ.)  
Thailand Environment Institute (TEI)

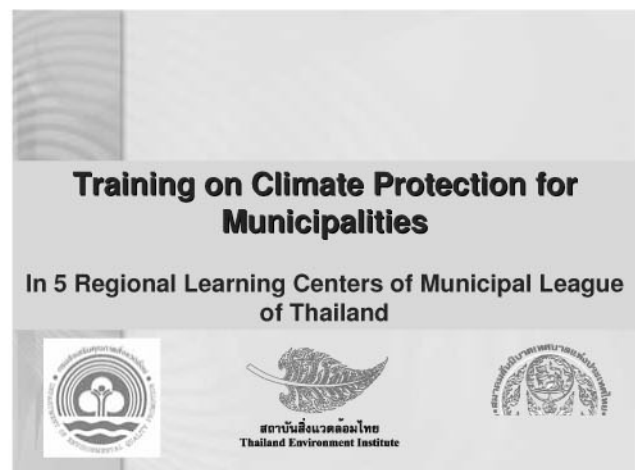
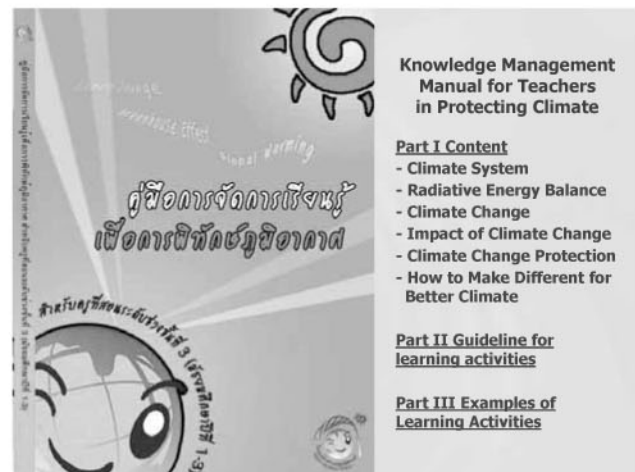
## Thailand Environment Institute

### Initiatives

*“supporting local governments,  
communities and schools  
in coping with climate change”*

### Local Network







# Sufficiency :

## A Road to Reduce Global Warming

An Initiative and Contribution from Private Energy Provider Sector to 5 Regional School Networks

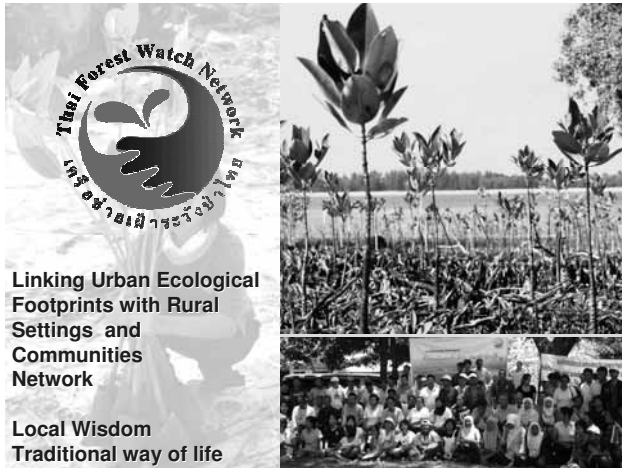


### Local Governments :

#### How to Mitigate GHG

**Content:**

- Statistic and date on temperature increasing
- How the Global temperature increasing?
- Impact of Global Warming to cities
- What we are doing to abate the Global Warming?
- How the LGO participate in Global Warming Abatement?
- Example of LGO's project on Global Warming Abatement



### Adaptation Measure at Local Level

**Workshop Result:** Tung Song Municipality, Tung Song District, Nakhonathummarat Province

**Green Map Garden**

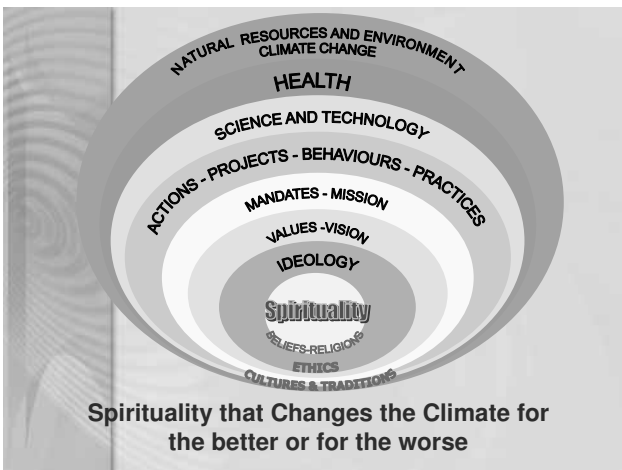
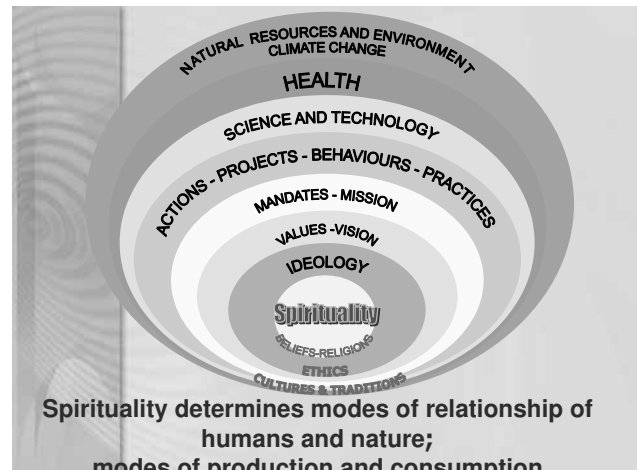
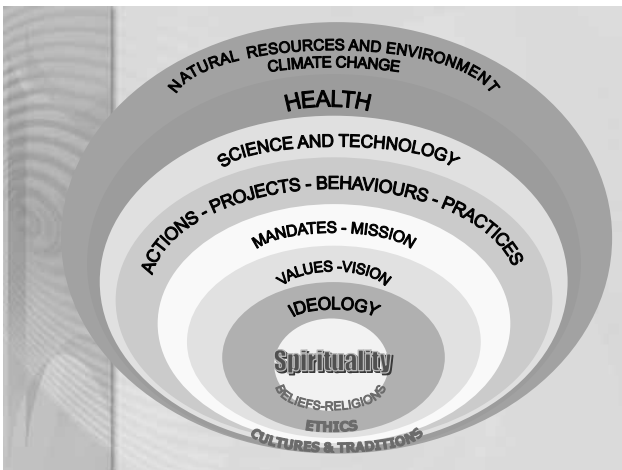
**Vision & SWOT Analysis**

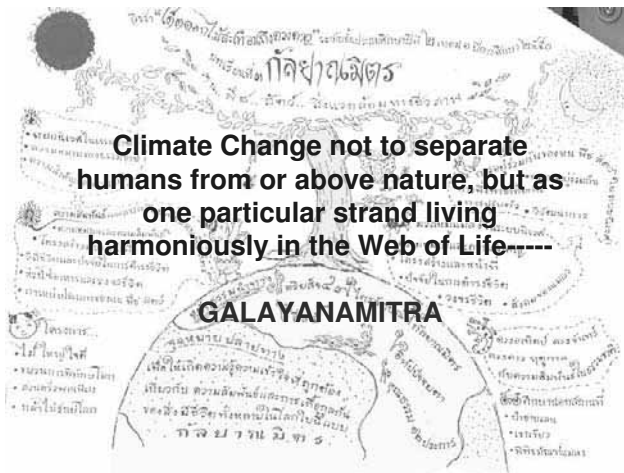
**Local Area Planning Activities**

**“The Small Area Planning with Participatory Approach Project”**


Build local government and stakeholder capacity by uniting spatial planning approaches with participatory decision-making processes

Strategic Issues:  
Traffic and Transportation  
Flood Management





## 2.7 Local Government Climate Roadmap, Mr. Yunus Arikan, ICLEI



Yunus ARIKAN  
Manager, Cities Climate Center  
ICLEI Bonn Center  
ICLEI-Local Governments for Sustainability

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### Contents

1. Why Local Climate Action?
2. The Local Government Climate Roadmap
3. Local Governments in International Negotiations
4. Next relevant steps

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### 1. Why Local Climate Action?

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### Local Climate Action

Cities and Climate Change;

- The Source;
  - Up to 80% of all energy is consumed in cities
  - Urban areas generate about 2/3 of all CO<sub>2</sub> emissions
- The Victim;
  - Cities, especially fast growing cities in developing countries, are highly vulnerable to the impacts of climate change.
- The Hope;
  - Mayors and local governments, are the governance level closest to citizens (critical when it comes to practical climate actions)

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### Local Climate Action

LGs contribution to Climate Protection:

- Sustainable Urban Planning (for mitigation and adaptation activities)
- Renewable Energy and Energy Efficiency (local regulations, architectural designs, etc)
- Sustainable Urban Transport (walking & cycling, improving public transport...)
- Public procurement of sustainable goods and services (for climate neutral city activities)
- Local Action for Biodiversity (to improve climate protection)
- Change citizens behaviour activities


If genuinely empowered and resourced, local governments have a large potential to achieve substantial emission reductions in their local areas and, therefore, they are essential to ensure that global and ambitious targets of greenhouse gas emission reductions are being met.

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### Local Climate Action

CCP - Cities for Climate Protection Campaign

- Launched in 1993, as a
  - **Movement:** work together, gain momentum
  - **Network:** peer-to-peer exchange and learning
  - **Framework for action:** 5 milestone process for action, case studies, replicate good examples, have comparable results, develop useful statistics
- International CCP Campaign:
  - More than 800 local authorities from 29 countries
- European Campaign:
  - 162 participants from 17 European countries.
- Local Climate Action to:
  - reduce local greenhouse gas emissions (GHGs),
  - improve air quality,
  - enhance urban liveability (quality of life of inhabitants),
  - improve the resilience of local communities.



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## 2. The Local Government Climate Roadmap

### Local Government Climate Roadmap The process



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### Local Government Climate Roadmap Partners



United Cities  
and Local  
Governments  
(UCLG)

**Metropolis**

Metropolis



World Mayors  
Council on  
Climate Change  
(WMCCC)



Climate  
Leadership  
Group  
(C40)



ICLEI – Local  
Governments  
for  
Sustainability

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### Local Government Climate Roadmap Key components

#### A) Global Activities for Global Visibility

- **Local Government “positions” as contribution to the negotiations** (specific topics: CDMs, Access to Finance, Carbon Trading, Adaptation...)
- **Local Government input to the post-2012 climate agreement, including our draft “COP Decision Cities and Climate Action”**
- **Presence in the pre-COP negotiations (“Climate Talks”)**
- **Presence at COP 15 in Copenhagen**
- **Establishing and Preparing a LG Delegation** (encourage LGs to be part of their National Delegations during COP 15)
- **Global Media Work** to inform on local action and positions
- **Promoting Mayors Commitments**
  - World Mayors and LG Agreement ([www.globalclimateagreement.org](http://www.globalclimateagreement.org))

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### Local Government Climate Roadmap

#### B) Mobilisation on the National Level

- **Mobilisation and intensive interaction between LGs and National Governments** (specific meetings and communication)
- **National Climate Dialogues events: local leaders meet “their” governments**
- **National local government events on the climate roadmap**
- **National exchange platforms with relevant stakeholders**
- **Mobilising local leaders to attend COP 15**

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## Local Government Climate Roadmap



### C) Mobilisation on the Local Level

- Awareness raising for the post-2012 climate negotiation on the local level: dissemination of information
- Media work for local governments and about local climate action
- Local round tables on climate change at local and regional level
- Encourage cities to start Local Climate Action Plans

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## UNFCCC Negotiations



### Cities at COPs

- So far, local authorities are not recognised as such by the UNFCCC and the Kyoto Protocol.

Decisions adopted by the COP do not aim at the local authorities directly. Certain decisions can nevertheless involve them indirectly.

For instance, decisions on the Kyoto mechanisms foresaw participation of public or private entities of the Annexe 1 countries.

Local authorities can be part of CDM projects in developing countries.

In relation to the Kyoto Protocol and the UNFCCC, some LG have implemented:

Carbon Development Mechanisms projects (City of Sao Paolo),  
Carbon Trading Schemes are being piloted for cities in the UK.

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## UNFCCC Negotiations



- National Governments need LGs to include them in the implementation of the post-2012 Agreement, by empowering and giving them the necessary framework conditions.
- ICLEI on behalf of the Roadmap partners have submitted a draft text of a "COP decision on Cites, Local Authorities and Climate Change".

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## 3.

### Local Governments in International Negotiations



## UNFCCC Negotiations



Some local government networks have Observer Status

- Observers can propose people to get accreditation for a COP
- Observers may attend and speak at meetings
- Observers do not participate in decision-making

The observer status is applied to

- Intergovernmental agencies: e.g. UNEP, UNDP, WMO (the World Meteorological Organisation), OECD, IEA, OPEC (Organization of Petroleum Exporting Countries)
- Civil Society: organised based on "constituencies", such as Local government and municipal authorities (LGMA)

ICLEI acts as constituency focal point for Local Governments and Municipal Authorities to coordinate the local government observers.

## Proposed draft text of a COP Decision on Cities, Local Authorities and Climate Change



- Cities and Local Governments:
  - Represent half of the world's population
  - Consume up to 80% of the Energy
  - Implement strong local climate actions
  - Commit to ambitious reduction targets
  - Mobilise citizens around the globe
  - Offer national - local partnership to limit global warming
- Request National Governments to:
  - Support strong local climate practices
  - Provide enabling regulations and conditions
  - Empower cities - provide capacities and resources
  - Recognise local action in national climate strategies
  - Strengthen local action through easier access to funding

Draft text presented during the Local Government Climate Sessions in Poznan, as a parallel event to COP 14. Open for Comments (climate-roadmap@iclei.org)

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#### 4. Next relevant steps

### The way to COP 15

- Every possibility will be used to continue the advocacy efforts:
  - Climate Talks, Bonn (March/April and June 2009), Bangkok (September)
  - UN General Assembly in New York, September 2009
  - COP 15, December 2009
- Specific LGs Events:
  - The **EcoProcura 2009 Conference: Climate Neutral through Procurement**, Reykjavik, Iceland, 25-27 March 2009
  - **Local Renewables Freiburg 2009 Conference**, Freiburg, Germany 27-29 April 2009
  - **Carbon Expo**, 26-29 May 2009, Barcelona
  - **Local Climate Change Roadmap**: a time for mobilisation, planning and action, **Almada**, Portugal, 28-29 May 2009
  - **Local Government Climate Change Leadership Summit**, Copenhagen, 2-4 June 2009
  - **Copenhagen Climate Summit for Mayors**, December 2009

### Local Government Climate Roadmap

Opportunities for *Cities and Climate Change Initiative (CCCI)*;

- To announce that RoadMap is supported
- To start implementing Cities for Climate Protection Campaign in member cities
- To join World Mayors Council on Climate Change
- To ask to become member of their governments' delegation to COP15
- To join RoadMap Activities

*"We have gathered here in Poznan to advocate the need for an **ambitious post-2012 climate mechanism** that should **also recognise the role of cities and local governments in climate action.**"*



Municipal Commissioner of Thane, India, Mr Nadkumar Jantre, addressing COP 14 delegates during the high level segment

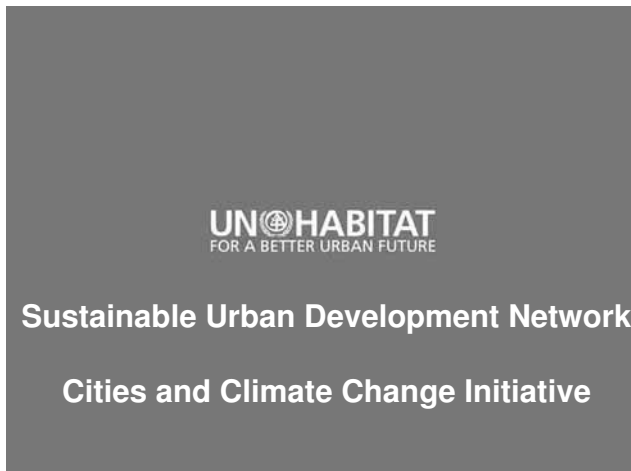
Thank you for your attention!

#### Local Government Climate Roadmap

Email1: [climate-roadmap@iclei.org](mailto:climate-roadmap@iclei.org)  
Email2: [yunus.arikan@iclei.org](mailto:yunus.arikan@iclei.org)  
Email3: [climate.center@iclei.org](mailto:climate.center@iclei.org)  
Web: [www.iclei.org/climate-roadmap](http://www.iclei.org/climate-roadmap)



## 2.8 Sustainable Urban Development Network –SUD Net, UN-HABITAT



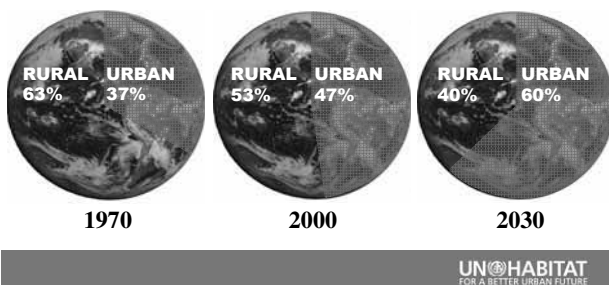
### Sustainable Urban Development Network (SUD-Net)

- Urbanization Trends
- SUD-Net Objectives
- Thematic scope
- How to engage with SUD-Net?

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FOR A BETTER URBAN FUTURE

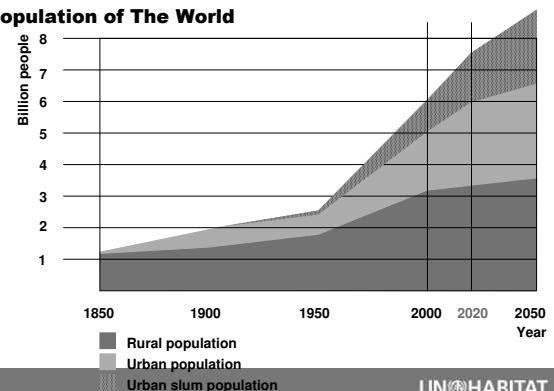
### Sustainable Urbanisation

#### GLOBAL POPULATION RURAL/URBAN



### Sustainable Urbanisation

#### Population of The World



### Urban Sustainability

- Urban expansion will be outside OECD
- Urban sustainability is about
  - equity / social resilience,
  - economic development,
  - environment (in that order)
- Urban systems hold the answer

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### The Sustainable Urban Development Network (SUD-Net)

- **The vision**  
To improve the capacities of national governments, the power of decision-makers in local authorities and other urban actors, to facilitate the development of liveable, productive and inclusive cities

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## SUD-Net key modalities

- Networking
- Policy dialogue and participation of urban stakeholders including the civil society
- Tool development & knowledge management
- Awareness creation, education, training and capacity building

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## Added value of SUD-Net

- **SUD-Net's inter-disciplinary and systemic approach, which will:**
  - Reinforce existing synergies
  - Deepen and expand cooperation
  - Mobilize resources for joint activities and promoting smart partnerships for implementation

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## SUD-Net structure and partners

- As a key network hub for sustainable urbanization, SUD-Net will work in partnership with key stakeholders:



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## Status of activities

### 5 thematic components:

- Governance, Urban planning, Environmental planning and management, Education, training and research, Urban Economy

### Governance structure

### Existing initiatives

- Cities and Climate Change initiative - 2008
- Habitat Partner University network – 2008
- 1st regional SUD-Net – Cape Town Feb 2009
- Components under development – Urban Planning

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## Habitat Partner University Network

- Bridging the gap between education, research and practice in sustainable urban development
- Challenges exist
- Examples of network functions:
  - Habitat Exchange - University of British Columbia
  - Reality Studios – University of Nairobi, Maseno University, Chalmers University of Technology
  - Joint research - Makerere University and the Norwegian University of Science and Technology

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## How engage with SUD-Net?

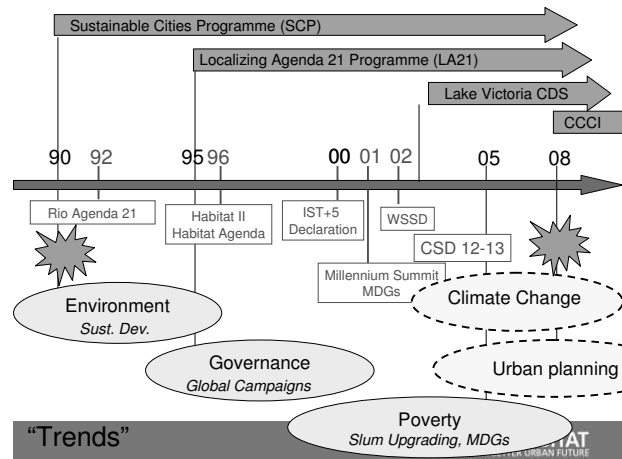
- **Members** are institutions, organizations, networks, professionals who have registered at the SUD-Net website [www.unhabitat.org/sudnet](http://www.unhabitat.org/sudnet)
- **Endorsers** are organizations or institutions who support the overall goal of SUD-Net also and can become SUD-Net Partners
- **Partners** are global partners who contribute substantial knowledge and resources (financial, technical) to SUD-Net

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## Cities and Climate Change Initiative

- Urban environment timeline
- Adaptation and mitigation options
- Key deliverables of CCCI
- Capacity gaps and how to bridge them
- Joining forces: national and international
- Opportunities for 2009

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< Sea Level Rise  
Landslides >  
v Tropical cyclones  
Flooding v



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## Adaptation & Mitigation

- Adaptation = To manage the un-avoidable
- Mitigation = To avoid the un-manageable

These climate change responses are interconnected; have potential to help global economic recovery; and are indispensable to achieve the MDGs and the overall development and poverty alleviation agenda

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Urban planning – Sustainable building



Urban transport modes – Renewable energy generation



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## Cities and Climate Change Initiative (CCCI)

### Key Concern:

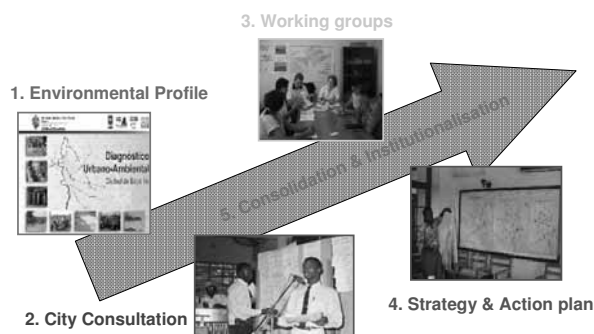
Urbanization affects climate change, resulting in impacts to cities, ecosystems and livelihoods. The severest burden is born by **urban poor in slums**. Local initiatives are often disconnected from national action plans.

### Objective of CCCI:

To enhance climate change **mitigation and adaptation capacity** of cities in developing & least developed countries.

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## UN-HABITAT's urban environmental planning and management heritage



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## Key Activities CCCI

(\*started; \*\* ongoing; \*\*\* advanced)

- ☐ Assessing conditions, identifying challenges and opportunities for cities \*\*\*
- ☐ Enhancing CC policy dialogues \*\*
- ☐ Developing tools for awareness, education & capacity building to support CC strategies \*\*
- ☐ Mobilizing and promoting CC networks \*\*
- ☐ Stimulating learning, knowledge sharing and exchange of good practices \*
- ☐ Supporting cities by designing innovative and pro-poor pilot initiatives \*

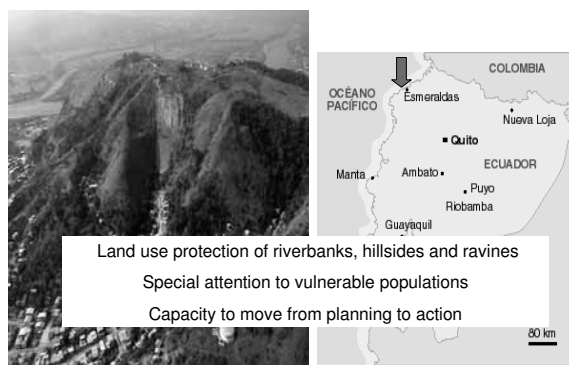
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## Geographical Scope CCCI

- **First group of pilot cities (2008)**
  - Sorsogon (Philippines)
  - Esmeraldas (Ecuador)
  - Maputo (Mozambique)
  - Kampala (Uganda)
- **Additional cities (planned 2009-2010)**
  - Sub-Saharan Anglophone Africa (5 – DevAcc)
  - Southeast Asia (20 – WB/CA)
  - South Pacific SIDS (5 – AusAid tbc)
  - Caribbean (5 – being explored)

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## Esmeraldas City (Ecuador)



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## Capacity Development Levels

- ☐ **In the pilot cities:** Decision makers, urban planners, neighbourhood organizations, and the general public
- ☐ **At the national level:** Integrating urban issues into national climate change debates; strengthening networks.
- ☐ **Local Government Training Institutes:** Curriculum Development, rolling out of CC courses
- ☐ **Habitat Partner Universities:** Curriculum Development, Research and training in support of pilot cities

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## Response capacity of urban poor: strengthening assets

- **Social capital:** supporting social networks that provide safety nets;
- **Natural capital:** protecting the resilience of natural systems to support livelihoods;
- **Physical capital:** making the poor's physical capital more climate resilient;
- **Human capital:** supporting the flow of climate information to the poor; and
- **Financial capital:** supporting the poor to reduce and spread their financial risks.

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## Roles of key actors: national / local

the case of Mozambique

- National: MICOA, MOPH, MAE and MCT
- Municipal: MMC, ANAMM
- Academia: UEM Fac.Arch & Ph.Pl.
- NGOs: national and international
- CBOs and community organizations
- UN-Agencies – DRR and emergency preparedness programmes
- World Bank: infrastructure development
- Bilateral organizations: working on urban issues



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## UN Synergy

UNDP  
UNEP  
UNFPA  
UN-HABITAT  
UNICEF  
UNITAR  
World Bank



- Geographic scope
- Target groups
- Joint assessment
- Joint tool design
- Joint capacity development
- Pre-Investment

[www.unhabitat.org/sudnet](http://www.unhabitat.org/sudnet)

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## Joining Forces

- UNEP: Joint assessment, Climate Neutral Network, Global Adaptation Network, NAPAs
- UNDP: 500 Regional Governments capacitated; 50 Territorial Climate Change Plans
- World Bank and Cities Alliance: Clearing house for research; CC in City Development Strategies; GHG inventories and vulnerability assessments;
- Local Government organizations: enhancing LG CC voice: UCLG, Metropolis, ICLEI, C40

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## Opportunities for 2009

- Local Authorities to be part of national delegations in UNFCCC process
- Report on city achievements as part of UNFCCC reports: sub-national policies and measures
- Work towards city-friendly CDM mechanism and facilitate city access to Adaptation Fund
- Join support programmes for cities: UN-HABITAT, UNEP, UNDP, UNITAR, World Bank, ICLEI, etc.
- Road Map to Copenhagen – unique opportunity to make history

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## 2.9 Concluding synthesis, Prof. Paul Simon, Royal Holloway, University of London

### UN-HABITAT Launch Conference: Cities and Climate Change Initiative

#### CONCLUDING SYNTHESIS: HUMAN SETTLEMENTS AND GLOBAL ENVIRONMENTAL CHANGE (GEC)

Oslo, 17 March, 2009

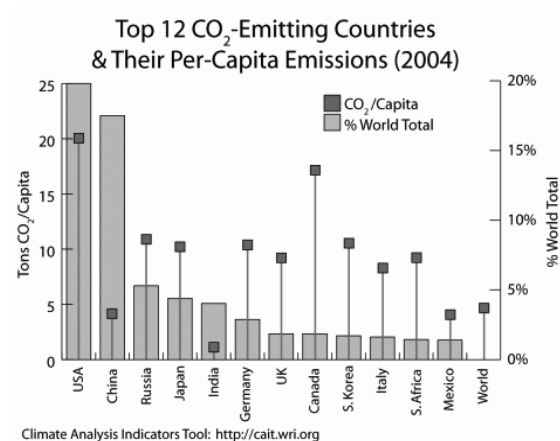
Prof David Simon  
RHUL and IHDP-UGEC

### Distinguishing GEC from 'natural' disasters

- Disasters usually short, one-off extreme events
- 'Natural' vs anthropogenic disasters
- GEC
  - Increased frequency and severity of extreme events
  - Slow-onset, (semi-)permanent changes

### Policy responses to GEC:

- Mitigation:
  - short- to medium term
  - reducing vulnerability and impact
- Adaptation:
  - longer term
  - changes to how & where we live



### Urban risk and vulnerabilities

- Understand vulnerabilities to extreme events and 'everyday' environmental stresses
- Uncover structural relationships between urban areas and GEC
- Raise awareness, policy response and implementational capacities of cities

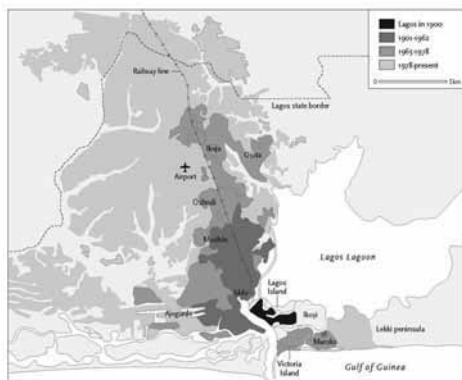
### GEC in Low - Mid Latitudes

#### Rising temperatures, reduced rainfall, coastal inundation

- agricultural problems
- deserts will expand
- forest losses increase
- rainfall falling more widely than increasing

## Rising sea levels - consequences

- many coastal zones low-lying
- lagoons and estuaries
  - much environmental damage
- major coastal cities and ports
  - widespread poverty
- many livelihoods depend on coastal areas
- salinisation of water table







## Conclusions

- GEC affects groups differentially
- Different groups have different vulnerabilities and recoverabilities
- GEC impacts 'off the scale' of popular conceptions & adaptive abilities
- Urban areas a key policy focus

## Governance, planning, resource allocation challenges profound

- Scale (intra-urban, urban, city region, national, transboundary)
- duration (short vs med/long term)
- institutional capacity
- political will
- donor policies, e.g. 'humanitarian' vs 'development'





