



Climate & Development
Knowledge Network



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THE LOCAL BUSINESS CASE FOR CLIMATE ACTION

A practical framework for climate
action in cities

August 2017

About this Working Paper

Accelerating the shift to climate compatible development is CDKN's business and improving the lives of the most climate-affected people is our mission. A multi-year, GBP 130 million programme funded by the British and Dutch governments and many others, CDKN works to support climate compatible development in Asia, Africa, Latin America and the Caribbean.

Our programme provides technical assistance to governments as well as research-into-action projects that fill gaps in our understanding of climate change impacts and solutions. A further, crucial part of CDKN's programme is knowledge management and policy engagement, an effort to which this Working Paper contributes. We synthesise information on the collective performance of governments, as well as non-state actors, in tackling climate change. We convene online discussions and in-person events to assess how climate actions are serving the most climate-affected people and how climate action could be more ambitious and effective. Find more CDKN thought leadership, including news of our latest events, on www.cdkn.org or follow us on twitter @cdknetwork.

What is climate compatible development?

Climate compatible development is defined as "a 'development first' approach that minimises the harm caused by climate impacts while maximising the many human development opportunities presented by a low-emissions, more resilient, future."ⁱ In other words, development, climate adaptation and climate mitigation should go hand in hand, and one should not undermine the others.

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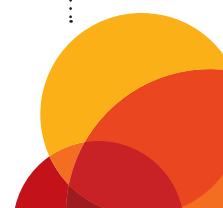
The paper was reviewed by Sam Bickersteth, Dan Dowling, Susannah Fitzherbert-Brockholes and Amy Kirbyshire of CDKN.

A practical framework for climate action in cities



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Introduction

Cities are responsible for up to 70% of global greenhouse gas (GHG) emissions, therefore climate change needs to be resolved in cities.

ⁱⁱ There is an important window of opportunity to help cities, especially in rapidly urbanising developing countries, to better manage their future growth and development. Cities need to incorporate climate change measures and adaptation into the way they develop, before they become locked into unsustainable patterns of growth. Through coordinated and targeted climate action, cities can strengthen their resilience to the impacts of climate change.

City governments need to address multiple challenges and pressing local issues, such as basic service delivery, housing, employment and education. Ensuring that responses to these issues are climate compatible can help to address the immediate needs of the population, whilst also directing finance for long-term climate adaptation and / or mitigation. Access to finance is not without its challenges and is not the only constraint to climate action in cities. In order to advance climate action, there are a number of fundamental barriers which impede commitment to climate action. These include, but are not limited to, political will, effective

governance, institutional capacity, access to knowledge and resources.

There are a growing number of research papers, books and articles that seek to measure the benefits of climate action in cities. These are contributing to closing the information gap for decision-makers on the case for climate action. However, more information is needed to prove the case for embedding climate action into urban planning and development decisions. More information is also needed on the different levers that could help more city-level climate projects to scale-up and be rolled out to other cities. Understanding these factors more clearly could help accelerate climate compatible investment and enable city decision makers to develop, integrate and prioritise climate solutions across their development and investment strategies.

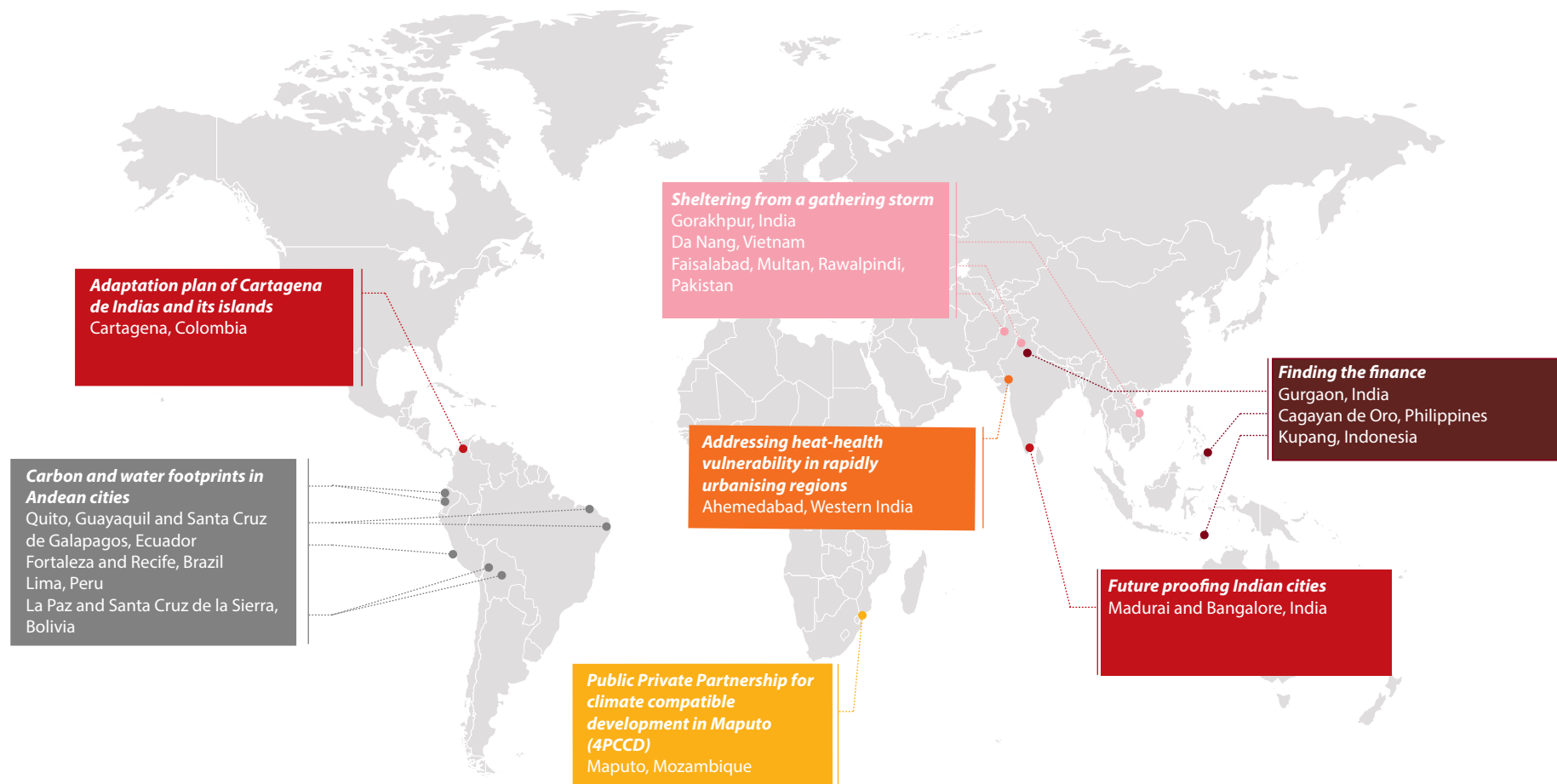
Drawing on CDKN's experience of working with a wide range of cities, this working paper identifies five levers of effective climate action in cities that climate change practitioners should be aware of, and where appropriate, build into their project approach to support more effective climate action in cities. These five levers are:



Our research analysed seven urban projects supported by CDKN, representing diverse experiences from the Asian, Latin American and African portfolios. These projects were selected because they provide useful insights into levers that can influence how climate compatible projects can be implemented successfully. Interviews were conducted with the CDKN project managers and delivery partners for the projects listed below. Case study information was collected through CDKN publications, project reports and interviews.

CDKN Project Title	Countries	Delivery Partners
Climate change: addressing heat-health vulnerability in rapidly urbanising regions of Western India	India	Public Health Foundation of India & Natural Resource Defense Council (NRDC)
Future proofing Indian cities	India	Atkins, Indian Institute for Human Settlements (IIHS) & University College London (UCL)
Sheltering from a gathering storm	India, Vietnam & Pakistan	Institute of Social and Environmental Transition (ISET)
Finding the finance: climate compatible development in Asian cities	Philippines, Indonesia & India	Germanwatch
Carbon and water footprints in Andean cities	Bolivia, Brazil, Ecuador & Peru	Servicios Ambientales S.A. of Bolivia (SASA) & Development Bank of Latin America (CAF)
Adaptation Plan of Cartagena de Indias and its islands	Colombia	Invest in Cartagena
A 'Public Private People Partnership' for climate compatible development in Maputo (4PCCD)	Mozambique	UCL, University of Reading, University of York, Universidade Eduardo Mondlane & National Fund for the Environment of Mozambique (FUNAB)

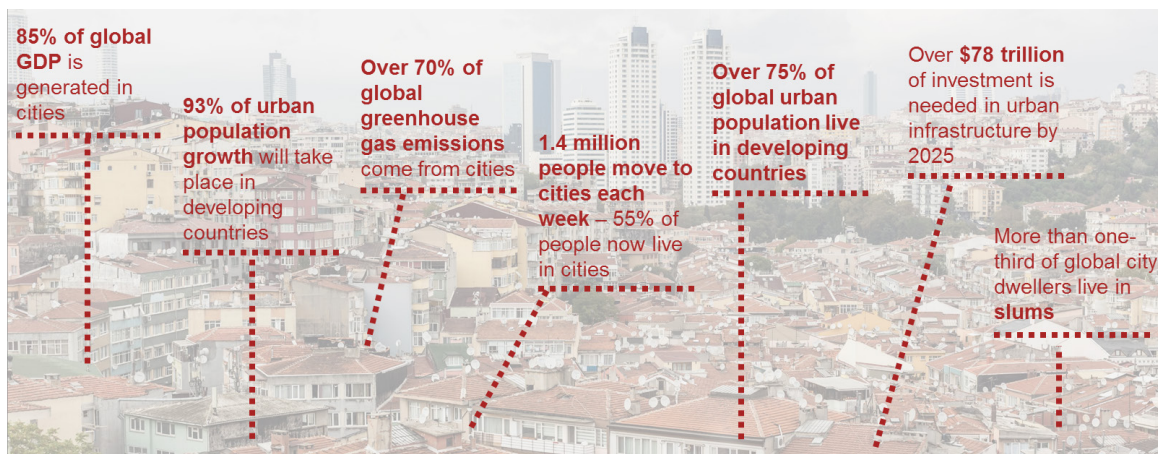
CDKN climate action in cities



Cities are a major source of problems for global climate change, but are also key to the solution

Cities are a major contributor to global climate change. The world's cities occupy just 3% of the Earth's land, but account for 60-80% of energy consumption and 75% of carbon emissions.ⁱⁱⁱ The total population of the African continent is expected to double by 2050 to more than 2 billion, with more than 80% of the growth coming from cities.^{iv} Over the next 15 years, developing country cities will require around US\$4 trillion per year for infrastructure investment in urban areas.^v

Low-lying or coastal cities are more vulnerable to climate change. Rising sea levels and the increasing frequency and magnitude of powerful storms will put most cities at risk of flooding, as over 90% of all urban areas are coastal.^{vi} Urban areas are more susceptible to heatwaves, due to the urban heat island effect, and these will become more extreme as the global climate warms.^{vii}



Cities are engines of economic growth and generate more than 80% of global GDP. Therefore failure to address climate resilience in cities has vast economic and social implications.^{viii} Rapidly urbanising cities are experiencing an increase in the concentration of people and economic activities within their city areas. Without action now, these rapidly urbanising cities risk locking themselves into high-risk and high-carbon pathways. Cities need to build their resilience in order to reduce human, material, economic and environmental losses, especially for those living in informal settlements where vulnerability to climate risks are greatest.

Cities are key to helping to resolve global climate change. Climate change is a complex issue and requires collaboration and coordination of action across society, as well as city-to-city. Effective collective action can only be achieved by coordinating the efforts of all relevant stakeholders, including the private sector, civil society, institutions and the public, to help respond to climate change. City governments are well placed to help build this momentum and coordinate climate change action. They are more agile than national governments and have better knowledge of local conditions and the needs of citizens, whom they are directly accountable to.

Are cities acting on climate change?

A transformation in the scale and urgency of climate action in cities is central to achieving The Paris Agreement. The overall case for climate action; for example regarding investment in renewable energy, energy efficient, low carbon transport and sustainable waste management, has become more robust and better understood. Accordingly cities have become increasingly publicly committed to taking action on climate change with the C40, Rockefeller 100 Resilient Cities, ICLEI, the Global Covenant of Mayors for Climate and Energy and others leading coordination and knowledge sharing between cities. The UN's Sustainable Development Goals are also revitalising the importance of cities on the global sustainable development agenda.

The cities of Ahmedabad and Cartagena, for example, have taken a leap forward in climate action with support from the CDKN programme. In 2013, the city of Ahmedabad in India, in partnership with delivery partners, developed and implemented the first Heat Action Plan in South Asia, with support from CDKN. Since the Heat Action Plan was introduced as an early extreme heat warning system and plan setting out the heatwave response, the number of deaths attributed to extreme heat waves have been

radically reduced in the city. The Heat Action Plan has received widespread recognition and has been scaled up, with national backing, across 17 cities and 11 states in India and national level institutions (including the Indian Meteorological Department).

In the world heritage city of Cartagena, CDKN has supported the development of 'Plan 4C: A Competitive and Climate Compatible Cartagena', which is the first climate development and adaptation plan to be introduced in a Colombian coastal city. The plan promotes Cartagena as a climate resilient city of the future, with a vision for 2040. Amongst other initiatives, the plan sets out the foundations for the construction of an adaptive neighbourhood, to protect the vulnerable communities who are located in areas most at risk of flooding.

However, implementation of climate action commitments is varied, with political, investment and practical barriers hampering progress. National government decision-making on areas such as energy, economic infrastructure, building codes and vehicle standards, brings policy coherence beyond the city-level. Centralised power can, however, also result in lack of local government autonomy and financial resource to take on climate change.

Another important reason for slow implementation is the challenge for city governments of prioritising climate change action over other pressing and politicised local issues, including front line service delivery, housing, employment and education. This challenge of prioritisation and related resource and financial constraints is particularly acute in developing nations and fundamentally limits the ability and capacity of city governments to make, and act, on their commitments. Despite this challenge, cities are acting on climate change, as demonstrated in the case studies throughout this working paper and those reported beyond CDKN.^{ix} Therefore, more action is needed to address the scale of the challenge and to ensure that climate action is embedded across city projects, not just those focused on climate.

Improving the enabling environment for climate action is key for project implementation, alongside and as part of city governance, urban investment and service delivery. In order to advance climate action, this working paper has identified five levers that city-level projects should respond to.

The five levers of effective climate action in cities

Through partnership and engagement with a diverse range of 30+ cities over the period 2010 – 2017, CDKN has helped to raise awareness and develop implementation plans for climate action in cities. Drawing on these experiences, the next sections of this working paper will highlight the learnings from seven urban projects supported by CDKN. This aims to raise awareness of the five levers that, in CDKN's experience, are needed to embed knowledge of, and potential solutions to barriers faced in the design and implementation of urban projects.

Power & leadership		Communication & engagement		Capacity building		Financing implementation		Demonstration effect	
Locating the key decision-makers		Creating momentum for action		Plugging the knowledge gaps		Finding the finance		Scaling-up and rolling-out	

The key output of this research is a practical framework for climate action in cities, which acts as a checklist for practitioners working with city governments of pre-project considerations to enable the development of climate compatible, implementable and investable propositions.

Power and leadership

Short election periods and resource constraints mean that local governments are politically minded and faced with difficult resource allocation decisions, particularly in developing countries. Climate action requires combined efforts across different levels of government, private sector, institutions and the wider public. In this complex network of stakeholders, locating the decision-makers with the power and authority to influence and guide people into taking action can be challenging. Local leadership both within and external to a project is therefore an incredibly important factor in steering a course through this complexity.

International networks and agendas

Actions on climate by city governments can be influenced by global and national commitments made on climate action (e.g. The Paris Agreement). High-profile international events, such as the Conference of the Parties (COP) meetings and international city forums (e.g. Global Covenant of Mayors for Climate & Energy) can provide cities with the opportunity to share and learn from the diverse experience of other cities around the world. This can help to mobilise and galvanise local leadership and propel 'city voices to the global stage'.^x The current mayors of Paris, Cape Town and Rio de Janeiro are particularly good examples of showing local leadership on climate action.

However, priorities and agendas can change; a new focus or direction can lead to the derailment of existing projects. The launch of the Smart Cities Mission in India in 2015, for example, has drawn city government attention away from local climate action (e.g. climate change adaptation actions) towards investment in smart technologies to enhance quality, performance and interactivity of city services. Results-based national financing associated with achieving the targets in the Smart Cities Mission has further incentivised city governments to shift their priorities from a climate-focus to a smart-cities/technology agenda.

National and local power

Where international and national agendas are in strong favour of climate action, city governments are subject to increased pressure to demonstrate progress on climate action in their city plans and policies. In addition, where national governments are reluctant to respond to the challenge, effective climate action will become more dependent on city mayors and their commitment to climate change and their ability to implement effective responses. The capability of city governments to deliver on climate change commitments can be influenced by a number of factors linked to national and local powers:

Mayoral powers: Where decision-making power and budgetary controls remain centralised, city mayors can have influence at the local level to make more practical decisions and help to attract finance to drive action.

Political affiliation and ambition: Political parties have different levels of interest in climate change. This can affect new commitments from incumbents, the adoption and implementation of plans of previous officials and the prioritisation of spending on climate action.

Electoral cycle: Climate change requires long-term committed action. Shorter mayoral terms and/or a limited number of consecutive terms can inhibit action on climate change. Often decision-makers are interested in implementing changes occurring within their term and any potential future terms, but not those beyond.

Cross-party committees and building stronger relationships within and beyond the city government, e.g. working with the private sector is important in helping to deliver on climate action, especially where cities are confronted with one or more of the above barriers.

Governance

National government often gives certain national government departments control over regulation and investment in programmes that are linked to climate change issues (e.g. energy, transport, buildings). This decreases city-level control over climate action projects and often results in split governance between city and higher level authorities, which can result in a lack of ownership required for the implementation of projects. For example, a C40 research report found that cities did not have strong powers in the energy supply sector, as most energy supply infrastructure was controlled by state, regional, or central governments.^{xi}

Governance structures can also influence the commitment that city-level leaders give to taking climate action. Where regulation does not require governments to consider the implications of climate events, reactions are few and far between as there is no incentive to investigate. For example, for the *Heat-health in India* project, the Heat Action Plan developed for Ahmedabad was not readily scaled up to state-level in the Gujarat province owing to barriers in state-level governance structures. Despite no city-level requirement to respond to heat wave events or consider the implications of extreme temperatures, Ahmedabad has been proactive in its design and implementation of the Heat Action Plan. This has inspired further city and state-level action in India, although it has not been a universal response across the country because there is no regulation or requirement to enforce it.

Taking action to integrate climate adaptation measures in regulation will reduce the costs of inaction in the long-term. CDKN supported an economic assessment of the impacts of climate change in Uganda, including a case study of Kampala.^{xii} The report found the cost of inaction to be 20 times greater than the cost of adaptation. Evidence from the study was used to inform Uganda's Intended Nationally Determined Contribution (INDC). A key recommendation from the report was to integrate climate projections in infrastructure planning and regulation in order to mainstream climate change adaptation.

Advocates

Mapping the power structures within a city government can help to identify the critical players needed as advocates for climate action. Creating strategic advocates for climate action within each key department can increase levels of engagement and facilitate the implementation of actions, should they have enough power to lead change. Projects can be driven forward by champions with the necessary technical skills and understanding, as per the example of The Nodal Officer (below). This can be complimented by advocate(s) in a strategic political position.

Heat-health in India

The Ahmedabad Municipal Corporation appointed a Nodal Officer from the city government health department to oversee the implementation of the Heat Action Plan. His position at the Health Department meant that he could make use of the city's existing public health communications infrastructure for the Heat Action Plan early warning system. The Nodal Officer was a key advocate for the project and critical to coordination across the different agencies involved.

The success of advocates in propelling forward local climate action heavily relies upon their ability to take meaningful ownership of projects and climate action more broadly, which, as discussed above, can often be lacking without specific environment/climate change representatives on the city government's leadership team.

Although advocates can act as the voice for climate action within a city government, it is essential to have buy-in from the City Mayor. This ignites interest levels and drivers for change within the city departments themselves, as mayoral support significantly contributes to creating the necessary traction for climate action.

The high costs of additional up-front capital investment, or the early opportunity costs from actions that prevent short-term economic benefits (e.g. land planning constraints) can deter investment in climate action. It is therefore critically important to establish advocates that can act as the voice for change, which can be seen beyond the end of the current political party's leadership of the city government.

Adaptation Plan of Cartagena de Indias and its islands

Cartagena, Colombia

CDKN has supported the city of Cartagena to adapt to climate change through the development of Plan 4C: a Competitive and Climate Compatible Cartagena. It has provided Cartagena with a road map to 2040, to promote and implement low-carbon development and adaptation actions. The plan's main strategies include: to prepare neighbourhoods and promote adaptation measures, to protect Cartagena as a heritage site, to restore ecological balance (beaches, wetlands and swamps) and to promote climate compatible tourism, industry and ports. Additional projects promoted the renewable energy investment portfolio led by Invest in Cartagena and facilitated designs for the adaptation of the climate vulnerable Boston Neighbourhood. Plan 4C has progressed from design to implementation, now under the leadership of the Secretary of Planning.

Power & leadership: The national government has supported and engaged with the city government's development and delivery of Plan 4C from its inception. Senior individuals' backing of the plan has bolstered this support, for example the Climate Change Director (Ministry of Environment and Sustainable Development) in Colombia worked on Plan 4C before assuming her current position. Since the project began in 2011, there have been a number of changes in political leadership. At times the changing political conditions and disruption threatened the continuity and future of the adaptation plan, Plan 4C. Despite this political change, each new City Mayor and Secretary of Planning has committed to the plan. It has taken dedicated time and resources from the project team to engage new appointments; but they have all become supportive proponents of the plan. The Mayor of Cartagena continues to play a crucial role in ensuring investment and the future delivery of Plan 4C. CDKN's Country Engagement Leader for Colombia has played a critical role in convening these city officials throughout Plan 4C's development. She has played a key role in informing new city leaders and has provided continuity in times of political change, in order to maintain strong political leadership and commitment to the plan.

Communication & engagement: Plan 4C includes an education and communication section that prioritises awareness raising about the effects of climate change amongst citizens and young people. CDKN supported a climate change painting contest between 12 schools in Cartagena. The students were asked to draw their vision of Cartagena in 2040 and also listened to a talk on Plan 4C from the Director of Planning for Cartagena.

Capacity building: The CDKN team described engaging with the city government as an 'awareness building process'. When the project started in 2011 the city government was not aware of the changing climate risk to the city – from sea level rise, extreme weather, flooding and disease. Once the authorities understood why climate change was an issue for Cartagena they wanted to act and get involved with the project. Over time the project team's engagement with the government – 'telling the story' of climate change and Plan 4C – has informed long term city planning. Climate change is now officially included in the city's development plan. In 2017, Plan 4C became an independently run initiative by the Secretary of Planning and Invest in Cartagena.

Financing implementation: The private sector have been engaged from the start of Plan 4C, as their involvement was recognised as crucial to the plan's success. Invest in Cartagena – a public-private alliance – was chosen as the organisation to deliver CDKN's involvement in Plan 4C, to try to attract both public and private finance. Economic development is integrated into Plan 4C, notably in the industrial & ports and tourism sectors. Representatives engaged with the Plan through participation in the governing 'Inter-institutional Commission on Climate Change of Cartagena'. Plan 4C has also championed private sector involvement by holding designated forums and awarding private sector 'heroes' for their efforts towards climate compatible development. Private sector initiatives that have embraced climate variables include the sustainable development of Serena del Mar that seeks to promote low carbon and resilient infrastructure through a new approach to urban development in coastal areas. In addition, the Port of Cartagena's strategy aims to reduce greenhouse gas emissions and adapt its operations to the impacts of climate change. However, a reported lesson learned from Plan 4C in Cartagena, highlights that the private sector still needs more policy incentives to engage with climate compatible development in cities.

More information on CDKN project web page

Power & leadership



Communication & engagement



Capacity building



Financing implementation



Demonstration effect



Future proofing Indian cities

Madurai & Bangalore, India

The project tested the Future Proofing Cities approach – developed by in partnership by Atkins, UCL and DFID, in the two Indian cities of Madurai and Bangalore. The project aimed to help both cities develop a city-level action plan to help them respond to climate hazards, and promote a transition to a low carbon economy. A city diagnostic was produced for each city to analyse the climate and energy risks, and the governance capacity of city institutions and stakeholders. An action plan for each city was developed based on the priorities in the diagnostic.

Power & leadership: In Madurai, the project was a success in so much as the City Corporation developed and adopted a future proofing action plan, demonstrating a climate compatible development approach to urban development. In addition to this, implementation progress was reported to state-level agencies, on a regular basis. In contrast, according to the project team, the future implementation of the Madurai action plan was still very dependent on the political will of the government (city and state-level) to broker finance.



For both cities, the city government's one year budget cycle was recognised as a potential barrier to the project's impact. The action plan was used to communicate the importance of longer term planning and sustainable solutions, which could also minimise the cumulative transaction cost of small projects.

The Development of Human Action (DHAN) Foundation co-delivered the project in Madurai and was critical to its success. It demonstrated the importance of experienced, intermediary organisations assisting government and communities with climate action. It facilitated stakeholder engagement and access to local urban required to formulate and deliver the action plan. The DHAN Foundation and the Madurai Municipal Corporation continued to collaborate, exploring options for further project implementation, with the DHAN foundation holding a pivotal role in the realisation of the action plan.

The Smart Cities programme provided an opportunity to implement the results of the project in Madurai. The future proofing cities approach was considered directly relevant to the Smart Cities approach to urban development. A project team member commented that this could be viewed as a compromise or trade off away from a climate change focus towards a digital technology focus; although the underlying environmental challenges would likely be addressed indirectly by the Smart Cities agenda.

Communication & engagement: In Madurai, the DHAN Foundation's involvement in the project mobilised and engaged non-governmental stakeholders, such as a local university and local civil society organisations (CSOs), for dialogue with the city government to encourage climate action. CDKN took on an intermediary role between the CSOs and the government. Partnerships developed throughout the project and the range of stakeholders involved contributed to the final action plan.

Capacity building: The project diagnostic was used to demonstrate the link between climate change and city services i.e. the availability of water to the authorities. The project diagnostic was used to reframe climate change in a practical way, which led to the city government and stakeholders choosing 'blue green infrastructure' as the priority issue for Madurai's action plan.

In contrast, project delivery in Bangalore was hindered by a high turnover of administrative and technical staff, which led to a loss of momentum at times and limited the capacity to engage with senior level city authorities.

More information on CDKN project web page

Power & leadership



Communication & engagement



Capacity building



Financing implementation



Demonstration effect



Communication and engagement

Case for change

For many city governments in developing countries, the link between climate change and changes in their city environments may not be fully understood. Across the cities CDKN has engaged with, practitioners have varied the delivery style of the case for climate action to meet the needs of the city governments they are speaking with and support them in understanding the impacts of climate change on their cities and potential responses (both adaptation and mitigation).

Across all cities, however, there has been a need to convey tailored, city specific cumulative impacts (e.g. effects on the economy, human capital, infrastructure and operations) to generate interest and create a strong business case for action. For example, on the *Heat-health in India project*, the city authorities were motivated to take action by the project partners presenting evidence showing the correlation between heat waves and mortality, and assuring them that addressing this risk was achievable.

Future proofing Indian cities

In Madurai, the DHAN Foundation's involvement in the project mobilised and engaged non-governmental stakeholders, such as a local university and CSOs, for dialogue with the city government to encourage climate action. CDKN took on an intermediary role between the CSOs and the government. Partnerships developed throughout the project and the range of stakeholders involved contributed to the final action plan.

Collaboration

Government departments are often fragmented and operate in silos, making it difficult to coordinate climate action. Climate change is often considered part of the remit of relatively weak environmental departments at the national level. It usually does not feature on the agenda of more powerful and better resourced departments e.g. finance, economic development. Collaborating across government departments will help to mainstream climate change action across all city government sectors. Emphasising both the risks of non-action and the co-benefits of acting together and empowering departments to take responsibility for actions will help to motivate and enable collaboration and co-ordination of activities.

Beyond the city government, multiple additional stakeholders play key roles in the complex city environment. Working with individuals and departments with linkages beyond the city already can promote complimentary working and increase city and nationwide buy-in as well as generate new ideas. Local civil society organisations and universities are well placed to also act as partners.

Publicity

The media has an important role to play in publicising the need to take action on climate change and champion project results. During times of changing political and economic preferences, the media can reinforce messages from and to the public who have the ability to put significant pressure on the authorities to take action. This often happens during election periods or in response to significant climate events, such as the 2010 heat wave in Ahmedabad, India.

timesofindia.indiatimes.com

TNN, May 22, 2012, 02:44 AM IST

It's hot, going to get hotter in Ahmedabad

AHMEDABAD: It was hot on Monday as the city recorded 41.7 degrees Celsius. Idar in north Gujarat and Surendranagar in Saurashtra were the hottest places recording 42 degrees. The India Meteorological Department (IMD) site predicted that the mercury is going to rise in the next two days.

Carbon and water footprints in Andean cities

La Paz & Santa Cruz de la Sierra, Bolivia; Quito, Guayaquil & Santa Cruz de Galapagos, Ecuador; Lima, Peru; Fortaleza & Recife, Brazil

The carbon and water footprints project (Phase 1) began in three Andean cities, including La Paz, Quito and Lima. Under Phase 2, this was expanded to cover a further five cities. It was designed to promote city and city-level mitigation and adaption to climate change. Following carbon and water footprint calculations, action plans were produced to guarantee the sustainability of the actions and enhance the capability of city governments to implement climate change strategies effectively. In the second phase of the project the action plans from the first phase were scaled up. For example, in Quito the project resulted in 'Sustainable Quito' accreditation that recognised the efforts of the private sector to reduce emissions and conserve water. The 'greenhouse project' in La Paz encouraged city agriculture to help mitigate climate change. CAF, the Development Bank of Latin America, co-funded the project with CDKN and have continued to fund Phase 3 of the project that covers a further four cities.

Power & engagement: A lack of collaboration across different government ministries limited the project outcomes. The project team discovered that the local government environment departments they worked with, tended to be less influential or powerful than other departments. As a result one recommendation was to engage the planning and finance departments, in addition to the environment department, from the beginning. This could have helped to increase access to finance and the likelihood that the pilot projects would have been implemented across the municipality.

Capacity building: One of the project's objectives was to strengthen the capacity of the municipal governments to assess and reduce the cities' carbon and water footprints. The scientific data required for the footprint calculations was critical to the project. In some municipalities data collection was a significant barrier. There was also a significant knowledge gap to overcome. The project aimed to introduce better data collection practices and also train government staff in using the new web-based, user-friendly tools to continue making the calculations. Capacity building methods included workshops, manuals for footprint assessment and video tutorials. The project also produced a toolkit presenting the methodologies used for carbon and water footprinting. The footprint data has already been updated since the project finished in Quito, and along with reduction targets has been included in the Metropolitan Development Plan 2015-2025. The project also developed the Mayors' knowledge and understanding of climate change. This was reflected in public speeches made by the mayors of La Paz and Lima, who began to reference climate change and the carbon and water footprints, particularly from the mayors of La Paz and Lima. The city of Quito has also started to award businesses who are managing their footprints.

Financing implementation: The project has generated city action plans with a range of projects for carbon and water consumption reduction. For example, CAF has financed the implementation of a two year water conservation project in La Paz, based on the Roadmap the municipal government produced. CAF are interested in reaching out to the private sector for further investment in individual projects. A review of the project recognised that the extent to which the footprint assessment tools and resulting municipal plans can be implemented to affect change is contingent on the cities securing funding.

Demonstration effect: The project objectives included the aspiration for cross city collaboration and alliance building to enable a greater regional impact and to support project implementation. The project has connected staff from the different municipal governments and promoted knowledge sharing about carbon and water footprints. Regional and international events have been held to promote networking and ideas sharing. A cities exchange workshop was held in Quito during Habitat III with representatives from each of the cities, to share lessons learned and consider the challenges ahead. Linking the project results to the Compact of Mayors platform allowed the cities to join an alliance of global cities' climate action and showcase the efforts of the Latin American region. It is difficult to ascertain tangible influences between the cities involved at this stage, but the actions above have encouraged coordination and collaboration.

More information on CDKN project web page

Power & leadership



Communication & engagement



Capacity building



Financing implementation



Demonstration effect



Capacity building

City governments have limited resources, awareness and analytical capabilities to deliver action on local climate change. Building capacity at the city-level is a valuable way to build local knowledge and commitment to climate action. Drawing on CDKN's experience, this can be achieved through improved knowledge, competence and resources.

Awareness raising and legacy

Capacity building is required to build climate action into the agenda of the city government so that awareness underlies future decision making. Often stakeholders have limited knowledge about climate change and require support in developing their understanding of the drivers of climate events, the potential impacts and the possible adaptation and/or mitigation measures. In the case of Cartagena, the project team embarked on an 'awareness building process' with city officials who initially had a limited understanding of climate change risk, but have now incorporated climate change into the city's development plan. This approach to awareness raising required an initial assessment of capacity, to ensure that interventions were appropriate and tailored according to the city context. Climate action can therefore be reinforced and longer term awareness can be established, by embedding the city government in the design of solutions as well as their implementation.

'Public Private People Partnership' for climate compatible development in Maputo

"A factor in urban resilience is citizens' capacity to influence policies and processes at the district, national and international levels. When citizens, city institutions and businesses learn about their area's environmental resources together, and pool resources to tackle environmental problems, they can increase their quality of life and also their resilience to climate change."

4PCCD Project Leader

However, city governments can be deterred by the high costs of additional up-front capital investment, or the early opportunity costs from actions that prevent short-term economic benefits (e.g. land use planning constraints). It is therefore even more important to raise awareness and understand the importance of climate action to motivate change today, despite results only being seen beyond the end of the current political party's leadership of the city government.

The delivery of city services and maintenance of infrastructure is typically prioritised by city governments. It is important that city governments entrench climate action within these programmes. Linking the key priorities of city government decision-makers with climate change action can help to raise awareness and deliver change. In the *Future proofing Indian cities project*, the projects in Madurai and Bangalore both focused on the cities' water and sanitation sector as critical infrastructure for the city. The nature of the projects involved and invoked the support of key stakeholders, such as the Bangalore Water and Sanitation Board, the Madurai Corporation and local CSOs in Madurai.

Building long-term awareness of climate action is not only done through the city officials but more deeply through leveraging the community to absorb and even deliver on climate action plans. Community involvement and/or ownership of climate compatible projects is an effective way to achieve this.

Resourcing

Even if cities have the desire to act, they may not have sufficient staffing and/or budget. Planning and delivering climate action is often complex and time-consuming, as it requires commitment and coordination with multiple multi-level stakeholders, including the different levels of government, private sector, institutions and the public to help respond to climate change.

Within the departmental structure of most city governments, budgetary focus is often on achieving short-term goals clearly defined by the focus area of the department. Gaining traction on climate change action through cross-department collaboration requires a clear understanding of different priorities and commitments and finding ways to align these around common action.

Within city government departments there is often a lack of available staff and capacity to prepare, deliver and oversee climate action. In addition, high staff turnover in city government departments can result in loss of momentum and loss of key advocates for climate action. This repeated need to build relationships from scratch can block access to senior level decision-makers and delay action. This was a clear barrier to project implementation for the *Future proofing Indian cities project*. However, in Ahmedabad the *Heath-health in India project* has been unaffected by multiple changes in municipal commissioners. This has been helped by the municipal government building it into their mandate and the strength of the partnership built up between the organisations working on the heat-health initiative. In another city context, Plan 4C has received repeated endorsement from the (changing) Mayor of Cartagena; which has required considerable communication and engagement to take place between the Mayor and the project team.

A toolkit and report prepared by the Future Cities Africa initiative has re-iterated the message that city-level governments are severely limited by a lack of staff and resources to deliver inclusive and resilient urban development.^{xiii} The toolkit aims to help understand urban service delivery gaps and look at ways to address them, based on research into local governments across Africa.

Analytical capability

Attribution of natural events to climate change is challenging. City governments need to have some analytical capability to be able to monitor the impact of implemented projects and their contribution to climate action. Effective climate action requires city governments to have skills, such as climate risk assessment and low carbon development planning. These skills strongly relate to city planning and operations, economic and wider benefits appraisal, investment case development, complex stakeholder management, project finance and development expertise. In addition, these skills can help city governments to not only monitor progress but also remain accountable to and transparent on climate action.

An alternative to this approach, is to draw on wider institutional support e.g. universities, research organisations to help plug the technical skills deficit. For example, for the *Heath-health in India project* collaboration between various organisations was critical in providing technical support to the government in the production of the Heat Action Plan, including the India Meteorological Department, the Indian Institute of Public Health, the Natural Resources Defense Council and various academic groups.

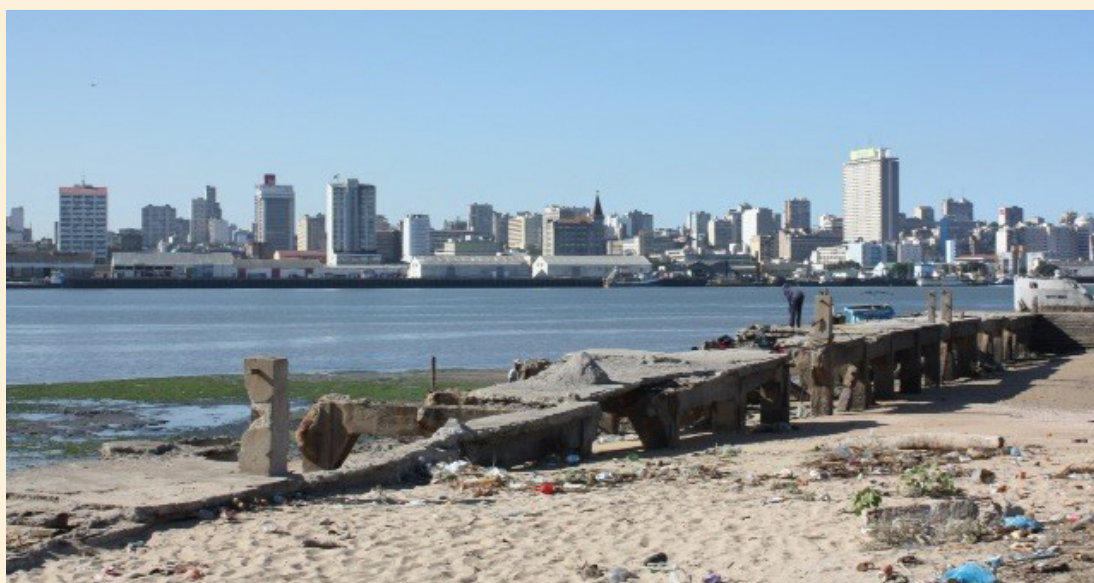
A 'Public Private People Partnership' for climate compatible development in Maputo (4PCCD)

Maputo, Mozambique

The project was focused on community mobilisation and capacity building to affect climate action, by bringing together community representatives, public and private sector stakeholders in Maputo. It worked with the Government of Mozambique and National Fund for the Environment of Mozambique (FUNAB) in Maputo. The process empowered citizens, through an elected Climate Planning Committee, to develop a collective vision and present it to government institutions and private companies. Adaptation activities, such as improved drainage and waste management, were ultimately implemented in the Nhamankulu city district. The 4PCCD project put the urban poor at the centre of climate compatible development and demonstrated the value of local partnerships.

Capacity Building: An intended project outcome was to increase the capacity of citizens to present their concerns and engage with climate action. The project established Climate Planning Committees with local community members, elected by local residents, who were tasked with writing the Local Action Plan for 'climate compatible development. In one instance the representatives from different groups, such as the elderly, youth, housewives and traders, prioritised an improved waste management system. FUNAB committed to installing the waste management system through working with the community.

The project convened dialogue and informal partnerships between citizens, NGOs, FUNAB and the local authorities. Following the waste management programme with FUNAB, the project encouraged community mobilisation around other environmental initiatives such as drainage and clean cookstoves. The Public Private People Partnership for Climate Compatible Development Initiative went on to receive a United Nations Framework Convention on Climate Change (UNFCCC) Lighthouse Award (2013).



More information on CDKN project web page

Power & leadership



Communication & engagement



Capacity building



Financing implementation



Demonstration effect



Financing implementation

'Win-win' reforms can help to tackle climate risk whilst also strengthening growth, reducing poverty and improving well-being. These are not, however, easy wins. City social, economic and environmental reforms are costly and require trade-offs. City governments also need to deal with systemic issues, such as political economy, inequality and governance. Designing an investable proposition within this complex environment is key for moving climate compatible projects from research and development into implementation.

Local control over finance is not always allowed by national government, although local revenue development offers opportunities for a sustainable source of wealth creation. Creditworthiness challenges, borrowing ability and capacity and international and multilateral development bank (MDB) climate finance solutions are often targeted at specific projects, or national government makes sub-national and municipal lending difficult.

With limited finance and resources, city governments need to find new ways to leverage existing sources of finance, develop innovative methods of raising finance and engage in closer collaboration with the private sector. The CDKN projects discussed in this paper have gone some way to achieving this, although there is much ongoing discussion on financing beyond CDKN that is also relevant to this.^{xiv}

Sourcing finance

City governments have limited finance at their disposal to act on climate action. Finance for climate action is sourced from the national budget, then local, followed by the private sector and climate finance initiatives, such as the Green Climate Fund (GCF). Climate change is often perceived as a strategic rather than local issue. Therefore, finance rarely gets redistributed from the national to the city government level for these purposes. City budgets can be bolstered by securing public financing from the national level, however, creating support across different levels of government can be difficult. Access to higher level financing can be the driver for city-level action, however, cities must have the capital to invest in project design before accessing much of this second level funding.

National and municipal governments are not the only sources of finance. At the global level, climate finance is available through international organisations, such as the GCF. However, the ability

to access these funds can be limited by the need to meet rigorous criteria. Unlocking climate finance, impact investment and donor funding for city-level action can be challenging. Developing projects which are in line with the investment and impact mandates of such organisations can help to open financing opportunities. The initiatives developed from the *Sheltering from a gathering storm project*, focused on the construction of typhoon resilient housing, which attracted investment from The Rockefeller Foundation and the Asian Development Bank.

Donor financing, however, can only go so far. To establish a sustainable market for climate compatible infrastructure, it is essential to gain private sector buy-in. This must be done from the project conception, with active engagement throughout, to ensure that the project results in an investable proposition for those able and willing to invest.

Carbon and water footprints in Andean cities

The project has reinforced the links between local government, potential donors, companies and international city networks or initiatives. This has secured funding for project implementation in the case of a two year water conservation project in La Paz. A review of the footprinting project recognised that the extent to which the footprint assessment tools and resulting municipal plans can be implemented to affect change is contingent on the cities securing funding.

The importance of donor financing for those projects which work outside the realm of the private sector remains, but the private sector must be engaged to build sustainable market-based solutions. Potential sources of finance need to be identified before project commencement, across private, public and donor sources, and investment needs and desires of target investors need to be well understood and engaged with to result in an investable proposition. For example, on the *Finding the finance project*, private sector representatives were targeted and invited to multi-stakeholder workshops. As a result, a potential partnership was established with an Indonesian bank, in relation to Corporate Social Responsibility (CSR) spending.

Directing finance

In allocating their limited resources, city governments should ensure that finance is appropriately directed towards climate projects. These projects should be designed to support co-benefits, e.g. environmental, social and economic returns. This could, for example, include the prioritisation of a public transport system which facilitates dense and low-carbon development. This type of project would effectively direct national government funds which, although not initially ring-fenced for climate initiatives, could be used to deliver win-wins. Procurement terms of reference should aim to meet climate as well as other needs.

Finance can also be raised through climate compatible local revenue streams, such as congestion charging and/or urban sprawl taxes (e.g. collecting higher land property tax on the city fringes). This serves as both a penalty for lack of and incentive for climate compatible city development. Such planning and regulation strategies can also help to drive private sector investment towards projects that are sustainable, and generate market incentives for additional regulatory measures, such as green buildings ordinances. For example, this has been done in Hyderabad, India where the metro construction was financed by a private company, who would receive 45% of future revenues through land leasing on the now better connected urban fringe.^{xv}

Building momentum

City governments, and those that support them, have a key role to play in working through their private sector, national and global networks to raise the profile of climate action at the city-level and to gain access to further finance.

Working across and with a variety of actors, a consensus needs to be reached on a common goal in order to help unlock financing. This collaboration can be effective at drawing additional funding for climate projects. This was the case in Kupang, where engaging with the private sector and local government led to further discussions on potentially establishing a trust fund to co-finance local climate action projects. The budgetary decision-makers need to be climate action advocates in order to ensure that where budgets are tight, funding is ring-fenced for implementation of climate action.

Building a strong enabling environment can also help to build confidence and reduce investment risk. In particular, certainty on the following is often needed:

- **Public policy:** Longevity, certainty and transparent decision-making is needed for long-term infrastructure programmes. Political stability helps to encourage investment by fostering a culture of confidence and by limiting short-term disruption.
- **Risks:** Risks are both real and perceived. Investors and asset owners may have perceptions reinforced by a poor understanding of how to manage political, economic, regulatory and other risks. However, risks associated with financial investments in young markets and innovative products are greater than those in traditional investments. Advanced public-private financing structures, such as special purpose vehicles and loan guarantee facilities, can reduce risk levels and enhance investor confidence.
- **Regulatory reform:** Regulations prevent private sector engagement in public infrastructure projects through legislation, such as land purchasing requirements and licensing. Policies promoting ease of doing business and offering political guarantees can unlock finance.
- **Investment project pipeline:** The private sector has finance to invest but the correct projects and conditions are not always present. Engagement with the private sector needs to take place at project conception in order to fully acknowledge and incorporate investment requirements and to help build a pipeline of investment-ready projects.
- **Market:** Low carbon and/or climate resilient infrastructure are still relatively thin markets. Costs of operation can be high, as there are few economies of scale, and there can be limited human capital, as well as the need for innovation which may cause additional R&D costs. Foreign exchange uncertainties can create huge risks, particularly for the large scale of investment that is often required for city-level infrastructure and urban development projects.

Sheltering from a gathering storm

Gorakhpur, India; Da Nang, Vietnam; Faisalabad, Multan & Rawalpindi, Pakistan

This research programme focused on peri-urban areas to identify practical solutions for resilient shelters for: typhoons (Vietnam), flooding (India) and extreme heat (Pakistan). The project recognised that reductions in losses can be achieved through better shelter design. CDKN supported competitions to develop designs for low-cost, technically effective, culturally acceptable and climate adapted shelters. The winning designs were then subjected to a detailed cost-benefit analysis. The results were different in each city. In Da Nang, the project results informed a Rockefeller Foundation programme which provided loans to low-income households to build the climate resilient shelters (which went on to withstand typhoons). Da Nang subsequently adopted a climate resilient policy with requirements for all new buildings. The project facilitated initiatives which went on to win two UN Momentum for Change awards for: community based micro-climate resilience in Gorakhpur; and building storm-resilient houses in Da Nang.

Power & leadership: Project team members attended COP19 in Warsaw (2013) and set up and ran a display booth showcasing the research. This high-profile international event, provided the project team with the opportunity to share and learn from the diverse experience of other cities. For example, the project team received particular interest in how to run design competitions in different locations and how to create culturally acceptable, local designs that can be affordable to lower-income households.

Capacity building: In India and Vietnam, Resilient Housing Design Competitions were used to find innovative designs and adaptation options for local housing. The competitions were open to local architecture schools and professional firms. There was a community choice award so households, alongside local professionals, were able to participate in judging the winning designs. The competitions were considered an effective way to raise awareness and engage some of the project beneficiaries in the process. The winning designs were then used for the subsequent cost-benefit analysis stage, to estimate the construction and maintenance costs of resilient housing.

Storm resilient housing initiatives have continued in Da Nang. A recent project update (May 2017) highlighted that ISET-International and the city of Da Nang have organised technical training sessions on typhoon resilient housing design and construction. This is part of a feasibility study on scaling up storm resilient housing across Da Nang, funded by the Asian Development Bank.

Financing Implementation: In Da Nang, this project linked to a Rockefeller Foundation funded project led by the Da Nang's Women's Union and ISET-International (who also led the CDKN funded research). As a result, loans were provided to low-income families to build 245 homes using the climate resilient designs from the competition and cost-benefit analysis. All 245 homes withstood a subsequent typhoon in 2013. In the same year, Da Nang adopted a new policy requiring all new buildings to be built using climate resilient principles. The city of Da Nang has since organised technical training sessions on typhoon resilient housing design and construction as part of a wider feasibility study on scaling storm resilient housing across the city.

In Gorakhpur, however, the project did not gain as much traction or access to different funding options to build houses after the design competition. Despite this, ISET-International and the Gorakhpur Environmental Action Group partnered with the National Institute of Disaster Management to integrate disaster risk and climate adaptation links into policy. A follow-on project, as part of the State Government's skill upgrading programme, produced a training manual for low-cost, flood resilient housing designs for masons.

[More information on CDKN project web page](#)



Finding the finance: climate compatible development in Asian cities

Gurgaon, India; Kupang, Indonesia; Cagayan de Oro, Philippines

The project was delivered in partnership with CSOs, to think about climate finance options for adaptation measures in their communities and cities. For example accessing funding from the GCF. Workshops were held with community, government and private sector representatives to identify potential sources of finance for priority projects. The priority projects focused on adaptation to flooding (Cagayan de Oro), sea level rise (Kupang) and alternative transport options, such as electric rickshaws (Gurgaon). The project resulted in briefing papers on climate finance options for cities and a handbook for policy makers. The researchers made recommendations for increased institutional effectiveness to attract sustainable urban development funding.

Power & leadership: The research was conducted through stakeholder workshops in each of the cities. Gaining the Mayor's endorsement was recognised as invaluable to the success of the project. The final workshop in Cagayan de Oro was held as a forum for the four candidates running for City Mayor at the time, through a connection with the local university. This was used as a unique opportunity to question the candidates on their priorities in relation to climate change, with a range of stakeholders present in the audience. The success of this event also resulted in the research consortium being invited for a follow-up discussion on climate finance instruments.

Although the workshops were well attended, Germanwatch (the organisation who delivered the project) recognised that there was a lack of senior level government representatives and engagement with the project. In Puri, it was difficult to get government representatives to attend, in Gurgaon the political representatives were from the opposition party and in Kupang a government representative presented at the workshop but left before the subsequent participatory session. Germanwatch recommended that increased senior level donor engagement in the project could have helped to overcome this barrier and to generate more interest from individuals with greater decision-making powers.

Capacity building: During the workshops, the researchers discovered that stakeholders' knowledge about climate change was more limited than expected. The workshops were therefore redesigned from the intended informed discussions about the urban financing landscape to broader capacity building workshops.

A further finding and recommendation from the workshops was that producing research outputs from stakeholder consultations did not directly lead to local governments acquiring funding for climate compatible projects. The project recommended supporting local government through more practical activities, for example, proposal writing workshops, mentoring and financial support for permanent staff members to help deliver those capacities and develop knowledge of climate change.

Financing implementation: The workshop in Kupang connected private investment with climate compatible outcomes. Stakeholders at the workshop including CSO groups, private sector representatives and Kupang local government officials, discussed a company allocating some of its mandated Corporate Social Responsibility (CSR) funds to the project. With further buy-in from senior leadership at the company, they collaborated to produce a trust fund vision for the project. This also opened up a line of communication between the company and local government. Unfortunately, finalising the trust fund is still in progress owing to recent staff turnover at the company. At the wrap-up workshop in Kupang, participants agreed that continued effort must be undertaken to establish local trust funds. The local private sector often struggles to programme all of its allocated CSR funding owing to a lack of experience about climate change and sustainable development.

More information on CDKN project web page



Demonstration effect

City plans and implementation strategies can serve as a guide to promote greener growth and climate compatible investment. Where they have moved to implementation, there is the potential to create a demonstration effect by engaging beyond the city and national boundaries to share lessons learnt and best practice. Innovative demonstration projects can be an effective way to engage with additional stakeholders and build momentum around climate policy development at, as well as beyond, the city-level.

Showing it works

Demonstration projects highlight best practice and emerging opportunities for climate compatible investment, as well as showing decision-makers the adaptation and / or mitigation impacts that climate action can result in. Evidencing the impact on urban populations can be a powerful instigator of change, facilitating widespread replication, scaling-up and rolling out of successful projects.

C40 and ICLEI and other networks are important for sharing knowledge and ideas between cities that can help cities to replicate, improve and accelerate climate action. From 2013-2017, CDKN and ICLEI partnered on a subnational learning programme, focused on convening climate actors and projects for climate compatible development in cities.^{xvi} At the Resilient Cities conference in Bonn (2016), the CDKN programme showcased projects from around the globe and led a session focused on developing public-private-community partnerships to develop climate action in cities.^{xvii} Furthermore, city-only working groups, like the C40, provide for 'honest knowledge exchange between city peers and links to expert partners'.^{xviii}

Beyond city engagement

Scaling-up innovative demonstration projects will require cities to leverage additional powers and resources. From this research, knowing which departments have the greatest available budgets and influence will help to enable the most rapid and effective scale-ups. This could also be enabled through establishing links with departments whose remit extends beyond just the city, such as the Department of Health.

Cross-city collaboration is an opportunity for cities that are facing similar issues to take action. For example, following the success of the Heat Action Plan in Ahmedabad, other states that are vulnerable to extreme heat events adopted the model as a result of the demonstration effect, the organisations' networking efforts and the National Disaster Management Authority's recommendation to roll the initiative out nationally. This has led to Heat Action Plans in 17 cities and 11 states across India.^{xix} Partnerships of various different actors have carried out this replication of heat action plans. This recognises, that whilst cities differ in their needs and aims, there are similarities in the issues they face and that government departments can benefit from learning from others. This not only creates a space for cross-collaboration and idea generation, but also longer-term momentum for change at a scale broader than the initial focus city.

Heat Action Plans across India



Climate change: addressing heat-health vulnerability in rapidly urbanising regions of Western India

Ahmedabad, India

Following a deadly heat wave in Ahmedabad in 2010, the project aimed to protect Ahmedabad's residents from extreme heat by identifying vulnerable populations, strengthening community resilience and improving heat-disaster response planning in the city. The project supported the development of the Ahmedabad Heat Action Plan 2013, which the Ahmedabad Municipal Corporation then began to implement. The plans included raising public awareness, an early-warning system and capacity building with the medical community to respond to heat-related illness. The success of the Heat Action Plan led to further work to update the action plan and to help embed it in Government policy. The Heat Action Plan in Ahmedabad is now in its fifth year of implementation. As a result, heat wave planning based on the Ahmedabad example has been scaled up to 17 cities and 11 states in. The project was selected as one of the top 20 for the Munich Risk Award (2015), and was presented at the World Conference for Disaster Risk Reduction in Sendai, 2015.

Power & leadership: City-level buy-in to the original Ahmedabad project arose when the project consortium presented preliminary research showing that a heat wave in 2010 claimed over 1,000 lives, alongside evidence of existing heat plans in other parts of the world. Following the success of the original Ahmedabad Heat Action Plan, the motivation to roll-out further heat-health work varied between different cities and states. The Odisha State Disaster Management Authority replicated heat-health action in multiple cities through a state-led process; whilst in Ahmedabad and Nagpur the city governments took ownership of the projects. Heat Action Plans have now been adopted in 17 cities (beyond the support of CDKN). Plans have also scaled up with the support of state-level authorities, in Odisha and Maharashtra, for example, but has been more challenging in Gujarat. There has been some interest from the Gujarat State Government, but without a heat-health mandate the state remains more focused on issues such as disease prevention and monsoon management. With respect to leadership and critical advocates, the Ahmedabad Municipal Corporation (AMC) appointed a Nodal Officer from the city government health department to oversee the implementation of the Heat Action Plan. His position at the health department enabled him to make use of the city's existing public health communications infrastructure for the Heat Action Plan early warning system. The Nodal Officer was a key advocate for the project and critical to coordination across the different agencies involved.

Communication & engagement: In early interactions with the city authorities, the project partners presented evidence of the impact of heat waves on the city's population and explained the connection with climate change. The city officials requested further scientific evidence on heat-health, as a result, the project was extended to develop the evidence base, specifically on the impacts of extreme heat on particular at risk groups. CDKN and the project partners communicated with a range of actors, including the India Meteorological Department, the Indian Institute of Public Health, environmental and academic groups. The national government was made aware of the project by the extensive media coverage it received. The project's success was enabled by the endorsement of these key stakeholders. Engaging with a number of stakeholders influenced policy change and mainstreamed heat waves as a climate related phenomenon. Examples of the changes recognised include: the Meteorological Department formally defined a heat wave event; the National Disaster Management Authority created a guideline for heat wave response; heat became recognised as a serious health issue amongst medical professionals; heat wave has been incorporated into the city's debt policy; and journalists report more on the risks of heat waves and climate change.

Demonstration effect: Following the success of the Heat Action Plan in Ahmedabad, the AMC received interested from other states and cities who were connected to or aware of the project consortium. A workshop was held with a wider group of stakeholders to work through the guidelines for developing heat action plans with new cities, and built motivation amongst the new partners. This resulted in the heat wave planning being adopted across multiple states and cities – the initiative continues sustainably beyond the original CDKN projects. The National Resources Defence Council, the Public Health Foundation of India, CDKN and other partners released a 'City Resilience Toolkit: Response to Deadly Heat Waves and Preparing for Rising Temperatures' at a side event at COP21 in Paris, 2015. The toolkit was put together as a 'how-to manual' for urban heat solutions in cities around the world, using the example of Ahmedabad's Heat Action Plan. Nationally, a Roadmap for Planning Heatwave Management in India (2016) was produced by CDKN and Taru Leading Edge, intended to spread successful practices nationwide. It was supported by the National Disaster Management Authority, the World Health Organisation, National Institute of Urban Affairs and The Rockefeller Foundation.

More information on CDKN project web page

Power & leadership



Communication & engagement



Capacity building



Financing implementation








Demonstration effect



Summary: A practical framework for climate action in cities

The CDKN case studies explored through this paper have demonstrated the appetite for climate action projects in cities, as well as helping to establish a practical framework for climate action in cities. This aims to act as a checklist of pre-project considerations for donors and practitioners to enable the development of climate compatible, implementable and investable propositions to expand the scale and reach of climate action in cities.



Levers	Issues	Actions	Case studies
	International networks and agendas	Connect with international climate discussions through events, such as Conference of the Parties (COP) to help scale-up support for climate action at the city-level	Sheltering from a gathering storm – exhibiting and influencing at COP19
	National and local power	Anticipate political administration changes and engage with new leaders to help develop meaningful climate policy and action	Adaptation Plan of Cartagena – with newly appointed mayors and Secretary of Planning
	Governance	Understand governance structures and potential regulatory barriers and consider innovative ways to incorporate climate action into existing frameworks	Heat-health in India – lack of state-level interest and requirements to act
	Advocates	Identify the critical players needed as advocates for climate change and support them in taking forward common climate action	Heat-health in India – the role of the Nodal Officer
	Case for change	Tailor climate change content to your audience to facilitate their understanding of the issues and to help win support for taking climate action	Finding the finance: climate compatible development in Asia cities – knowledge building
	Collaboration	Consider different government departments' priorities, commitments and ability to influence to help foster cross-department collaboration on climate action	Carbon and water footprints in Andean cities – cross-city collaboration
	Publicity	Promote and publicise the need to take climate action to help build and strengthen momentum with city stakeholders	Adaptation Plan of Cartagena – the awareness building process with wider city stakeholders
	Awareness raising and legacy	Reach out to the community to help raise awareness of the importance of long-term climate action and draw them into the design and delivery of climate action	A 'Public Private People Partnership' for climate compatible development in Maputo – community focus
	Resourcing	Take into account the wider network of stakeholders that could help to support the city government in delivering climate action	Future proofing Indian cities – involvement of the Dhan Foundation and CSOs
	Analytical capability	Contribute to building the technical capabilities of the city government, where needed, to ensure that climate action continues beyond the life of immediate projects	Carbon and water footprints in Andean cities – changing the discourse of city leaders
	Sourcing finance	Find ways to help channel adequate financing for climate action, including innovative financing mechanisms	Sheltering from a gathering storm – the involvement of The Rockefeller Foundation
	Directing finance	Procure projects which are both climate compatible and fit for purpose, using financing for projects designed to meet multiple development goals	Finding the finance: climate compatible development in Asia cities – shared project vision
	Building momentum	Engage with investors to help close the gap between finance and climate action	Finding the finance: climate compatible development in Asia cities – engaging investors
	Showing it works	Test and prove projects through real world application to demonstrate benefits to city leaders and potential investors	Carbon and water footprints in Andean cities – testing the concept generated wide interest
	Beyond city engagement	Look for opportunities for cross-city collaboration with cities facing similar issues to take action	Heat-health in India – rolling out heat action across 10 Indian cities, using the example of Ahmedabad

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