

Climate change and cities

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What is done, or not done, in cities in relation to climate change over the next 5-10 years will affect hundreds of millions of people, because their lives and livelihoods are at risk from global warming. What is done in cities will also have a major influence on whether the escalating risks for the whole planet will be reduced or eliminated. Climate change needs to be considered in all development plans and investments - local, regional, national and international. Urban growth must be made more climate-resilient and help reduce, rather than increase, greenhouse gas emissions. This will not be done by the market; it can only be done by governments.

Innovation and action on climate change needs to focus on urban centres in Africa, Asia and Latin America. Certainly, urban areas in high-income nations are currently the greatest threat, because of their historic and current contributions to greenhouse gas emissions. Current levels of greenhouse gas emissions per person are particularly high in cities in North America and Australia – often 25 to 50 times higher than in cities in low-income nations. But there are three reasons why climate change action is urgently needed in urban centres in low- and middle-income nations:

- They already have three quarters of the world's urban population; China's urban population is as large as Europe's; India and Africa both have larger urban populations than North America;
- They will house most of the growth in the world's population over the next ten to twenty years, and have a major impact on future greenhouse gas emissions;
- They have a large and growing proportion of the world's population most at risk from storms, floods and other climate change-related impacts.

For cities, perhaps the most obvious increased risk from climate change comes from the increased number and intensity of extreme weather events, such as heavy rainstorms, cyclones and hurricanes. Cities on the coast are obviously more at risk from sea-level rise, but perhaps the greatest risk comes from a combination of storm surges and high-tides. Rising sea levels may also mean rising water tables that undermine building foundations and increased saline water intrusion into valuable groundwater sources. Many non-coastal cities face serious problems with flooding – as they are beside rivers or in foothills of mountains and so vulnerable to more intense precipitation or snowmelt.

There are many less dramatic but nonetheless serious risks from climate change, especially for low-income groups. Many cities will get less rainfall, and most will experience more heat waves and greater air pollution problems. Many city economies will suffer from decreasing possibilities for agriculture in their surroundings. Tourist cities on the coast will have their assets compromised by flood damage to coastal reefs and loss of beaches. Warmer average temperatures will expand the areas in which tropical diseases can occur. And while some changes may provide positive opportunities, these will require adaptation.

The quality of government – at national and city level - has a very large influence on how risks from climate change are dealt with, especially for people with limited incomes or assets. For instance: the quality of infrastructure to limit risks of flooding for the whole city area and not just for wealthier areas; the level of disaster-preparedness, including warnings of approaching storms and floods; and the ability to offer disaster-response to help those who have lost their homes and livelihoods.

KEY MESSAGES:

- **Urban centres in low- and middle-income nations provide homes to a large population increasingly vulnerable to the direct and indirect impacts of climate change.**
- **Most cities are at risk from extreme weather events independent of climate change because of the lack of investment in basic infrastructure. Adaptation can fit within development plans and existing institutions. Investing in measures to help adaptation to climate change will usually reduce this risk as well. Many measures that are pro-poor also reduce risks from climate change.**
- **Adaptation and mitigation measures incorporated in the way cities develop can bring large benefits at relatively low cost. Action should be taken as infrastructure expands, rather than when already in place.**
- **Good urban governance supported by a good national framework is key to moving quickly, efficiently and at scale.**

There is a profound unfairness globally - those most at risk from climate change are those least responsible for most greenhouse gas emissions. The very survival of some islands and low-income nations is in doubt as much of their land area is at risk from sea-level rise, yet their contributions to global greenhouse emissions have been very small. There are also tens of millions of people in Asia and Africa whose homes and livelihoods are at risk from sea-level rise and storms yet they have made very little contribution to greenhouse gas emissions. Most global warming to date has been driven by consumers in high-income nations and the production systems that serve them, with the USA being the largest contributor, both historically and currently. Would the US Government oppose the Kyoto Protocol's modest targets for emission reductions if Washington DC, New York and Los Angeles faced risks comparable to those facing Dhaka, Mumbai and Bangkok today?

If action is taken now, there are large cumulative benefits and large cost savings, including avoidance of premature death, injury and property loss. The earlier action is taken to reduce greenhouse gas emissions and to begin reducing vulnerability to climate change, the lower the costs. Urban centres need a planning and investment framework that breaks the link between growing incomes and rising greenhouse gas emissions per person. Evidence shows how this can be done: better designed housing and office buildings, with much less need for heating or cooling and artificial light; a city in which all income groups prefer to make most journeys by walking, bicycling or public transport; cities where industry, commerce and services demonstrate their capacity to cut energy requirements and reduce waste.

If initiated now, action on climate change, to reduce greenhouse gas emissions and risks from its effects, need not draw resources from other pressing tasks. There are obvious worries that such action will draw resources from other priorities. Most cities in Africa and Asia and many in Latin America have 33-50% of populations lacking good provision for water and sanitation and living in illegal settlements, because they cannot afford the cost of legal housing. Some 900 million urban inhabitants live in very poor quality shelter – often with two to three persons per room. Most urban centres have a large backlog to make up in basic infrastructure. So it is difficult to see action on climate change as a priority. But there are three good reasons for taking action now:

1. There are many ways to reduce greenhouse gas emissions with modest adjustments to investment by choosing low carbon technologies which, over time, produce much lower levels of greenhouse gas emissions, even in cities with booming economies;
2. Much of what needs to be done to reduce risks from climate change also reduces other risks; for instance, better drainage systems also protect health and reduce risks of flooding and water-logging;
3. Part of what needs to be done does not require additional government expenditure but is achieved by changing regulatory frameworks that influence individual, household, community, company and corporate investments – for instance adjustments to building regulations, land use plans, land subdivision regulations, pollution control and waste management.

These adjustments will not be easy since many will face

opposition from powerful vested interests. In addition, changing regulations on buildings, infrastructure and land subdivision needs to avoid imposing added costs on low-income households.

Investments to counter climate change and protect cities from its effects must avoid being anti-poor in their impacts. For instance, it is common for low-income areas, and many informal settlements, to be in areas that are poorly drained or most at risk from flooding. If climate change-related policies are also to benefit the inhabitants of these areas this means fully involving them in plans to reduce flooding and other risks. Relocation should be avoided wherever possible – and upgrading programmes favoured, in which governments work with the inhabitants of these areas to combine improved infrastructure (for instance for water, sanitation, drainage, support for house improvements) with much lower flooding risks. Low-income groups may be prepared to move from hazardous sites, but only if they are involved in decisions about where to move and how the move is organised. This means a fundamental change in practice, since most city governments tend to move those people who live in the path of new infrastructure investments, and push them to peripheral areas, destroying their homes, asset base, social networks, and their incomes.

Well-governed cities show how to de-link development from high greenhouse gas emissions. The concentration of people and production in cities facilitates many investments and actions that keep down energy requirements for buildings, transport systems and enterprises and that also support waste reduction. Much valuable work can be done to exchange and link lessons of good practice.

'Climate change-aware' development policies can contribute much to lowering greenhouse gas emissions and to producing city economies and populations that are less at risk. But too many policy-makers at national and city levels see climate change as an environmental issue or a global issue that is not their concern. Too many climate change specialists have little knowledge of development, as their approach focuses on reducing greenhouse emissions alone, and not on helping nations and cities learn how to change and adapt. Equally, climate change science deals mainly with global and regional impacts and is less able to provide reliable assessments for city regions.

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