

## Getting local governments, residents and enterprises to respond to the new IPCC assessment

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**SUMMARY:** *The new IPCC assessment – Climate Change 2014: Impacts, Adaptation and Vulnerability – highlights how city governments have to add climate change adaptation and mitigation to their policies, plans, regulatory frameworks and budgets. But how can these be supported without drawing attention away from poverty reduction, universal provision of basic services and disaster risk reduction? And supported in ways that are rooted in local needs, priorities and capacities?*

*How can the IPCC's scientific assessment translate into local action? This Brief highlights the need for an expanding network of research that documents and supports local good practice that involves local governments and engages urban poor groups and their organizations. This is so needed to build knowledge, capacity and learning in all urban centres.*

*This Brief also discusses how to achieve coherence across four urban agendas: development, disaster risk reduction, climate change adaptation and mitigation. All four focus on reducing risk although they might emphasize different risks. All focus on getting the most out of what individuals, households and communities can do. All depend on local political processes that are accountable to those most at risk and show what is possible in addressing all four agendas – and thus to shift to transformative adaptation.*

1. This is the contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). The Fifth Assessment also includes the reports of Working Group I (on the Physical Science Basis, which has already been released) and of Working Group III (Mitigation of Climate Change, completed in April 2014). For more details, see <http://www.ipcc.ch/activities/activities.shtml>.

2. See a new and very detailed report on basic services – United Cities and Local Governments (UCLG) (2014), *Basic Services for All in an Urbanizing World*, Third Global Report on Local Democracy and Decentralization, Routledge, London. This is being published in June 2014.

3. See, for instance, case studies of Manizales and Chetumal listed on the back page and many of the papers listed at [http://www.eau.sagepub.com/site/includefiles/eau\\_climate\\_change\\_button.xhtml](http://www.eau.sagepub.com/site/includefiles/eau_climate_change_button.xhtml), including five papers that chart progress on this in Durban.

4. This can be downloaded from <http://www.ipcc-wg2.gov/AR5/report/final-drafts/>.

### I. NEW CHALLENGES

Two new urgent challenges now face city and municipal governments: they have to add climate change adaptation and contributions to mitigation (especially reducing carbon dioxide emissions) to their policies, plans, regulatory frameworks and budgets. This is one of the key messages from the new assessment of the Intergovernmental Panel on *Climate Change (IPCC)*, *Climate Change 2014: Impacts, Adaptation and Vulnerability*.<sup>(1)</sup> Yet so many city and municipal governments have little or no capacity to do so. Many cannot meet long-standing challenges such as ensuring provision of basic services to most of their inhabitants,<sup>(2)</sup> and the scale of their failure in this regard can be seen in the one billion urban dwellers who live in informal settlements and who lack provision for risk-reducing infrastructure and basic services. It seems so unfair to add these two new challenges for most urban centres in low- and middle-income nations. They have little or no investment capacity. They have to adapt to the increasing risks and uncertainties created mostly by wealthier nations and people. And the need to reduce greenhouse gas emissions is so urgent that they are asked to contribute even if their emission levels are low.

Then there is the urgent need for city and municipal governments to pay attention to disaster risk reduction, which includes disaster risks other than those linked to climate change. How can progress be achieved across the vast and diverse set of cities and smaller urban centres in all four priority agendas – poverty reduction that includes universal provision of basic services; disaster risk reduction; and now the two new challenges of climate change adaptation and mitigation – in ways that are rooted in the needs, priorities and capacities of each urban centre and its population? We have examples of cities that show progress is possible.<sup>(3)</sup> But these are the unusual, the exceptions, the outliers.

### II. TRANSFORMATIVE ADAPTATION

The new IPCC assessment includes a long and detailed chapter on adapting urban areas.<sup>(4)</sup> This highlights the very large differences in adaptive capacity among the world's urban centres. It then discusses how risk levels may change for a range of climatic drivers of impacts in the near term (2030–2040) and the long term (2080–2100), assuming global mean temperature increases of 2°C or 4°C. This highlights

This Brief draws on the Editorial in the April 2014 issue of *Environment & Urbanization* on “Getting local governments, residents and enterprises to respond to the new IPCC assessment”. E&U Briefs are funded by UK aid from the UK government's Department for International Development and allow the Journal's main findings to reach a wider audience; however, the views expressed do not necessarily reflect the views of the UK government.



5. See the paper by Revi, Satterthwaite et al. (2014) listed on the back page; also Pelling, Mark (2010), *Adaptation to Climate Change; From Resilience to Transformation*, Routledge, London, 224 pages.

6. I write this as Editor of *Environment and Urbanization* – although I was also one of the author team for this chapter.

7. The Editorial Board of *Environment and Urbanization* took a decision in 2006 to encourage the submission of papers on cities and climate change, to include papers on this topic in each issue of the Journal and to focus on low- and middle-income nations. In part, this was a response to the lack of material on this subject that was available for the IPCC's Fourth Assessment published in 2007. To date, the Journal has published more than 55 papers on climate change and cities, and several others that focus on addressing and reducing disaster risk in urban areas; see [http://www.eau.sagepub.com/site/includefiles/eau\\_climate\\_change\\_button.xhtml](http://www.eau.sagepub.com/site/includefiles/eau_climate_change_button.xhtml).

8. See the paper by Vanessa Watson and the response by Gautam Bhan listed on the back page; see also the response by Allan Cain that is available online at <http://www.eau.sagepub.com/content/early/recent>.

9. This is drawn from the text on <http://www.urbansdg.org/>.

the limits to what adaptation can do in protecting urban areas and their economies and populations without the much-needed global agreement and action on mitigation. This is even the case for cities with high adaptive capacities. So urban centres need to move to what is often termed transformative adaptation, which is recognized “... for its potential to address root causes of poverty and failures in sustainable development, including the need for rapid progress on mitigation.”<sup>(5)</sup>

For those who work on urban issues, the urban chapter in *Climate Change 2014: Impacts, Adaptation and Vulnerability* has considerable significance.<sup>(6)</sup> It is the first time that the IPCC assessments on adaptation have devoted a whole chapter to urban areas; the chapter is also particularly long, as the authors struggled to present a comprehensive yet concise review of all the relevant literature. There has been a phenomenal growth in the literature on urban adaptation since the IPCC's Fourth Assessment – especially for urban centres in low- and middle-income countries.<sup>(7)</sup> An important part of this literature is outside of academic journals and includes reports and other documents produced or commissioned by city governments.

### III. WHO NEEDS TO RESPOND TO THE IPCC ASSESSMENTS?

Now that there is a more substantial literature on urban adaptation, how do we get the needed attention to climate change by all those who influence urban development? This includes issues of where urban development takes place, its form and spatial structure, what is funded (and by whom), provision for housing, infrastructure and services, connections to the region around it or close by, waste collection and management and the regulations, incentives and management that influence or should influence these. Those who influence urban development include not only those involved in government (from national through sub-national to metropolitan, city, municipal and district/ward) but also residents and workers, civil society (in all its diversity, including uncivil society) and the private sector (in all its diversity from “illegal” street vendors or waste pickers to multinational corporations and including property developers). What needs to be done to make sure that the key points in the IPCC's Fifth Assessment reach and influence all of them?

This also includes how to change the ways in which national and city governments see their urban future, away from fantasies of “world cities” that do not address development needs or disaster risk reduction or climate change adaptation or mitigation.<sup>(8)</sup> Ambitious plans to emulate Shanghai, Singapore or Dubai even claim to have green credentials and to be eco-cities, but it is difficult to see by what criteria these can be judged as such.

We are faced with the fact that it will fall to urban (municipal, city and metropolitan) governments to plan and manage much of the adaptation to climate change and much of the mitigation, and to achieve the needed integration with disaster risk reduction and poverty reduction – see Figure 1. This does not mean that urban governments have to implement and fund all of this but they do have to provide the framework (including regulations, incentives and management) that encourages and supports relevant investments and behaviour change among households, communities and enterprises. If the framework is right, it can mean that new residential areas and new investments align with adaptation and mitigation. For instance, managing land use and land use changes can help keep down the costs of land for housing, provide legal alternatives to informal settlements for low-income households, avoid low-density urban sprawl with its high infrastructure costs and dependence on private automobile use, expand and enhance public spaces and protect critical ecosystem services. But the fact that there are so many cities where none of this is taking place points to the scale of change that is needed.

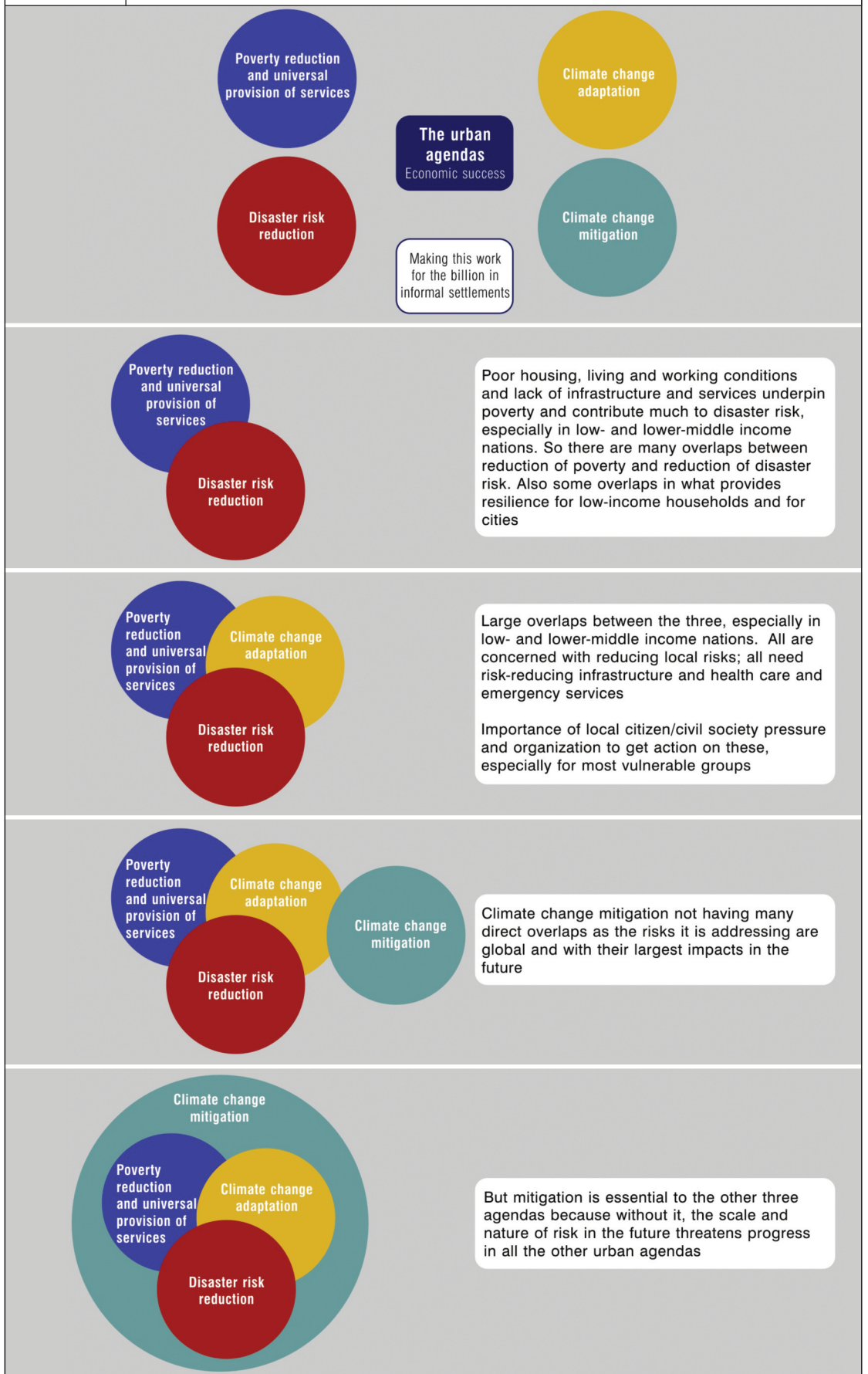
### IV. TRANSLATING SCIENTIFIC ASSESSMENT INTO ACTION

If we focus on addressing the four urban agendas, what needs to be done to respond to the IPCC's Fifth Assessment? Do we simply continue with the new assessments every five years or so and thus begin planning for the IPCC Sixth Assessment? There is certainly recognition within the IPCC and the Technical Support Units for each of the three new reports of the need for wide dissemination, supported by effective communication strategies.

The timing for the release of these new assessments fits well into the discussions on what should replace the Millennium Development Goals – and what form the post-2015 sustainable development agenda will take. There is a very substantial network of organizations that includes many international agencies and local governments that is demanding a stand-alone urban Sustainable Development Goal (SDG) to “... mobilize stakeholders, promote integrated, city-level approaches and accelerate progress towards sustainable development, including the end of extreme poverty.”<sup>(9)</sup> The IPCC's Fifth Assessment also comes in time to influence discussions at Habitat III (the third UN Conference on Human Settlements), planned for 2016, and hopefully to ensure that climate change gets adequate attention. It received no attention at all in the Habitat Agenda that came out of the second UN Conference on Human Settlements in 1996.

But what needs to happen to encourage and support action on climate change in urban areas? Clearly, there is a need to involve urban governments and those who are or will be most at risk within urban

**FIGURE 1: The four urban agendas and their overlaps**



10. The Intergovernmental Panel on Climate Change (IPCC) is an intergovernmental body set up under the auspices of the United Nations and currently 195 countries are members – see <http://www.ipcc.ch/organization/organization.shtml>.

11. *A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development*, Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, United Nations, New York, page 17, available online at <http://www.post2015hlp.org/wp-content/uploads/2013/05/UN-Report.pdf>.

populations. Yet how can this be done in ways that protect the scientific integrity of the process? How will representatives from national governments who form the IPCC<sup>(10)</sup> feel about being called on to engage with local governments and civil society? How will governments react to an engagement by researchers with representative organizations formed by the residents of informal settlements, who absolutely have the right to influence government responses and to take action themselves?

There is also the issue of how the next IPCC assessment can fully cover urban issues in light of the very large increase in the literature. Is it possible to rely on a small team of urban specialists to do this, most of them working with no financial support other than having their transport and accommodation costs covered when attending meetings?

## V. GETTING URBAN ASPECTS OF CLIMATE CHANGE TAKEN SERIOUSLY

Perhaps we are finally at a tipping point regarding recognition of the need for urban issues to be taken far more seriously in development and disaster risk reduction and now in climate change adaptation and mitigation. This can be seen in the Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda, which gives serious attention to urban areas and to their local governments. As it states: *“The post-2015 agenda must be relevant for urban dwellers. Cities are where the battle for sustainable development will be won or lost.”*<sup>(11)</sup>

It has taken a long time to reach this point – and the knowledge base on urban issues remains woefully thin in most low- and many middle-income nations. The experience of the CGIAR (Consultative Group on International Agricultural Research) is relevant here – it set up and helped fund an international network of research centres to address the enormous knowledge gaps identified several decades ago on agricultural and rural development. Perhaps now there is a comparable need for a substantial international funding system to support urban research. But what we need is not so much a formal network of international urban research centres but, rather, a process that encourages and supports relevant research in each nation (and city) that can be drawn on for needed syntheses and shared learning. This would bring together key individuals and institutions around different aspects of climate change adaptation and mitigation within a framework that prioritizes poverty reduction and disaster risk reduction. The learning has to be strongly connected to what is being done or tried in particular urban centres (metropolitan, city, smaller urban centre). It needs to become more specific and useful to local actors so they understand the particular implications of climate change for, for instance, heat stress and heat islands within cities, or coastal flooding, sea level rise and storm surges. This will depend on the buy-in and support from existing institutions, and in many cases the funding and staff they could commit to this. The system is not envisaged as an initiative to fund research but, rather, to support researchers and other key actors to meet, engage, learn and synthesize. It would need a budget to support these activities and to support a strong documentation process – so that there is a process that constantly updates syntheses of what is known for each climate change risk. It can also commission assessments of local experiences in order to drive learning and develop the material that is relevant and useful to enterprises, local governments and civil society. In effect, to support the documentation of what could be termed “good practice” – and to discuss the relevance of what these cities have done for other urban centres.

This process needs to involve local government staff chosen for their expertise. The urban chapter for *Climate Change 2014: Impacts, Adaptation and Vulnerability* was greatly enriched by having a senior local government staff member on the author team. It would need to draw on relevant grey literature, following the careful guidelines developed by the IPCC and the Technical Support Units regarding how to do this. What is implied here, then, is a global network of researchers and research institutions with competence on urban issues and on climate change issues who choose to work together and who collectively focus on and update the literature on each identified climate change-related risk and its implications for urban economies, populations and governments.

Such a network would need to be inclusive, encouraging new individuals and institutions to join. Initially, university departments or research institutes that have already shown leadership in the field could be invited to consider how they could contribute. The mix of institutions in this network should not all be in high-income nations and should be able to cover the literature in languages other than English. From the outset, there should be plans to expand the network – bringing in other university departments and research institutes and, as the network consolidates, supporting centres of training, including those for local governments. This would need to recognize where there is work already underway and ensure that those involved are fully included in this network. So this would include the Asian Cities Climate Change and Resilience Network (ACCCRN), the International Centre for Climate Change and Development (ICCCAD), the Urban Climate Change Research Network (UCCRN) and the Rockefeller Foundation’s 100 Resilient Cities, among others.

One of the most important yet difficult issues is how such a process would engage with civil society – especially those groups that are formed by or represent low-income urban dwellers. This includes hundreds of millions of urban dwellers who live in informal settlements and/or work in the informal economy. They are usually seen by local and national governments as illegal and often as detrimental

to urban development. They also include most of those in the urban population who face the greatest risks and those who are particularly vulnerable. They need to be engaged not only because they are “at risk” but also because they can bring knowledge, capacity and innovation to adaptation (and mitigation). This engagement with those most at risk has to involve more than inviting representatives to attend meetings. There is a need to also support the documentation of “good practice” by grassroots organizations and federations in what they do and contribute – and perhaps most critically in the partnerships they form with local governments.

This process would also need to think about how it could support the National Adaptation Plans that the UN Framework Convention on Climate Change (UNFCCC) will be supporting (starting with the least-developed countries). These are meant to be more operational than the existing National Adaptation Programmes of Action, where a role for sub-national stakeholders (e.g. city governments) is already recognized.

This process would develop regular briefs written for non-specialist audiences and would link with institutions or networks of local governments to develop these and ensure their widespread dissemination in a range of languages – for instance, through United Cities and Local Governments (UCLG) and each of its regional secretariats, ICLEI (Local Governments for Sustainability), C40–Cities Climate Leadership Group.....

Thus, this process would help amplify the knowledge of how to act on the IPCC’s Fifth Assessment in relation to urban development and help provide the foundation for any new IPCC assessment. Regarding the financing needed to support this, it is difficult to know what to recommend, except that it has to build knowledge, capacity and learning in each nation. As we move to a far greater engagement with developing, implementing and financing adaptation (and mitigation) in each urban centre within a commitment to meeting development and disaster risk reduction needs, so the central role of changing urban planning, management and governance becomes obvious. The potential cost of what is outlined above is negligible in relation to what it could contribute in terms of knowledge on how deaths, injuries and massive economic disruptions can be avoided. There is a strong case now for support for work on urban adaptation in each nation – and beyond this on transformative adaptation.

## VI. INSIGHTS INTO THE FOUR-FOLD URBAN AGENDA

City and municipal governments may look with horror at new obligations to address climate change adaptation and mitigation. Most can claim that they lack the funding, resources, knowledge and capacities to do so (and to address poverty reduction and disaster risk reduction). But it is worth reflecting on what can help achieve coherence across the four agendas. All four seek to reduce risk. Although they may highlight different risks, there are many overlaps. Addressing the needs of those living in poor quality housing built in areas at risk of flooding with no provision for the collection of solid and liquid wastes meets development needs, reduces disaster risks and should increase resilience to climate change impacts (and it can be done in ways that reduce greenhouse gas emissions – for instance in how solid waste is managed). All four aspects include as a priority attention to vulnerable populations and measures that can be identified to reduce or remove the risks they face. What is more difficult is to know how to assess and rank priorities. Avoiding dangerous climate change needs action now to get emissions down but this is reducing future risks. Priorities need to be influenced by the needs and demands of those who are most at risk but this includes those who will be confronting enormous risks in the last few decades of this century unless the needed global agreement on emissions reduction is achieved very soon. In some cities, this has been well served by elected mayors and other local politicians or civil servants who have received local support for the four agendas. Here, a focus on addressing the most pressing local risks now is integrated with measures that help reduce still-to-come local risks (adaptation and disaster risk reduction) and global risks (mitigation).

There is evidence of progress from which we can learn. In many cities, more attention is being paid by local governments to resilience to disasters, especially with regard to changes in their institutional framework and engagement with communities and other stakeholders. Also in mobilizing finance, undertaking multi-hazard risk assessments, upgrading informal settlements, adjusting urban planning and implementing building codes. Here, resilience is seen as resistance + coping capacity + recovery + adaptive capacity.<sup>(12)</sup>

There are also case studies of cities where local governments have begun addressing climate change adaptation. In Manizales (Colombia), the city’s long-established urban environmental policy provides a foundation for incorporating climate change adaptation into its plans. This is rooted in coherent, multi-level governance, including a capacity to integrate disaster risk reduction, climate change adaptation, land use and territorial planning and development serving all stakeholders.<sup>(13)</sup> In Chetumal (Mexico), the city and state governments are seeking to make development compatible with disaster risk reduction (especially for cyclones) and environmental protection.<sup>(14)</sup>

Our knowledge of how to act on key sectoral issues is also growing – for instance in changes in water resource management.<sup>(15)</sup> There is now some attention to the politics of transformative adaptation<sup>(16)</sup> – and to the importance of a gendered perspective to understanding the relationship between the built environment and vulnerability and resilience for women and men.<sup>(17)</sup> The power to make decisions in

12. See the paper by Johnson and Blackburn listed on the back page.

13. See the paper by Hardoy and Velásquez Barrero listed on the back page.

14. See the paper by Hardoy, Hernández, Pacheco and Sierra listed on the back page.

15. See the paper by Hordijk, Miranda Sara and Sutherland listed on the back page.

16. See the paper by Bahadur and Tanner listed on the back page.

17. See the paper by Jabeen listed on the back page.

18. See the paper by Moser and Stein listed on the back page.

19. See the paper by Wamsler and Brink listed on the back page.

20. See the paper by Wamsler and Brink listed on the back page.

21. See the paper by Haque, Dodman and Hossain listed on the back page.

the built environment and the nature of gender subordination, rights and entitlements will influence the capacity to adapt to climate extremes. The literature on individual, household and community adaptation is also growing. This includes how “bottom-up” community asset planning can help to address the uncertainties in how climate change will impact each particular city and help mainstream this into “top-down” citywide strategic and operational planning.<sup>(18)</sup> It includes more insight into how urban residents’ coping and adaptive practices can be supported by municipal authorities and aid organizations.<sup>(19)</sup> The success or failure of urban societies in building resilience and moving towards transformation does not necessarily depend on the effectiveness of individual coping strategies but on the *flexibility* and *inclusiveness* of coping/adaptation systems at the individual, household and community level (i.e. the combined set of strategies).<sup>(20)</sup> There is also the issue of whether the practices of low-income urban residents in responding to climate-related shocks and stresses can create the conditions in which individuals and households can strengthen their own long-term resilience and whether this, in turn, can generate broader political change that strengthens the position of marginalized groups in the city.<sup>(21)</sup>

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