Chapter 11
Fostering Transformative Climate Adaptation and Mitigation in the African City: Opportunities and Constraints of Urban Planning

Susan Parnell

Abstract Mainstreaming climate resilient strategy into the systems of urban design, construction and management has to take seriously both climate adaptation and mitigation in shifting the practices of urban planning if the interests of the urban poor are to be advanced. Because of the way that urban poverty has been conceived, the adaptation agenda tends to focus on small-scale household interventions rather than strategic spatial planning, development controls and enforcement. These city scale planning actions are more closely tied to the climate mitigation agenda, something that has had little traction in African cities where planning is weak and often considered part of the urban problem. Few professions have such a poor reputation or are so badly understood as town planning, and this is nowhere more so than in the fragile African context where illegitimate colonial legacies, weak local government and low levels of professional capacity make embedding the climate agenda into the planning regime especially difficult. However, pro-poor planning and planners cannot be bypassed if a sustainable city, rather than a set of projects, is to be promoted. In an effort to make clear the barriers and opportunities to a transformative climate agenda, this chapter sets out the importance of rethinking poverty in less individualised ways, thus enabling the reform of urban planning practices that are typically found in African cites and through which institutional change might be realised.

Keywords Poverty • Urban planning • City-scale action

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S. Pauleit et al. (eds.), *Urban Vulnerability and Climate Change in Africa*, Future City 4,
DOI 10.1007/978-3-319-03982-4_11

Introduction

There has been something of a turnaround in attitudes, with growing acceptance of the political and intellectual importance that should be ascribed to cities. Papers that begin by asserting the centrality of the urban question in Africa, that point out that climate adaptation and mitigation are real threats to African urban integrity and vitality and, even that urban planning in Africa needs to be revitalised, talk to the converted as these are now, apparently, accepted points of departure for both scholars and policy makers (Watson and Agbola 2013; UN-Habitat 2014; Parnell and Pieterse 2014). Obviously, giving greater attention to urban questions is good news, but moving on from this small victory opens up the vast frontiers of defining what it will take to change the developmental pathways of cities that are currently dysfunctional and exposed to climate risk as well as those urban places that will come into being over the next part of the twenty-first century (see also Chaps. 1 and 5). It may well be that this kind of reflective exercise requires both normative and historical reflection (Winkler 2009, 2011), as well as the kind of sector specific engagement on new urban challenges, like climate change, that the contributions in this book present.

In the African context, making the case for 'the urban' (Pieterse 2008; Myers 2011), for city scale climate adaptation and mitigation action (Cartwright et al. 2012; Simon and Leck 2014) and, especially for planning (UN-Habitat 2009; Berrisford 2014), has not been easy. Anyone with grounded experience of Africa also knows that formal recognition of the central role of cities in addressing big challenges, such as climate mitigation/adaptation, land management or biodiversity, recognises that this is a fragile moment of acceptance (Napier et al. 2013; Elmqvist et al. 2013). Africa has long been characterised by strong anti-urban sentiments and its planning regimes are widely seen as dysfunctional or illegitimate; it is not uncommon for planning itself to be tagged as the cause of the problem (Watson 2009; Winkler and Duminy 2014; Berrisford 2014). Taking steps, politically and administratively, to implement the new planning processes that are essential in developing robust and resilient cities will require at least the equivalent level of drive as that already taken over the last two decades to make the case for the dramatic policy shifts already seen.

The purpose of this chapter is to affirm that a revival of urban planning lies at the core of the developmental agenda of Africa. Moreover, it proposes that the future of the African city rests on climate appropriate planning.[1] To make progress on this vision, however, I argue that climate mitigation and adaptation must jointly form the foundation of a resurgent planning vision and practice. Furthermore, planning will never achieve resilience in urban African contexts without pragmatic engagement with the realities of the continent – key in this regard are the issues of poverty

[1] An early version of ideas on which this paper draws were prepared for MAPS. The author would like to acknowledge the comments of Emily Tyler and the ongoing support of the National Research Foundation.

and inequality.[2] Thus the core argument of this chapter is that the treatment of climate change (mitigation and adaptation) and poverty cannot be separated in any way, conceptually or operationally, in the reshaping of African cities. The task of the chapter is to explore barriers to this integration.

While the focus in this chapter is on the role of planning in the transformation of the African city, this should not be read as placing undue trust in the ability of one profession or of local government (where planning is typically hosted). Rebuilding planning capacities and the redefining of planning goals and processes must be considered alongside a raft of other improvements to cities, including the allocation of funds and powers from national governments and related impacts on city management, the rights of citizens to mobilise and organise their communities, the reconfiguration of global trade and investment protocols, and the end to violence and conflict. However, in setting out such a utopian course of action we need to be alert to possible barriers that will, intentionally or unintentionally, preclude the effectiveness of the call for planning based interventions for resilient cities. In scoping out likely obstacles, the first task is to remind us why, even under conditions of extreme poverty, such as exist in many African cities, climate mitigation (not adaptation) cannot be ignored or overlooked. Second, it is useful to review the reasons why, to date, climate adaptation has tended to dominate climate mitigation in the articulation of anti-poverty strategies as this distortion is likely to carry over to planning reforms. Third, it is possible to explain the tardiness in taking up climate mitigation within the poverty agenda by demonstrating that the focus on micro-scale dynamics which has dominated poverty thinking over the period of climate change mobilisation has not translated readily into city-wide planning reforms. Implied in this analysis is the view that, for mitigation and adaptation to become a more central feature of anti-poverty thinking in African cites, some theoretical adjustment in the understanding of poverty is needed, allowing more space for the crucial role of government, in general, and planners, in particular. To realise the revival of state-led (if not state controlled or delivered) urban governance and service delivery, specific tools and instruments of urban planning (spatial and land use planning, standards for services and buildings, byelaws, zoning etc.) will need to become a more prominent object of climate scientists' attention.

Taken together, the arguments of the first three parts of the chapter suggest that the failure to adequately link poverty, climate (adaptation and mitigation) and planning, while understandable intellectually and politically, has undermined the impact and effectiveness of building climate resilient cities across Africa. Unpacking the conflicting rationalities of these developmental discourses is key to making practical changes in African cities. The arguments proposed imply that planning should be embraced as a potentially progressive instrument of urban change, but the affirmation of planning must come with caveats that include:

[2] Although the focus of this chapter is on poverty it may well be that the unchecked expansion of wealth in the African city is the more important barrier to climate resilience.

foregrounding the centrality of public good and universal values in professional practice; acknowledging that climate mitigation and adaptation are inseparable priorities for urban planning in Africa; recognition that the initial phase of climate awareness when cities introduced climate adaptation plans must be followed up with the integration/mainstreaming of innovations into everyday urban practice through a robust review of the planning regimes of African cities; commitment to the view that climate resilient cities will necessarily need to extend and adjust every aspect of planning practice, requiring reform of everything, including: the relationship between the administrative and political structures of local government through which planning operates; strategic planning goals; the norms and standards of design; engagement with vulnerable communities and enforcement practices; and the critical issue of urban finance. Accepting the imperative to use planning also implies major reform of professional practice and training. Such substantive reforms to the urban planning system will not, however, be possible without some intellectual ground-clearing in development and poverty thinking. This leads us to focus our attention on the currently confused relationship between climate and poverty.

Why Climate Mitigation Cannot Be Marginalised from a Poverty Agenda

The social and economic costs of climate impacts are most often borne by low-income groups (Moser and Satterthwaite 2008; Tyler and Moench 2012). Thus, a widespread hope is that the imperative to shift the current developmental path and make human settlements more sustainable, for example through the United Nations' Sustainable Development Goals (SDG) process, will gain momentum from the fight for climate change action, with mitigation as a central message to inspire the better management of the built and natural environment (Revi 2009; Hodson and Marvin 2010). Conversely, it is clear that climate action, especially that associated with mitigation, will never gain traction in the global south unless the transformations proposed unambiguously advance a social, not only environmental, agenda. Therefore, the ability to articulate the developmental advantages of climate action is key (Parnell et al. 2007; Simon and Leck 2013).

The potential that would come from making mitigation a more explicit part of an anti-poverty struggle could, if realised, be very powerful politically (Bulkeley and Betsill 2013). But the mobilising potential of linking climate mitigation and poverty in a translational research agenda is not the only reason that understanding the relationship, or interface, between the two is important. Other imperatives for a closer integration of the languages and practices of poverty relief and climate mitigation have to do with the global shift in world population, the urbanisation of poverty and the false dichotomy between adaptation and mitigation in climate-related city government often experienced by poor people.

Population, Poverty and Mitigation

Demography matters in the debate about the relative emphasis on mitigation and adaptation because of the role of population size and the global distribution of poverty. Expanding populations obviously put more people at risk from climate related events, but even more important are shifts in where people live, how people live and how the settlement systems in which they reside are designed, built and managed (Martine et al. 2008). Retrofitting past structures, and better planning and design of current and future human settlement can have huge implications for overall levels of global emissions (Blanco et al. 2009; IPCC 2012). Of central importance for the mitigation agenda is the macro picture of population change – specifically, the growing population concentration in the global south, especially in Asia and Africa, and the shift in population into cities (Fig. 11.1). The net increase in urban land use cover is the standard way that the urban population issue is expressed for mitigation studies (Seto et al. 2012), but the overall trend towards the physical expansion of urban areas masks the importance of the city-specific dynamics of social and spatial differentiation, where intra-city inequality is a crucial element driving mitigation that, once aggregated, also has global impact.

The absolute expansion in the number of people contributing to greenhouse gas emissions is a small, if important, part of the global environmental change story (IPCC 2012). Historically, poor people, because they consume little and have much lower carbon footprints than the international elite and industry, have been dismissed as having any significant role in the feedbacks between human settlement and global warming (Satterthwaite et al. 2009). Although the impact of the poor on overall emissions may be less problematic than that of the rich does not mean their lives, lifestyles and built environments should be discounted in mitigation scenarios, not least because the (expanding) scale of the poor population makes them, and their potentially wealthier offspring, an important driver of change. Mitigation action that is universal, not solely focussed on the current elite, is an obvious precaution in securing lower rates of emission increases.

Urbanisation of Poverty

In the twenty-first century poverty is no longer a predominantly rural phenomenon (Martine et al. 2008; Satterthwaite and Mitlin 2013; Turok and McGranahan 2013). Even noting that income figures horribly underestimate urban poverty, the rates of increase in cash based poverty are higher in urban areas than they are in rural areas (Fig. 11.2). Urbanisation and natural urban growth, especially the high growth rates of poor cities, means that increasingly large numbers of the poor partake in emission generating activities, such as eating food sourced far away from their homes and undertaking long motorised journeys to work. Moreover, predictions of the doubling of the urban population over the next 30 years (United Nations 2012)

imply that cities in the global south, which are now only half-built, will become a more significant driver of global change in years to come. The design of these cities and materials used in their construction are key to future emission scenarios. Even under current conditions, much more could be done by way of mitigation in the cities of the south. While it is true that the poorest of the poor live in structures sourced from recycled materials and natural resources, these low carbon buildings

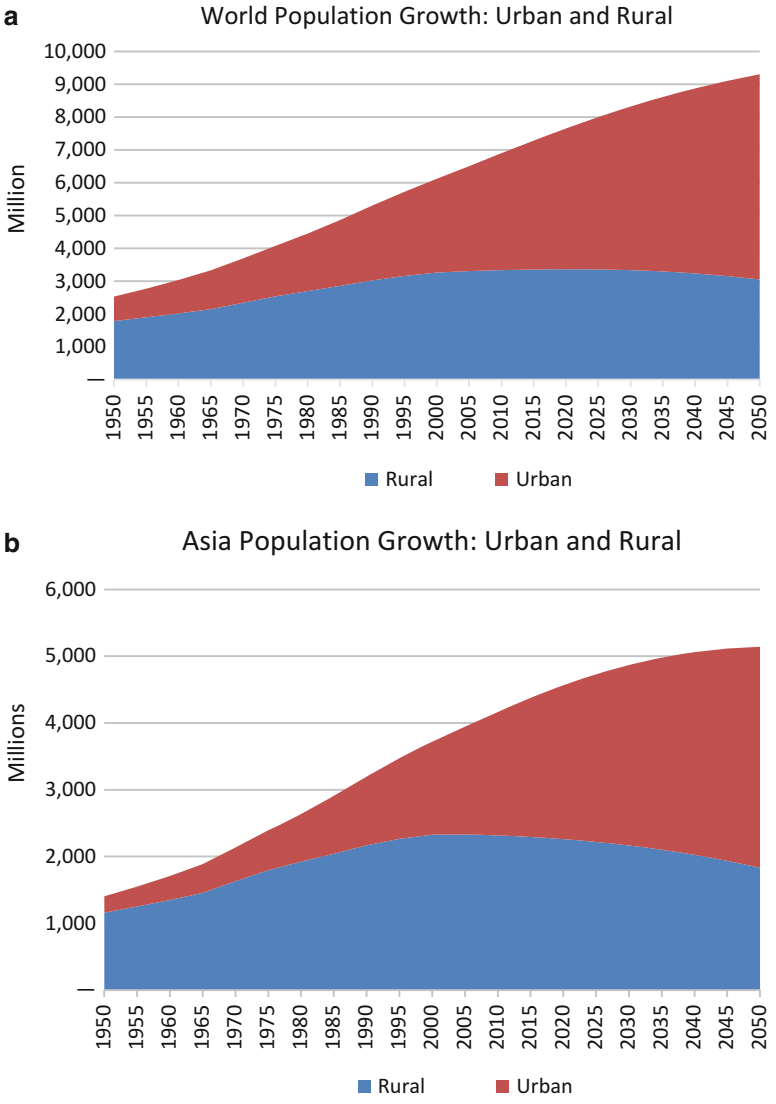

Fig. 11.1 (**a–c**) Urban population growth through 2050 showing the dominance of the projected contributions of Asia and Africa relative to that of the world (Compiled by the author from data in UN 2012)

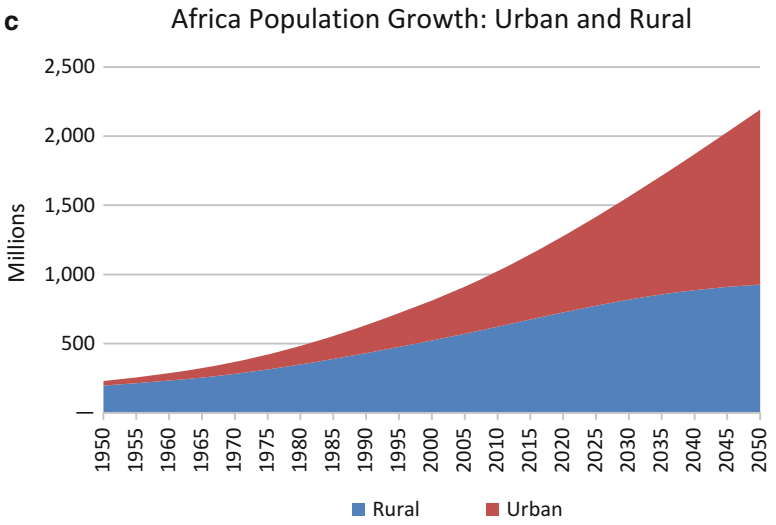

Fig. 11.1 (continued)

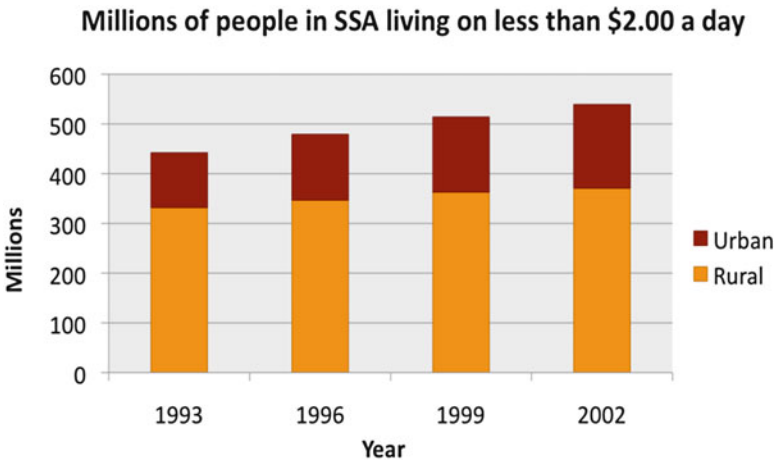

Fig. 11.2 Rates of urban and rural poverty increases (Compiled by the author from data in UN-Habitat 2003)

are not the norm for the urban poor, who are typically renters in low quality, low efficiency buildings developed privately or as low-cost state housing. Energy efficiency is not necessarily the hallmark of the neighbourhoods of the urban poor even when major programmes of retrofitting occur (Lewis and Jooste 2012; Swilling and Annecke 2012; Silver 2014). Without more effective urban planning regimes, the introduction of comprehensive climate mitigation action is a pipedream.

Climate innovative cities of the global north, like London or New York, have demonstrated that the management of cities can enhance or detract from meeting climate mitigation targets (Rosenzweig et al. 2011). However, it is widely acknowledged that effecting low carbon transitions requires effective and innovative governance, including at the city scale (Hunt and Watkiss 2011), something few nations or cities in the global south can deliver – at least in the near future (Anguelovski and Carmin 2011; Carmin et al. 2012; Cartwright et al. 2012). If the majority of city dwellers in poor countries were poor, low-level energy consumers, climate mitigation would be less important than it is. The rise of a new urban middle class in the emerging economies is much lauded by economists. While some debate takes place over the classification of rich or poor for these, generally urban, residents (ADB 2011; Turok 2013; Pieterse 2014), it is clear that there is not only the urbanisation of poverty, with its associated expansion in energy (albeit small amounts), but also the concentration of a new middle class in nations and cities that remain poor overall.

These demographic and spatial transitions imply a dramatic expansion of the absolute and relative proportion of the world's population living in places where mitigation is not a central concern and where cities are not managed well enough to introduce mitigation measures that rest on effective state or organised private sector and civil society capacity. It also highlights that little attention has been given to what happens when, as is widely desired and expressly targeted in the MDGs, millions of people are lifted out of poverty. What will be the appropriate climate mitigation response, given the legitimate increase in resource consumption by those escaping poverty? This is not to imply that a transition from adaptation to mitigation is needed as GDP increases, poverty falls or urbanisation rises. Rather, it implies that the agendas of poverty and mitigation will need to co-exist as part of national and sub-national climate resilient responses forged in response to poverty and inequality. The distribution of poverty, especially urban poverty, is such that, although poor countries and cities in poor countries experience the deepest rates of poverty, the actual numbers of the poor are greater in middle income nations – where the urban middle classes of the BRICS and other nations are flourishing (Martine and McGranahan 2014).

Mitigation and Adaptation Are Not Divisible in Shaping Vulnerability

The theoretical co-existence and interdependence of urban climate mitigation and adaptation action is now widely acknowledged in well-resourced and well-functioning institutions that have money and strong human capacity even when this entails cooperative governance (Rosenzweig et al. 2011). But where planning is weak and governance is fractured (either internally between scales or sectorally between departments, or even between the state and other powerful players such as

chiefs, and informal or illegal service providers), operational and institutional tension over the policy direction followed by the city occurs and climate action is held up by the conflicting rationalities of different development imperatives (Parnell et al. 2007; Chap. 9). In cities with large poor populations, these latter conditions are the norm (Bicknell et al. 2009). Hodson and Marvin (2013) warn that, even in well-resourced cities, the fragmentation of urban governance means that mitigation-based ideas like green growth are being used to marginalise issues of justice and promote the interests of the elite, a pattern that is undoubtedly more true in fast growing middle income cities where the private sector drives the bulk of urban expansion, often in edge cities under the rubric of green growth that utterly excludes the poorest (Watson 2013). Clearly, planning failure is as much a part of mitigation failure as it is of adaptation failure. For example, the Asian Development Bank (2010) points out that there is evidence of a systemic failure in the delivery of formal services to many urban poor communities. To some extent this can be attributed to the limited resources of local authorities, but is also due to official aversion to being seen to 'legitimise' settlers' claims by providing utility connections to dwellings that are considered temporary. Under these conditions, neither mitigation nor adaptation can flourish.

Integrating mitigation and adaptation in cities of the global south is hard precisely because these are places where a single or integrated system of urban management rarely exists. Because city governments are unable to deal with large poor populations the governance regimes of rich and poor residents are typically institutionally (legally and fiscally) separated in ways that suit the rich, but expose the poor. This is a point made repeatedly by vulnerability scholars (Pelling 2010; Ziervogel and Parnell 2012), but urban fragmentation is also of consequence to city scale mitigation efforts that must not only synthesise different modes of infrastructure and service provision, but also embed these in law and in the service delivery norms of all residents (Graham and Marvin 2001).

Integrating climate programmes, whether focused on adaptation or mitigation, into the core business of city government requires major institutional reform and a substantial expansion of capacity in order to execute the new reformed agendas. Because different sectors and activities lend themselves to adaptation (usually land use and disaster risk response) and others to mitigation (typically led through energy or transport) it means that internal institutional completion in municipalities (and other spheres of government) prevails. A more holistic view could ensure that good adaptation is also effective mitigation and that both efforts are strongly directed at positively reducing short and long-term poverty through the restructuring of the city form and function.

The lack of co-ordination in climate related mitigation and adaptation activity in cities is also attributable to the fact that, as new issues without obvious professional champions or institutional drivers, they are rarely part of the core business of local government budget allocations (Cartwright et al. 2012). In the poorest contexts, climate mitigation and adaptation programmes may be separate externally funded programmes. This programme format makes it much harder to move from policy level to implementation, especially in ways that are durable over time and scalable

across the city or system of cities. The difficulty of integrating climate mitigation into the machine of managing a city more developmentally is compounded by the often-naive assumption that climate mitigation and developmental agendas are easily fused. As we will see in later sections there are conflicting rationalities within urban development that have bearing on the interface between mitigation and development discourses. Before unpacking the underlying assumptions of the poverty literature that play out in climate mitigation efforts, it is useful to briefly reflect on why adaptation rather than mitigation has been the preferred focus of development advocates.

Mitigation, the Cinderella of Poverty Studies

If, as the previous section argued, it is so important that climate mitigation becomes an acknowledged pillar of anti-poverty sustainable development thinking, especially at the urban scale, why is it that poverty related climate action nearly always appears to be couched in the language and focus of adaptation thinking? The reasons mitigation failed to gain traction as an anti-poverty tool can be summarised as the outcome of the political vanguardism of climate adaptation proponents, the rapid emergence of a strong anti-rural lobby within climate science, donors' insistence on focussing climate action only on low income contexts and national governments' reluctance to embrace urban areas where mitigation concerns are concentrated. Together these forces delayed the early articulation of a link between poverty and climate mitigation everywhere, but especially in the global south.

Across the global south (including for urban areas) lobbying, research and funding for climate adaptation overshadows mitigation by a considerable margin (Simon 2010; Simon and Leck 2013). This is no coincidence. Led by powerful voices familiar with the global politics of development (with contributions from, for example, leaders from BRAC, IIED and the Rockefeller Foundation), a strategic choice was made in early phases of climate science and mobilisation to differentiate mitigation and adaptation imperatives and to push for climate adaptation as a priority.[3] In essence the view was that, for the global south, an adaptation (not mitigation) focus would do more to realise poverty reduction under conditions of global climate change (Bicknell et al. 2009). There was also a view that vulnerabilities tended to be focused on the larger extreme events, with smaller 'risk-accumulation processes' often overlooked as developmental rather than climate-related issues. This concern not only fed an adaptation focus but also underscored adoption of the language of global environmental change, not just climate change, in highlighting the connections to social justice (Parnell et al. 2007; Simon and Leck 2013).

[3] By the time an urban climate change meeting was convened at Bellagio in 2007 this position was, if not fixed, clearly well entrenched across donors, scholars and activists.

The (informal but influential) positions were no doubt made with the best intentions and were premised on the view that making mitigation the responsibilities of northern nations allowed for the rightful apportion of blame for human induced climate change. Also, stressing southern adaptation imperatives left southern parties free to focus on mobilising as beneficiaries from the potentially large climate adaptation fund (at one time thought to be larger than all donor assistance). Finally, stressing adaptation and downplaying mitigation facilitated the positioning of poor people to take adaptive action to protect themselves against predicted climate related hazards. This was seen as useful, especially in the context of weak and ineffective states whose capacity to regulate and enforce planning across the city scale in the way that is necessary to drive mitigation (which typically requires strong enforcement or significant incentives from a vigilant authority) was unrealistic.

In the early 1990s, as thought leaders galvanised their communities to respond to the science of climate change that was being assessed and informed by the IPCC, important decisions on priorities were made. The first wave of climate responses, both mitigation and adaptation, were heavily skewed to rural areas (especially agriculture and forestation), with powerful agenda setting organisations, like START, ignoring and even being hostile to urban dimensions of climate change.[4] Big science, the home of mitigation research, was thus very slow to pick up on urban climate research. A simple tracking of the dates of urban and rural focussed climate mitigation research would confirm the belated recognition of the problems of cities. Such a scan of the published literature would also confirm the mismatch in research on poverty and mitigation at the city scale. Even the 2004 launch of the Urban Global Environmental Change (UGEC) Programme failed to fundamentally shift the early tangential trajectories of climate and poverty work, though the UGEC schema of urban feedbacks (Sánchez-Rodríguez et al. 2005) did much to reintegrate global change thinking. This positioning of cities within a planetary frame is now commonplace, even in urban studies circles not usually concerned with environmental resources and flows (Brenner et al. 2011).

So, in poverty circles, mitigation lost out initially because of the overt focus given to adaptation and cities lost out to climate mitigators' emphasis on forestation and rural land use cover issues. Central to the rural subsistence push was the (mistaken then and even more so now) view that poverty was concentrated in rural areas[5] and the also widely challenged view that subsistence held the key to enhanced rural livelihoods.

[4] Evidence of this pro-rural emphasis is found in the programme design of START's climate training throughout the 1990s and 2000s. Only recently have START actively engaged the urban agenda's relevance to climate (see 2013 their Durban meeting).

[5] See extensive discussions of the under-recognition of urban poverty in UN-Habitat 2009; Satterthwaite and Mitlin 2013 etc.

The rapidly growing cities of the emerging economies also failed to attract the attention of global science because of the underlying view, widely pushed by donors, that poverty was primarily a phenomenon of low income nations. As a result the realities of middle income nations, where higher rates of consumption and the availability of greater resources for infrastructure meant that mitigation was a more significant issue than in ultra-low consumption, infrastructure depleted contexts, were largely disregarded in the pro-adaptation design of climate related donor assistance and popular education. A similar pattern of urban mitigation neglect stemmed from the tendency of national governments to drive mitigation through large efforts, such as the South African Long Term Mitigation Scenario (LTMS) process, or major renewable energy programmes. Large, expensive and ambitious programmes such as these are normally the preserve of national departments and the treasury, and the devolution of power to make effective changes at the city scale are rare. The innovative city scale downscaling of the LTMS and other energy based mitigation thinking has been largely donor funded and NGO driven (Lewis and Jooste 2012). South Africa is, in fact, very unusual in the global south in that a major debate is underway over the reallocation of powers and functions relating to the built environment, with devolution to the city scale that might enable significant local government action for mitigation. In poor countries and countries with high levels of urban poverty it is more common for the control over the institutional and fiscal levers of mitigation to be centralised. With that in mind, it is tempting to imagine that the blocks to a better climate/poverty interface lie on the climate science and policy end of the spectrum. In fact, until recently, conceptual barriers within the poverty community have conflicted with the adoption of mitigation as a pro-poor activity area.

How Dominant Perspectives on Poverty Militate Against Introducing a Mitigation Focus to Climate Change Research

Thus far it has been described why the climate community failed to engage a key problem of mitigation in poor cities. What may already be apparent is that the adoption of a new agenda like climate mitigation also depended on having a receptive host. In fact, the particular configuration of the poverty literature at the time of the late 1990s proved hostile to the structural interventions that climate mitigation implied and receptive to the more individualised and community focussed interventions proposed by adaptation science. The overview that follows provides an outline of the shifts in the thinking about urban poverty, highlighting possible reasons why climate mitigation was not readily embraced (for a comprehensive overview of the evolution of poverty studies, see Satterthwaite and Mitlin 2013; Mitlin and Satterthwaite 2013).

Trends in Poverty Research of Relevance to the Adoption of Climate Mitigation

The field of poverty studies is deeply divided with many different ideological and disciplinary traditions of approaching poverty. Poverty specialists are interested in whether poverty is absolute or relative, and if so, at what level. There is also keen interest in understanding the shifting patterns of poverty – leading to a major focus on chronic versus transient poverty. For our purposes of looking at poverty studies as a potential host for climate mitigation, the most important area of debate in poverty studies relates to shifts in the core definition of the problem. In short, before the 1980s the dominant view was that of economists who looked at lack of income. For reasons of data availability and professional influence, these income-based methods of poverty assessment prevail, notwithstanding extensive critique of the narrowness of economistic studies of poverty. Indeed, it could be argued that the tendency to ignore mitigation in the global south comes out of an economistic view that those who spend little money have no significant global impact.

The second most powerful influence on poverty interventions came with engineers and bankers who, working largely with donors and the big multilateral agencies, focussed on access to basic needs and infrastructure. Subsequent rejection of the focus on infrastructure for basic needs had as much to do with the politics of lending conditionality as structural adjustment programmes (SAPs) in Africa, Latin America and Asia were widely critiqued. In the process, the idea that basic infrastructure provision is a core anti-poverty activity lost its status for many decades (for an excellent overview of the different approaches to poverty see Wratten 1995). The resurgent interest in infrastructure and poverty across development circles (Pieterse and Hyman 2014) is now much more closely tied to resource debates through green infrastructure and financing and this offers, perhaps, one of the most exciting opportunities to fuse the climate mitigation and poverty reduction debates (see also Chap. 4 of this volume).

Throughout the 1990s and early 2000s both economic and infrastructure views were displaced as the leading edge of poverty studies, led by a group of social perspectives that drew inspiration from Nobel prize winner Sen (1999) and influential feminists like Moser (1998). Ideas of capabilities and assets provided the starting point for a livelihood approach to development. The focus is thus on harnessing the abilities and resources of the poor themselves and their relationships within a household and community. These micro-level relationships enable the poor to access resources, including natural assets, and provide the lens through which they relate to their wider neighbourhoods, the broader economy and natural systems. In the absence of adequate employment or social safety nets, the livelihood perspective has gained considerable attention as a means of reducing poverty by assisting the poor to build on their own assets, either through using or abusing the natural system. It also provided an accommodating intellectual frame for climate adaptation research, which flourished using the essential elements of the assets and livelihoods perspective (Bicknell et al. 2009; Frayne et al. 2012).

Livelihoods research has been criticised for being apolitical, for making the poor responsible for their own poverty and for ignoring the potential role of the state (Parnell and Robinson 2012). Two immediate intellectual alternatives to the livelihood work include: (1) a focus on the developmental state and; (2) foregrounding the long established ideas of environmental justice. The notion of environmental justice, or the mobilisation for social justice in environmental matters, refers to the wellbeing and rights of past and future generations. It is a movement that emphasises the overarching structures of inequality, for example in water rights, the location of waste and other hazards. Internationally, there is growing attention to the *environmental entitlement* movement that emphasises the rights of the poor to good quality and healthy neighbourhoods that are free of hazards and pollutants, a focus that sits well with climate mitigation projects. Opposition to degradation has, alongside the struggle to improve livelihood opportunities, become a new political vehicle of the poor, including in South Africa (Lawhon and Patel 2013). Environmental justice, as a social movement, should be enabling a politics of mitigation as well as adaptation, though the latter has dominated.

This brief overview suggests, improperly, that ideas evolve in a linear trend, in which one perspective gives way to another. This is not entirely true; differential understandings of poverty tend to co-exist, even while their influence rises and falls. In an acknowledgement of the value of the different traditions of poverty definition and measurement it is now common-place for a multiple definition of poverty to be asserted.

What has happened over the last decade or so is that, while poverty is almost always depicted as multi-dimensional, the city itself (how it is built, structured and managed) has slipped in priority as explanations of urban poverty have placed an increasing emphasis on human agency, livelihood strategies and community mobilisation (Rakodi and Lloyd-Jones 2002; Satterthwaite and Mitlin 2013). The focus on people-centred or bottom-up views of the last two decades are in no way wrong, but the human emphasis has meant that the structural and institutional role of 'the city' in shaping the experiences of poverty and the responses to poverty are now relatively poorly understood (Pieterse 2008). In the face of the boosterish calls to let the poor take more control of their lives, anti-poverty action that is imposed or top-down may be met with opposition or hostility. As a result, pro-poor actions which would be achieved through climate mitigation activities that work at the city scale (like enforced solar heating or improved public and non-motorised transport) can erroneously be presented as invasive, top-down or post-political technocratic urban management.

It has been suggested that the way poverty has been approached over the last two decades has resulted in failure to recognise the importance of the physical and organisational structure of cities and related impacts on the wellbeing of the poor, over multiple generations. The focus on people or agency, not structures and institutions appears to have distorted reform in urban planning, budget allocations and other mechanisms of urban transformation. A corrective is due that brings 'the city' back into public policy debates. Several authors within the broad poverty community have already shifted the overall orientation of the field. For example,

a burgeoning literature is developing for the following themes: urban infrastructure and poverty (Silver 2014; Jaglin 2014; Pieterse and Hyman 2014); the importance not only of improved public transport for the poor, but a push for more systematic, large multi-modal transport interventions in poor cities (Brand and Davila 2011); a resurgent interest in what states do for the urban poor (Ballard 2013); and the enduring specialist areas of urban poverty that are bound up with sectoral elements of the built environment, such as sanitation and housing.

The field of poverty studies is shifting rapidly with the renewed emphasis on the role of states and a concerted effort to locate poverty and human vulnerability in larger systemic approaches to urban change, like that offered by resilience thinking. The potential of these changes to link better to climate science is easily seen in the scaling up of the disaster risk response from the early focus on individual and household preparedness, to more recent attention to comprehensive city and national disaster readiness and responses (Simon and Leck 2014). Similarly, biodiversity science has engaged the urban agenda, including on issues of poverty, and in the process is driving greater attention to the city scale and to issues of governance (Elmqvist et al. 2013).

Conclusion

This chapter has explored the suggestion that it would be appropriate for climate mitigation and urban poverty strategies to align more closely. Understanding the intellectual and political reasons why this has not hitherto happened clears the way for a more direct endeavour to link climate mitigation and poverty reduction as twinned developmental goals, as has been more successfully achieved in the climate adaptation agenda. For cities of the global south, a clearer integration of all aspects of climate action would aid already overburdened local governments. Better alignment of adaptation and mitigation in planning processes to the public good and the interests of the urban poor would further simplify the massive changes required in how cites are designed, built and operated.

Unfortunately, some structural barriers remain in the forums where the climate mitigation and poverty agendas should be jointly pushed. For example, the current structure of IPCC reporting, which only belatedly addressed any urban issues at all, continues to split mitigation and adaptation – thus reinforcing the north/mitigation, south/adaptation split. The almost complete exclusion of cities in the developing world from the C40 has begun to change; three more African cities were included in the organisation at the 2014 Johannesburg summit. But, until membership of mitigation lobbying and organising bodies like C40 include imperatives from large cities in poor countries, where one would have anticipated a clear mitigation policy to deal with transport and energy demands as well as building codes and forward planning in land use, a mitigation agenda with global traction will not be formulated.

The single biggest hope for inserting a mitigation agenda into the core of development thinking comes with the United Nations Sustainable Development Goals (SDGs) process now under debate. However, despite the shift to a more sustainable emphasis, climate is currently framed as a separate goal that is devoid of poverty related targets and it is likely to be linked to biodiversity through the process of slimming down the total number of SDGs. There is a parallel process for a standalone urban goal, which is currently not linked to climate debates.[6] Careful attention needs to be given to the targets and indicators, which will drive the overall SDG process, for these will influence international and national development priorities. For the new development approach, as articulated in the SDGs, to succeed realignment and reconciliation of the conceptions of both poverty and climate mitigation are needed.

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