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Cities, Violence and Order: The Challenges and Complex Taxonomy of Security Provision in Cities of Tomorrow*

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Abstract How will security in cities be understood in the future? For whom will it be provided? What are the ways by which urban security provision will be governed? And, what impact will violence and order in cities have on the processes of state-building in fragile contexts in the future? This article reports on a foresight study that addresses these questions. A key finding is that there are multiple and overlapping forms of urban violence, and the ways these interact have important consequences for understanding order in future cities.

Keywords: cities, urban, violence, foresight.

1 Introduction
Cities are not only critical nodes of governance in the global North and South, but also play a 'critical role in the processes of state consolidation, transformation and erosion' (Beall, Goodfellow and Rodgers 2013: 1). Indeed, as Tilly (2010) argued, the changing relationships between cities and states can help us understand the centrality of cities in such processes.

At the same time, the state is no longer regarded as the sole or uncontested provider of security in cities. This is due to two key advances in knowledge around, firstly, how cities as a unit of government grew to be distinct from the nation state that is weakened in an ever-globalised world (see for example Schiller and Fouron 2003). As Friedman argues: '[T]he focality of the state in identity formation is giving way to competing identities from indigenous, regional, and migratory populations. The latter has also entailed a decentralisation of resources within the state… and an increasing division of powers, between the state as the representative of the nation and the subgroups that tend to displace it' (Friedman 2003: 8).

Secondly, the state is viewed as one of several actors centrally involved in the processes and actions that produce and mitigate violence (see for example Punch 2012), alongside local, non-state and other sovereign groups (Muggah 2014, 2015b). In parsing out the nature of state violence, the focus has therefore shifted away from a singular understanding of the role of the nation state, and moved towards processes of governance (Nugent 2004) and multiple sovereignties (Rodgers 2006) that come together to produce outcomes of security and insecurity. In turn, the diverse types of violent encounters so produced only bear a superficial connection with the structures of the nation state, but instead, play out in the everyday (even intimate) spaces in the city (Datta 2012).

The most complex of these relationships are invariably playing out in the cities of low- and middle-income countries (Muggah 2015a), where most of the urban population growth in the coming three decades is set to take place (United Nations 2014). It is in these contexts that everyday lived experiences of violence undermine the confidence of citizens in government systems, directly and indirectly have a negative impact on livelihoods, and frequently reduce the quality and quantity of service provision. Though these impacts are varied and often characterised as hyper-local, they do collectively shape wider discussions on governance and state fragility at the national scale (Commins 2010).

When it comes to the subtleties of addressing the concerns of how security will be provided in cities in the future, however, there has been a lack of thinking beyond simplistic doomsday scenarios or utopian projections. This is reflected in what are arguably simplistic understandings of order, governance and control in cities of the developing world.

At one end of this continuum are 'feral cities' (Norton 2010), characterised by a complete failure of the state to maintain the rule of law, thereby being overrun by all-subsuming slums (Davis 2006). As a result of their collective failures, state apparatuses at both the city and national levels are viewed in a non-distinguishable manner. They are contrasted only with a paradoxical balance between on the one hand informal institutions that control the city, and on the other, the greater international systems, such as trade and communications, that continue unabated to connect with the city (Bunker and Sullivan 2011). At the other end of this spectrum are 'charter cities' (Romer 2014). Romer describes these as monolithic entities, newly created to be free of the vested interests and inefficient rules and bureaucracies that hinder security, growth and development.

Aside from the two extreme characterisations, pertinent questions around how security in cities will be understood in the future, how and for whom it will be provided, and how it will be governed, remain largely unanswered. A growing body of evidence showcases the heterogeneity of security processes and outcomes, both within and

Figure 1 Design of cities, violence and order study
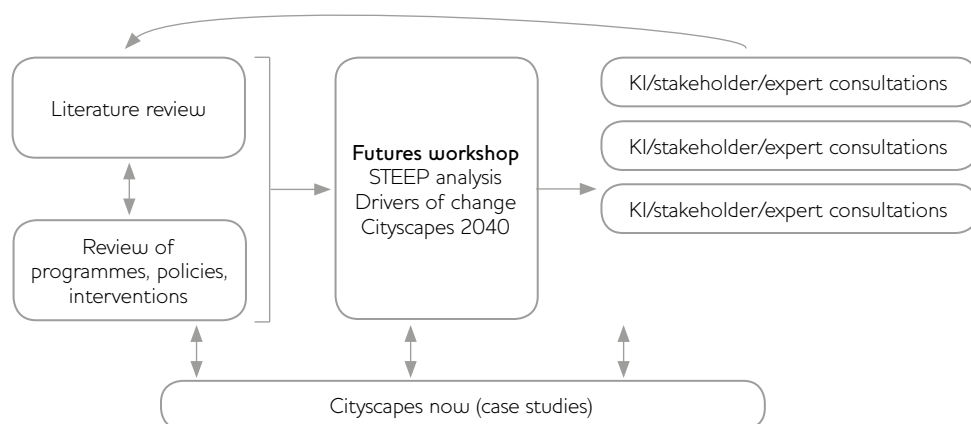
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between cities (Gupte, Justino and Tranchant 2014). Notwithstanding these recent advances, contemporary paradigms of urban development do not substantively account for the ways in which the social, political, economic and physical aspects of urban form interact and shape the mechanics of security provision in cities. Part of this gap is due to the separation between development theory or urban planning on the one hand, and issues of security, conflict and violence on the other. These have usually been different intellectual and programmatic domains, to the detriment of a coherent approach to either analysis of insecurity or effective approaches to security provision.

This has left a perceptible gap in development policy, compromising the manner in which we respond to urban challenges today.

2 Research questions and study design
This study was driven by three main research questions:

1 What might the challenges of security provision in cities look like in the future?

2 How can development policy and practice pre-emptively respond today?

3 What types of programmes should be given greater priority and support in the future?

The study design is illustrated in Figure 1, and included review of the relevant literature and of relevant programmes, policies and interventions in a selection of cities. These reviews were conducted iteratively, fed off one another and informed the futures workshop. Following the futures workshop, a series of consultations with key informants (KI), stakeholders and experts were conducted, in order to help ground the workshop findings in current stakeholder and donor priorities.

For the foresight workshop, a group of urban experts and leading thinkers representing a broad range of disciplinary perspectives gathered to identify what the drivers of violence and order in cities might be in the near future. The discussion was systematised through the 'STEEP' – social, technological, economic, environmental and political (see Figure 4) – framework so as not to reduce the drivers to a simplistic value judgement, i.e. 'good' versus 'bad' or 'positive' versus 'negative'. Instead, the drivers of change are represented as slider-scales that can be adjusted to postulate how the processes of change might function in cities in the future. The list of drivers can be fine-tuned depending on local contexts.

These foresight techniques are not meant to predict the future. Rather, they produce potential characterisations of future cities that can be used as heuristic tools to help consider the nature of challenges in the future, and the types of policy response, both today and in the future, that these might necessitate. This material is then supplemented with expert consultations across a wide range of donors, practitioners and academic experts to identify key biases and blind spots in research, policy and practice.

3 Dimensions of urban form relevant for futures thinking on cities, violence and order

The workshop adapted a scenario-planning process with the twin aims of 'characterising what the challenges of security provision in cities might look like in 2040' and 'formulating ideas on how development policy and practice can pre-emptively respond today'. The process was designed to generate a set of narrative scenarios of the city in the future, referred to throughout the process as 'cityscapes'. Shocks and stresses could be laid over these cityscapes to 'test' their resilience. The resilience testing process would reveal weaknesses in the social, political and economic structure of the cityscape. Near-term development policy and practice interventions could then be designed to address these weaknesses and mitigate future impact.

For the purposes of this study, we conceptualised 'violence' and 'order' in cities as being functions of three interconnected dimensions (D) of the urban form:

D1 Grid – focusing on city spaces, their layout and planning, as shaped by economic, political, technological, social and gendered factors.

D2 Governance – focusing on the processes and structures that form the institutions through which people are excluded and included; sociopolitical voice and participation versus marginality and exclusion; willingness and capacity of state actors.

D3 Ephemerality – focusing on the shifting dynamics and identities of violence that are often related to the grid and governance of the city, but not reducible to them.

These dimensions were conceptualised such that cities may display different configurations, with one or two of the dimensions dominating

Figure 2 Three dimensions of urban form – violence and order (V & O) in cities are a function of D1 (Grid), D2 (Governance) and D3 (Ephemerality)

Grid

V & O

Ephemerality   Governance
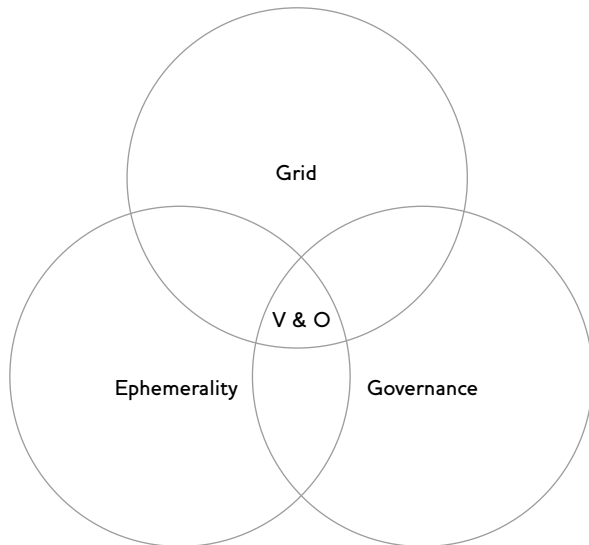
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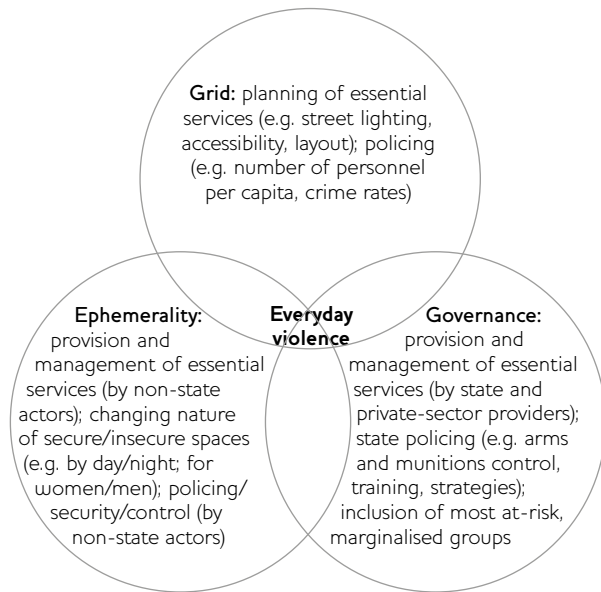depending on local, temporal or spatial contexts. In the illustration above, the three dimensions of urban form are shown to have elements that are unique to each dimension, as well as elements that fall within the overlap of two, or all three, dimensions. It is important, however, to acknowledge upfront that this three-way articulation was not envisioned to be an exhaustive description of the urban form, and was used more as a heuristic tool to widen the group's thinking, rather than as a framework to limit the scope of discussions.

Indeed, several alternate castings are plausible, including one that is interpreted through the dimensions of *Infrastructure–Governance–Contingency*, or around *Planning–Policing–Possibilities*, for example, or castings that use fewer or more dimensions. The point of such a heuristic tool is not only to systematise thinking about cities into the various dimensions, but importantly to push us to focus on the *overlaps* of two, or more, dimensions. For example, the organisational set-up of municipalities would pertain to the governance dimension (D2), while the role of non-state actors in the provision of essential services such as water or neighbourhood policing would be placed in the overlap of the governance and ephemerality dimensions (D2 ∩ D3). As another example, elements of the city master plan, such as zoning demarcations (hawker zones, for instance) would be placed in the grid dimension (D1), but multiple or shifting uses of public spaces (street markets during the day, places of congregation or prayer in the evening, for instance) would be placed at the intersection of the grid and ephemerality dimensions (D1 ∩ D3).

Based on this typology, 'violence' and 'order' in the city are placed at the intersection of all three dimensions (D1 ∩ D2 ∩ D3). Doing so

Figure 3 Theorising the interactions between urban forms and everyday violence

Grid: planning of essential services (e.g. street lighting, accessibility, layout); policing (e.g. number of personnel per capita, crime rates)

Ephemerality: provision and management of essential services (by non-state actors); changing nature of secure/insecure spaces (e.g. by day/night; for women/men); policing/ security/control (by non-state actors)

Everyday violence

Governance: provision and management of essential services (by state and private-sector providers); state policing (e.g. arms and munitions control, training, strategies); inclusion of most at-risk, marginalised groups

Source Authors' own.

recognises that both 'violent' and 'ordered' outcomes in cities result from varying combinations of elements in each of the three dimensions. We will therefore use this typology to identify the elements pertaining to each dimension for the issues we focus on. For example, 'everyday violence' in cities could be broken into the elements shown in Figure 3.

4 Key trends

There is good reason for cities to be described as the 'new frontier' for international development (DFID 2010). Nearly two thirds of the global population of 9.1 billion in 2050 is projected to be urban. This implies a doubling of the global urban population from 3.3 billion currently, to 6 billion in 2050 (United Nations 2014). While approximately half the world's urban population live in smaller towns, our focus in this study is maintained on the larger urban agglomerations, as well as the smaller towns that are projected to grow to host more than 500,000 residents. These growing towns and cities are key as markers for policy and programming interventions on violence mitigation.

We find that while some of these growing agglomerations, such as Juba (South Sudan) or Buenaventura (Colombia), are already beginning to feature in the research agendas on violence and order, others such as Lubango (Angola), Herat (Afghanistan), Pokhara (Nepal) or Muzaffarpur (India), however, continue to be relatively hidden from international view. Nevertheless, these are all locations where there are growing concerns over violence and order, ranging from the increasing presence of gang and criminal activity in Pokhara, violent evictions in Lubango, to social unrest and mob violence in Muzaffarpur.

Violence in both urban and rural contexts is a serious threat to human security (UN-Habitat 2007), and disproportionately impacts those who are already poor and marginalised (Justino 2007). Recent research points to the increasingly urban geography of violence (Buhaug and Urdal 2013; Raleigh 2015). This moves us beyond thinking of urban violence only as a periodic segment of war that is otherwise a rural phenomenon. When the violence of war does spill into urban areas, it is invariably indicative of changing strength ratios between rebels and government (see for example Holtermann 2014). We also know that violence against civilians during civil wars now occurs predominantly in urban areas (Raleigh 2012).

However, the types of violence associated with war or armed conflict are not the only significant modalities of urban violence. The destructive impacts of criminal and everyday violence can be more acute than traditional war – the United Nations Office on Drugs and Crime (UNODC) finds that 'by far the largest aspect of the global burden of armed violence is the deaths and injuries that occur in non-conflict or non-war settings' (Geneva Declaration Secretariat 2008: 67). Of the 31 most fragile and conflict-affected countries today, 23 are projected to be significantly urban in the near future. At the same time, fatalities due to armed violence in non-war settings far outweigh war-related deaths. Much of this violence is centred in cities. Violence, therefore, is increasingly a defining characteristic of urban living in both conflict and non-conflict settings.

An often-cited metric for death and victimisation in the city is homicide. According to the most recent data available, the 20 cities with the highest non-war-related homicide rates were predominantly in Latin America and the Caribbean, with a few from sub-Saharan Africa, North America and Central Asia also making the list. It is also the case that homicide rates tend to be higher in cities.

Not highlighted by these global trends are cities where the inconsistencies of national crime records prevent global comparisons. One glaring omission in this regard is Karachi, Pakistan, where 'killings' (not specifically defined as homicides) have dramatically increased over the past decade, and at the same time have come to be concentrated in a handful of neighbourhoods. In absolute numbers of killings, Karachi rates among the most dangerous cities in the world (Hashim 2012). Another aspect not captured in the global comparisons of the highest homicide rates, are emerging situations like that of India, where 43,355 intentional homicides were recorded in 2012 at a rate of 4.5 per 100,000 people (Gupte and Muggah 2015). Criminal violence generates at least ten times more deaths and injuries in India than terrorism and conflict. In this, a comparatively small number of intermediate and large cities register a disproportionate amount of gun violence: four of the top five most violent cities in terms of murder by firearms are located in Uttar Pradesh.[1] The most violent cities are not mega-cities, but rather mid-sized cities of between 1 million and

Figure 4 The STEEP framework overlaid onto the city and its wider environment
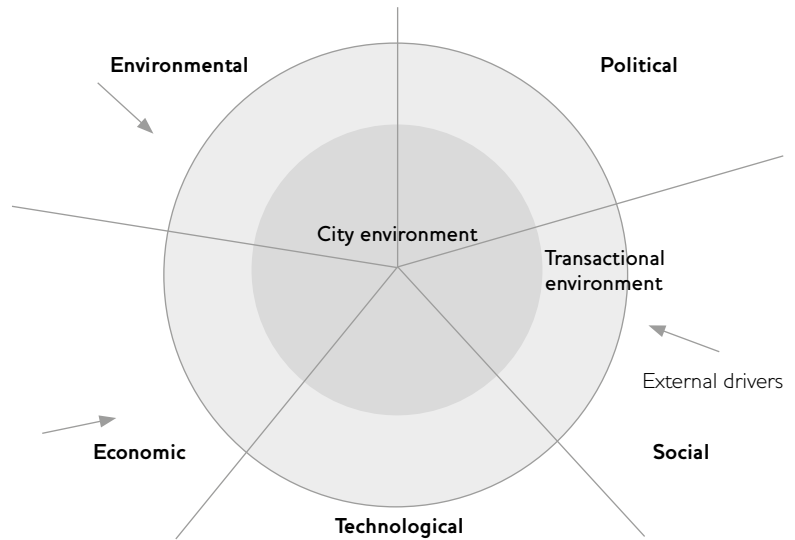
Source Diagram developed for the workshop by Fran Seballos (IDS) and Alun Rhydderch (School of International Futures).

3 million people. These mid-sized cities continue to grow rapidly and feature disproportionately large populations of unemployed and under-educated youth. They are also exhibiting severely under-resourced services, including public police forces.
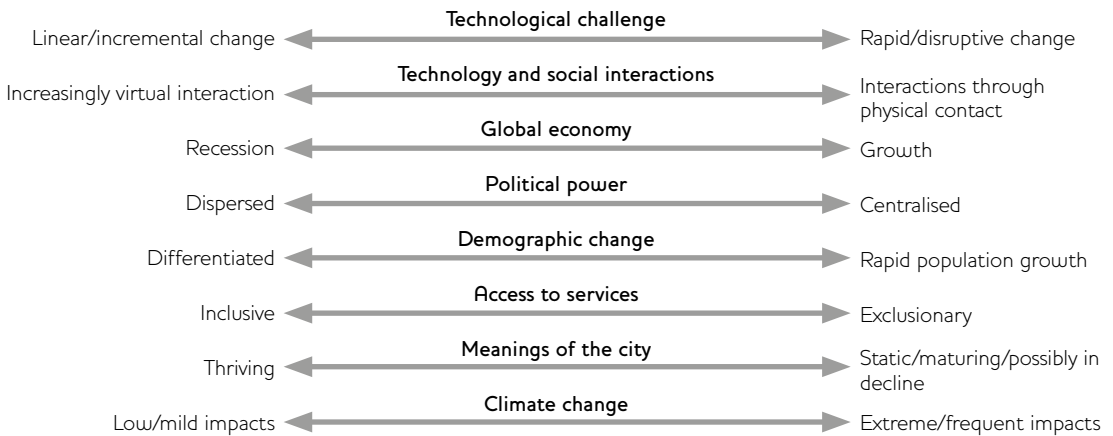
5 Foresighting cityscapes 2040

The cityscapes developed for this study were set in the 2040s, giving a 25-year time horizon. This time period was chosen to reflect commonly used high-level planning horizons (in the United Kingdom) and to go sufficiently beyond the Sustainable Development Goals and Agenda 2030[2] timeline so as to complement but not get completely diverted by the current debate. In addition, a 25-year time horizon is tangible enough for the participants to grapple with and relate to, yet far enough into the future for change to be quite dramatic.

Using the STEEP – social, technological, economic, environmental and political – framework, the opening session generated input on the key global trends and external forces driving change and impacting our societies, environments and cities. Five participants were invited to share short presentations identifying between three and five key trends or external forces that, from their perspective, are driving changes in violence and order now, or are emerging as drivers of future change. The workshop facilitators recorded and mapped the drivers onto a wallchart depicting the city, its transactional environment and the external forces affecting the core (see Figure 4).

Drivers of change identified by the group of experts at the futures workshop were mapped according to the STEEP framework and

Figure 5 Potential drivers of change characterising future cities

	Technological challenge	
Linear/incremental change	←——————————————→	Rapid/disruptive change
	Technology and social interactions	
Increasingly virtual interaction	←——————————————→	Interactions through physical contact
	Global economy	
Recession	←——————————————→	Growth
	Political power	
Dispersed	←——————————————→	Centralised
	Demographic change	
Differentiated	←——————————————→	Rapid population growth
	Access to services	
Inclusive	←——————————————→	Exclusionary
	Meanings of the city	
Thriving	←——————————————→	Static/maturing/possibly in decline
	Climate change	
Low/mild impacts	←——————————————→	Extreme/frequent impacts

Source Authors' own.

according to the environment from which the driver emerged – external, transactional or from the city itself. Due to the specialist nature of the experts' interventions, a plenary session was facilitated to explore drivers beyond the city context, which may affect how individuals, organisations, institutions and cities function and interact in the future.

The list was by no means meant to be exhaustive, but served as a platform on which the following futures thinking could be based. Populating the wall chart as described allowed the rapid clustering of drivers under broader headings. The process generated nine broad clusters of 'drivers of change':

1 Population dynamics

2 Authoritative control of urban space

3 Changing meaning of cities and urban living

4 Environment and resource scarcity

5 Changing economies

6 Movement (flows) of people

7 Technological innovation

8 Complexity of governance structures

9 Political economy of land, (illegal) commodities and services.

The nine clusters were then visualised as 'slider-scales'. In conceptualising these slider-scales, care was taken so as to not reduce any one to a simplistic value judgement – i.e. 'good' versus 'bad' or 'positive' versus 'negative'. Instead, the ends of each scale signified

a nuanced calibration (to maximum or zero effect) of the drivers of change within that cluster of drivers of change.

Two scales for the Technological Innovations cluster were conceptualised: (1) ranging from being predominantly linear and incremental in nature, to being rapid and disruptive; and (2) as being reliant on increasingly virtual interactions to being reliant on interactions through physical contact. Figure 5 shows a visual representation.

From these eight slider-scales, each of four groups was allowed to select between two and four spectrums to provide a framework for their future cityscape. This was a departure from the usual process of scenario development that is premised on the selection of two 'high impact: high uncertainty' scales which are overlaid to create a quadrant giving four potential scenarios.

In building the cityscape frameworks, the groups had to identify which end of the scale would be shaping the city, and in order to avoid group bias, they had to select one driver and use the opposite end of the spectrum to that which they intuitively felt would be more likely. This rule was instigated to stop the groups building cityscapes that were overly influenced by their preconceptions of what a future city may look like, and to ensure that a range of future possibilities was fully explored.

Groups were then referred to the 'three dimensions of urban form' – grid, ephemerality and governance – as a point of reference for describing and articulating the interactions and dynamics between the STEEP drivers, as framed by each group's chosen spectrum extremes. To help visualise the cityscapes, each group was encouraged to either select a known city, or name and locate their city – for example, a coastal city in southern Asia. For this workshop, this provided important context for considering issues such as the availability of land for expansion, or the types of climate impacts that may be experienced – for example, sea-level rise.

Once the cityscape narratives were fleshed out, the groups were also asked to consider the impact of three kinds of unmitigated and exogenous shocks and stresses on the interactions and dynamics between the actors, spaces and institutions, i.e. the worst case within the context of their cityscape. The shocks and stresses were:

- S1 Everyday insecurities – this includes those insecurities and vulnerabilities which do not threaten the state *per se* but nevertheless form the everyday lived experiences of city-dwellers.

- S2 Violence, uprisings and armed conflict – this includes protracted conflicts that are increasingly located in and around cities, or even if they are not, often have the control of cities as their objective.

- S3 Climate change and disasters – this includes the many small disasters, i.e. fires, landslides, local floods, waste flows, not just the headline ones.

Thinking through the unmitigated impact of such shocks and stresses led to the identification of weaknesses in the cityscapes' systems, institutions and interactions – or conversely to their strengths. Considering both the weaknesses and strengths, each cityscape group then took up the challenge of designing interventions – policy or programmatic – that would mitigate (in the case of weaknesses) or ensure management of (in the case of strengths) the shocks and stresses identified.

To show how the slider-scales might be operationalised, the following sub-sections present excerpts from two cityscapes as examples (see Gupta with Cummins 2016 for complete versions). The cityscapes are developed using various calibrations of drivers of change as markers. Potential policy responses, and how these might interact with the future city, are then identified.

Cityscape 2040: 'Coastal collapse'[3]

A coastal Chinese city with a population of 10 million and a broader urban region of 20 million making a poly-centric, export-dominated, special economic zone. In 2015, it was still a successful exporter of 'white goods' – for example, fridges, washing machines, microwaves and other manufactured goods to the European and North American markets. It had developed very fast from 1995 to 2015, but by 2040 there are serious signs of strain on the economic and social model on which the city's development and prosperity had depended. The city is located on the coast where there is a container port (which was modern in 2015, but will fall on harder times due to a decline in export demand), and there is a river. Expansion to the megalopolis of 30 million people will be rapid and not constrained by any geographic features (like mountain ranges). The main constraints will therefore be the 'workableness' of the urban region – distance, traffic, commuting times and so on. Given that the city is located on the flood plain with a low-lying river delta, flooding and sea-level rise have been greater challenges.

Three drivers of change were used to create this cityscape.

Global economy

Recession ⟵————◆————————⟶ Growth
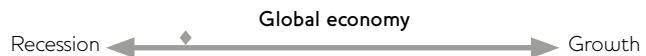
Impact of slider-scale calibration: By 2040, there was a general and local recession caused by a shift in large-scale manufacturing out of China. There was still limited demand for the type of goods produced in the Chinese market as the middle class had developed (2015–35) but for the last five years (2035–40) even here demand slowed. Much of the basic manufacture and assembly for these goods was now done in other Asian and African countries.

Some of the entrepreneurial and managerial staff were able to emigrate and work in Africa in supervisory, planning, IT and managerial posts for the kind of firms which had been producing previously in the city region. In a return flow of migration, some foreign traders and a few people with specialist skills came from abroad to live and work in the city.

There are a lot fewer formal sector jobs. In rural areas, the informal development has been accepted. The situation is less clear-cut in the cities.

	Political power	
Dispersed	◆	Centralised

Impact of slider-scale calibration: By 2040, the Chinese political system had evolved, but not fundamentally altered. The Chinese Communist Party was still in control, but the difficulties in the economy and previous experience with the devolution of some decision-making autonomy to city level meant that (successful) local experiments were welcomed. Unsuccessful experiments adversely affected career chances for local officials and managers – leading in extreme cases to disgrace, demotion and/or relocation. But so did continued inadequate economic performance in the city and signs of public discontent. Citizens' interest groups could organise around local issues of service delivery, economic performance, and issues such as the efficiency and cleanliness of the city, housing, etc. They did not have to be under Party control but were still not allowed to challenge the system or threaten its 'stability' (order) as defined by the Party. To do so could trigger direct reprisals and police intervention – even with force – for example, clearing streets by police action if a demonstration 'got out of hand'.

The coordinated pressure for better services on the one hand, and the comprehensive use of electronic surveillance technologies on the other, mean that there is now permanent potential for conflict. There is a danger that the middle class may become more insistent that the state should 'get a grip' and impose more order.

Linear/ incremental change	**Technological change**	Rapid/disruptive change
	◆	
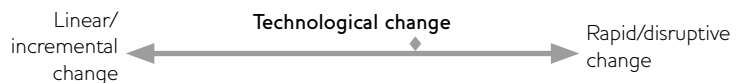
Impact of slider-scale calibration: The period 2025–35 revolutionised the industrial base of the city. Computerised, robotised and fully automated production processes replaced the need for less skilled labour working in assembly for instance. The manufacturing process was mainly centred on carbon compounds and new materials, not metal. 3D printing largely replaced the need for transport of components and assembly. Finished items were much smaller and lighter. In many cases software transfer meant that customers could have their items locally produced in '3D print warehouses'. This meant that the large factory buildings were mainly standing idle – but some were adapted to other uses – broken up into small units used for product design, such as 3D print shops of various kinds and centres for manufacturing green energy technologies.

The new technology inevitably meant that there will be winners and losers – the main losers are likely to be lower-skilled workers and those working in transport.

What might be the policy response to increased tensions and violence in this cityscape? First, the strong citizen response to the floods, coupled with

a more responsive attitude by the authorities, creates new possibilities of a stronger coalition between the authorities and the wider population. The poorer sections of the population insist on no evictions and no victimisation for those involved in activism – particularly the squatters' movement. The 'no empty space' movement is a citizen-led coalition campaigning for any empty housing to be made available and for factory space to be used at advantageous rates for business, community groups, self-help training initiatives and so on. The community is also providing labour at subsistence wages to build up the sea defences to provide a new protective barrier for the poorer residential areas. The city is providing the rocks and cement to make this possible. Street vendors' organisations succeed in their campaign for a more progressive policy and indoor space for regularisation of their status. A liaison group between the traders and the city and police negotiates a resolution of almost all areas of friction in a tolerable and mutually acceptable way.

Second, the precarious stand-off between the authorities and certain sections of the population continues. Occasional victimisation of prominent activists, such as leaders of the street vendors or squatters, continues. Periodic 'crackdowns' lead to confrontation between police and local youth – sometimes with violence and counter-violence. Groups do not achieve any wider solidarity, each group has to 'fight its own corner' – leading to contestation over services and mistrust and competitiveness between different initiatives. There is some voluntary work and patchy philanthropic initiatives. The port is still functioning, but is of diminishing economic importance. Within the wider city area (the 30-million conurbation) some new small enterprises emerge and some 'urban farm' ventures develop on a small-scale cooperative model.

Finally, the downward spiral continues. The 'Chinese Detroit' scenario threatens. City finances are non-viable – the city is effectively bankrupt and the state is not keen to bail it out or provide a rescue package. Policing and services are – step by step, without a deliberate policy or announcement – gradually withdrawn from the poor areas. The poorer sections of the population are left to fend for themselves and these areas of the city become effectively 'no go' areas for officials and outsiders from the residential areas which are not so hard hit.

Cityscape 2040: 'Post-capital commons'[14]
This cityscape was built using a contemporary non-coastal Indian city as a starting point.

Low/mild impacts ←————— Climate change ◆——→ Extreme/ frequent impacts
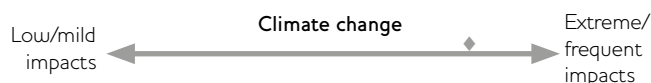
Impact of slider-scale calibration: Climate variability is thought to be highly disruptive, with serious conditions of flooding and high levels of out-of-season rainfall interspersed with heat stresses getting more frequent and intense with time. However, as the city itself is not coastal, the climate-related shocks and stresses are perceived as 'happening

elsewhere'. As a result, risk management is not highly systematised across the city. Most efforts towards building resilience are mainstream and 'off-the-shelf' approaches.

Differentiated ◄————————► Rapid population growth

Demographic change
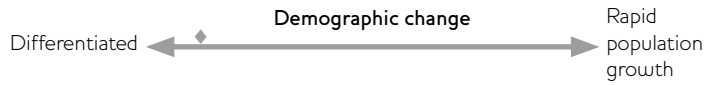
Impact of slider-scale calibration: The population can be described by extreme demographic differentiation and accompanied by a reduction in family sizes. A change in gender dynamics is perceptively evident with women more likely to work, given the need for dual incomes across most households. Smaller family units also imply fewer elderly parents are able to live in the same home – this marked transformation in domestic space is significantly different from rural settings, where larger households are more common.

Linear/ incremental change ◄————————► Rapid/disruptive change

Technological change
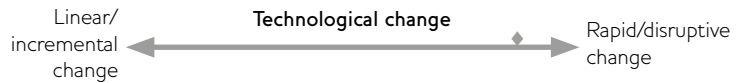
Impact of slider-scale calibration: The city is envisaged as being shaped by new technologies that are disruptive to the status quo. In particular, 3D printing technologies have rapidly developed and revolutionised two sectors. Firstly, new building technologies have replaced bricks and mortar with 3D printed materials. The technology has become widespread through middle- and upper-income neighbourhoods, where residents have been able to readily afford the expensive raw materials required to switch to this technology. Low-income neighbourhoods continue to use low-grade non-permanent materials. The regulatory environment has been unable to cope with the 'democratisation' of building technology, and this has inevitably led to a greater degree of non-conformity with building regulations. Recent government efforts have been aimed at regulating the design files, while building regulations need to be enforced through code inspectors.

Second, small arms manufacturing has switched almost completely to using 3D printing. The open-source nature of the design files has led to widespread gun ownership among civilians in all walks of life. Control of ammunition is one of the few remaining state controls of firearm use.

Recession ◄————————► Growth

Global economy

A collapsing dollar has triggered the Chinese to demand repayment of their debt. As a result, a new Bretton Woods system has emerged that sets up a global consensus that the reconstruction of spaces and economies is in the collective interest, and directs money towards such efforts. Though cities become less important, this, however, does not exacerbate intra-urban inequalities. A group of global leaders articulate a different way of generating and allocating resources that 'ensure the public good' across countries and across cities.

What might be the policy response to increased tensions and violence in this cityscape? First, the nature of governance structures in the city imply that the burden of risk management cannot be placed on any one single scale, but is spread across local and national actors. Investing in a strong evidence base early is important, as is the need to empower communities with access to this evidence. Substantial resources need to be diverted towards re-imagining the conceptual frameworks used to understand 'refugees' and 'internally displaced'. As people get displaced from one city and seek refuge in another, city-based citizenship becomes a contested topic that requires support from research funding.

Second, technology regulation systems are key to maintaining order and control; however, there are differential impacts across the city. Innovators in design and usage of new materials are thought-leaders and key influencers – so development interventions need to focus on including them in the process of change. Gender dimensions continue to be central, not only for the differential impact of violence, but also due to the gendered nature of the relationships people have with technological innovations. Interventions therefore need to focus on creating space for both women and men to be leading innovators.

6 Conclusions

Using foresight methods, we find that there is a continuing need for donors to invest in more evidence-gathering and to undertake more detailed research on the interplay between violence and order in cities. This includes maintaining focus on different typologies of violence. Violence might occur 'upon cities' (as in cities coming under siege). But it might also occur 'within cities' (where violence is located in urban settings, but almost by circumstance), or it may be 'inherent to cities' (where the type and modalities of violence are specifically urban in nature; and even become ingrained in the everyday fabric of urban life). The three levels are deeply interconnected (through cross-cutting themes of gender, for instance), but they present significantly different challenges in terms of entry points for violence mitigation strategies.

Another important conclusion is that 'ordered cities' are often synonymised with 'planned', 'smart', or even 'charter' cities. Misconceived planning, policy, or design interventions are likely to create insecurity, not reduce it. Urban order can also be repressive and exclusionary, and these processes can occur over very long periods of time. As such, 'order for whom?' is the operative question that significantly impacts outcomes. In this sense, there is a critical gap in our understanding of the lessons that the safest cities provide us in terms of systems thinking – as opposed to violence preventing innovations in unsafe cities.

Both national and local governments, as well as donors and other stakeholders, need to rethink their tools and analytical frameworks to assess whether the lived experiences of urban violence are being adequately taken into account. This should also extend to research, policy design and programme implementation. Using 'foresighting' can

help identify urban futures that are possible, probable and preferable. As heuristic tools, these future scenario-planning approaches are useful in helping to assess the nature of future challenges, and the types of policy response, both today and in the future, that these might necessitate.

The futures thinking presented in this study is relevant for mega-cities such as Mumbai and Rio de Janeiro as they continue to change, but importantly also for smaller towns and cities that are projected to host more than 500,000 residents, particularly in fragile and conflict-affected countries. In either setting, experience shows that an approach to 'get the economy right first', or even focusing too much on national institutions of government, without giving attention to local government, might create social and political fissures and create violence in cities. Institutional conditions and governance arrangements are such that they tend to exacerbate processes of marginalisation, unless that is, issues of inclusion are explicitly placed on the table.

In terms of violence mitigation, there are tangible differences between 'political settlements' and 'peace processes' – in many ways, the former is static and non-transformative, while the latter is more geared towards the fluid future of cities. As we have noted, crime and violence statistics are useful proxy indicators of everyday violence and fragility in cities because they represent social stress, failures of state systems/legitimacy, and may create deeper processes beyond specific numbers (i.e. fear of taking certain bus lines, visiting certain neighbourhoods, or mistrust of other ethnic, religious and political groups).

But everyday violence and fragility also goes beyond simple statistics of violence to include the ungoverned or non-state governed spaces that they can represent. It also includes the destabilising factors that urban pressure can bring to national politics, and the positive element that this might have on forcing greater accountability on political elites. One commentator refers to 'pirate' cities in regard to how citizens have created their own service systems, while another has referred to the 'self service' state.[5] Both reflect the ways in which governance failures have an impact on local communities. The complex nature of the overlap between urban and national fragility is, however, a pressing issue at a national and international scale as well.

Notes

* This article draws on Gupte, J. with Commins, S. (2016) *Cities, Violence and Order: The Challenges and Complex Taxonomy of Security Provision in Cities of Tomorrow*, IDS Evidence Report 175, Brighton: IDS.

1 Interview with Rajan Medhekar, Director Gender (Retd.), National Security Guard, India.

2 For more details, see: https://sustainabledevelopment.un.org/post2015/transformingourworld.

3 Group notes contributed by Roger Williamson.

4 Group notes contributed by Eric Kasper.

5 Garth Myers, written communication.

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