

FUTURE RESILIENT NAIROBI WORKSHOP REPORT

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Introduction

This report presents the proceedings and reflections of the 'Future Resilient Nairobi' Workshop held virtually on the 7th of August 2020. The workshop, the first in a series of workshops under the Nairobi Risk Hub, provided an opportunity for city stakeholders to create a shared vision of 'Future Resilient Nairobi'. The Nairobi Risk Hub, a collaboration between the Nairobi City County and the African Centre for Technology Studies (ACTS) seeks to enhance the City's disaster risk management and resilience by embedding disaster risk into urban planning and development decisions. This partnership is part of the wider 'Tomorrows Cities' - a five (5) year global research investment by the UK Research and Innovations (UKRI), Global Challenges Research Fund (GCRF) to help reduce disaster risks for the urban poor. The Nairobi Risk Hub is one of four global Urban Risk Hubs under Tomorrows Cities. The rest are in Istanbul, Quito and Kathmandu.

Workshop Objectives and Expected Outputs

The overall objective of the workshop was to facilitate key in-city policy actors in the identification of a shared vision for a future resilient Nairobi. This involved the identification of potential challenges and opportunities towards building resilience for the urban poor and; establishing the role of science in integrating risk management in urban planning and development processes in Nairobi. Section 3 below provides a brief description of the context of risk and development in Nairobi. This is followed by a description of the methodology and detailed accounts of the workshop findings. Lastly, the report concludes by providing reflections on the workshop methodology and implications for the Nairobi Risk Hub.

Nairobi's Context for Risk and Development

Nairobi faces multiple hazards ranging from fires, floods, collapsing buildings and epidemics with potential risk of large-scale disasters from earthquakes. These are further compounded by shocks from changing environmental and climate conditions, the rapid population growth and unplanned expansion of infrastructure and human settlements. The combined impacts of these multiple hazards over time not only trap millions of people in poverty but have the potential to rollback the development gains made over the years. This calls for a serious shift towards better management of disaster risk from both natural and anthropogenic sources to promote urban resilience and sustainable development. Effective disaster risk management in Nairobi however requires proper understanding of the risk context and development of Nairobi over time.

The risk context and development of Nairobi is intertwined with Kenya's overall political and socio-economic development policy. Nairobi was founded in 1899 by colonial settlers to serve as a depot for the Kenya Uganda railway - a condition that shaped its initial and subsequent socio-spatial organization and economic realities.

Colonization and the Birth of Socio-Spatial Exclusion in Nairobi

Like many other African cities, Nairobi's current drivers of risk (poverty and socio-spatial inequalities etc.) are partly attributed to colonial planning and development legacy, unresponsive planning policies, rapid urbanization and capitalist development (K'Akumu and Olima 2007, Boniburini 2011, Huchzermeyer 2011). Planning during colonial period was and continues to be used as a tool to exploit the urban space and resources for the benefit of a few, further the interests of dominant groups as well marginalize the poor and voiceless. Colonization in Kenya like elsewhere was shaped by the forces of capitalist accumulation,

control, racialized social attitudes and the need to civilize natives (Soja 1968, Wekwete 1995, Mabin and Smit 1997, Njoh 2002, Myers 2003, Porter 2006, Njoh 2008). Several tools, among them urbanization and spatial planning policy, were used to further these ideals.

As previously mentioned, Nairobi developed as a colonial settlement during the construction of the Kenya-Uganda Railway. The city was exclusively designed for the White settlers with the natives prohibited from accessing the city through the institution of anti-urbanization rules. For instance, after extending the official boundary of Nairobi Municipal Council at around 1919, the colonial government went ahead to institute the Native Pass Laws and Vagrancy Ordinance that restricted people not formally employed to live in Nairobi (Huchzermeyer 2011). Additionally, the colonial government discouraged large scale housing production in a bid to prevent Native Kenyans from moving to Nairobi (K'Akumu and Olima 2007). The restriction of the African from the city coupled with the limited housing production and Africans low wages forced natives to establish informal settlements on the fringe of the city (Anderson 2001, Olima 2001).

Upon independence in 1963, the vagrancy laws were repealed resulting to rapid urbanization which put pressure on the limited housing and services (Olima 2001, Owuor and Mbatia 2008, Huchzermeyer 2011). For instance, Nairobi's population increased by 188% between 1948 and in 1963 when Kenya attained independence. The years immediately after independence experienced exponential population increase. For example, Nairobi's population increased by 47% between 1963 and 1969, and by 63% between 1969 and 1979 (Mitullah 2003). This population explosion could not be accommodated in the limited existing formal housing and thus led to the growth of new slums and expansion of existing ones. According to Ngau (1975), the housing units in slums rose from about 500 in 1952 to about 22,000 in 1972 and accelerated to about 111,000 in 1979 (Olima 2001). Table 1 below shows the urbanization trends and urban population projections in Kenya since the years 1948 to 2030.

Table 1: Kenya's Urbanization Trends (1948 - 2030)

Year	Total Population	No. of Urban Centres	Urban Population	%of Urban Population to total Population	Intercensal growth rate (%)
1948	5,407,599	17	285,000	5.3	
1962	8,636,263	34	747,651	8.7	6.3
1969	10,956,501	47	1,076,908	9.8	7.1
1979	15,327,061	91	2,315,696	15.1	7.7
1989	21,448,774	139	3,878,697	18.1	5.2
1999	28,159,922	180	5,429,790	19.3	3.4
2009	38,412,088	230	12,023,570	31.3	8.3
2017	47,200,000	- ¹	16,897,600	35.8	-
2030	62,100,000	-	38,191,500	61.5	-

Source: Boniburini 2011, Owuor 2012

¹ Data wasn't available for the empty cells in Tables 10 and 11.

Urban plans during the colonial period (the 1926 and 1948 plans) adopted racially segregated zoning (Charton-Bigot and Rodriguez-Torres 2010, Kimani and Musungu 2010). Both the 1926 and 1948 plans set specific sites for each race, with whites occupying high value residential zones to the West, Asians to the North, while Africans occupied low value congested residential zones to the east and south of the city. Proper infrastructure investments were made in the white occupied parts while little or no investments were afforded for the native occupied zones (Anderson 2001, K'Akumu and Olima 2007, Owuor and Mbatia 2008). Consequently these areas grew unregulated and devoid of services propagating risks and vulnerabilities. After independence, racial segregation transformed to 'socio-economic and legal-tenural residential segregation' as government bureaucrats and elites re-allocated themselves the hitherto white occupied affluent zones while the poor masses remained in low value zones (K'Akumu and Olima 2007:87)

Additionally, the colonial and subsequent Nairobi plans were replicas of European stringent planning standards based on modernist ideals. For instance, the main objective of the 1926 plan was to "turn Nairobi into a thing of beauty" (Myers 2003:195), while the 1948 plan envisioned Nairobi as a "European Type Town, that is European in Architecture, a little frigid, but efficient, tidy and progressive" (Slaughter, 2004: 39). The 1948 plan also sought to civilize the natives by translating the "values of the tribal life in to modern terms" through a Neighborhood structure inspired by Garden City model (Slaughter, 2004:38; Huchzermeyer, 2011). The consequence of this modernist approach and the adoption of stringent building standards was that, most natives could not meet the prescribed standards nor afford the proposed "modern" materials and thus ignored such rules and used local construction materials (Anderson 2001, Huchzermeyer 2011). Structures built using local materials were termed temporary or illegal and therefore ineligible for public service provision. Independent Nairobi did not formalize these areas nor amend the regulations. The response to informal settlements by the independent government was largely negative ranging from brutal evictions to outright denial of service extensions, further entrenching risks and vulnerabilities (Olima 2001, Otiso 2002).

Anti-Urbanization and Rural Development Policy as a Key Driver of Urban Deprivations

Just like the colonial government, the independent Kenya government was strongly anti-urban with limited investment in urban areas. Rather preferring to invest in rural development. This is evidenced by the contents of the Sessional Paper No. 10 of 1965, which is the first independent government development blueprint. The 1965 policy paper never acknowledged the place of urbanization and urban development in overall national development. Instead it seemed to discourage urbanization by requiring people to stay in rural areas and engage in agricultural production. Urbanization and urban living was seen to hamper agricultural productivity, which was needed to promote economic growth. The policy directed that 'if people who are unemployed in the cities would return to their land further increases in output could be achieved'. (p.24). According to the policy, agriculture was to remain the backbone of the economy and thus significant national efforts and investments were directed towards rural areas in form of agricultural development. The exclusion of urban areas including Nairobi from economic investments led to growth in unplanned settlement and limited services which continued to exacerbate risks and inequalities and especially of the urban poor throughout the 1960 and 1970s.

In the 1980s, the Kenya government development policy continued to focus on rural development with the exclusion of major urban areas despite several programs on urban development being established. For instance, the growth centres strategy model established in

the 1980s focused on developing regional centres in rural areas. Similarly, the Rural Urban Balance Strategy for Rural Development established in 1986 sought to link and coordinate rural and urban development. According to Smoke (1989) the main objective of the Rural Urban Balance Strategy was to complement the growth centres in order to 'promote the development of a well-serviced urban system that facilitates the distribution of agricultural production...and increases urbanization outside of the country's major cities' (p.1-2). To operationalize the Rural Urban Balance Strategy, the Rural Trade and Production Centres (RTPC) programme was established. The RTPC program was meant to encourage the growth of small towns, with the aim to provide market for agricultural products as well as enhance employment opportunities in rural areas. The RTPC focused on infrastructure development in designated small urban centres in rural areas - by funding a set of projects referred to as the 'RTPC investment package'. The rationale of the RTPC investment package was that, the enhancement of agricultural productivity of a rural trade centre and its hinterland required investments in certain infrastructure projects and services like roads, water and electricity and credit facilities that would reduce bottlenecks that impede growth and hinder private sector investments (Government of Kenya 1984).

The major centres with populations above 5,000 did not however qualify for RTPC investments regardless of whether they met the other criteria besides population. The project thus excluded major towns like Nairobi and Mombasa, which had a higher potential to generate more employment as compared to the small towns considered. The focus on small rural towns with the exclusion of major urban areas where the majority of the urban population resided led to further social and physical degradation of major urban areas including Nairobi.

Other international and local factors in the 1980s also served to exacerbate urban risks and vulnerabilities. For instance, starting the mid 1980's the price of cash crops fell making it difficult for Kenyan farmers to make any meaningful incomes, consequently pushing more populations to urban areas in search of opportunities. At the same time, the World Bank and IMF introduced the Structural Adjustment Programs (SAPs) for economic stabilization in developing nations including Kenya further impacting agriculture and urban livelihoods (Rono 2002). The SAPs adversely affected agriculture production in that it involved the removal of government subsidies to farmers thus reducing rural farm production. Further, agricultural cooperatives that had supported rural farming collapsed and with it the rural smallholder agricultural economy. The decline in agriculture incomes pushed more people to established urban areas (Ngau 2013). On the other hand, the privatization of government public utilities through SAPs led to widespread retrenchment, withdrawal of public services and rampant poverty especially in urban areas. Additionally, the huge foreign public debts meant that most of government resources were directed toward debt servicing with little left for development and local investments (Rono 2002). Consequently, government minimized investments including in urban services and especially in low-income areas that could not afford to pay for services in line with the cost recovery strategy (Rono 2002). Subsequently, the poor and especially those in major urban areas like Nairobi continued to be marginalized and exposed to socio-economic vulnerabilities.

The beginning of 2000s brought some hope to urban residents as the government adopted the MDGs, which sought to improve the life of the poor. In Kenya, the end of Moi's rule in 2002 also seemed to signify a new beginning for urban development and especially for the urban poor. The National Rainbow Coalition (NARC) government coming into office after the autocratic Moi regime rode to victory on the promise for socio-political and economic restitution to the victims of previous regimes. The NARC government took over when the country was at its deepest political despair and on the verge of economic collapse after years of mismanagement. Poverty level stood at 56%, youth unemployment was at 45% and the per

capita income had declined from US\$271 in 1990 to US\$239 in 2002 (Government of Kenya 2003, Kirori 2015). The government was thus faced with the challenges of economic recovery as well as restoring faith in the collapsing democratic political system. This need for economic and political reform set the tone for national policy including urban development during the NARC era as demonstrated in the several government policies such as Economic Recovery Strategy for Wealth and Employment Creation in 2007 and the Kenya Vision 2030 of developed in 2008.

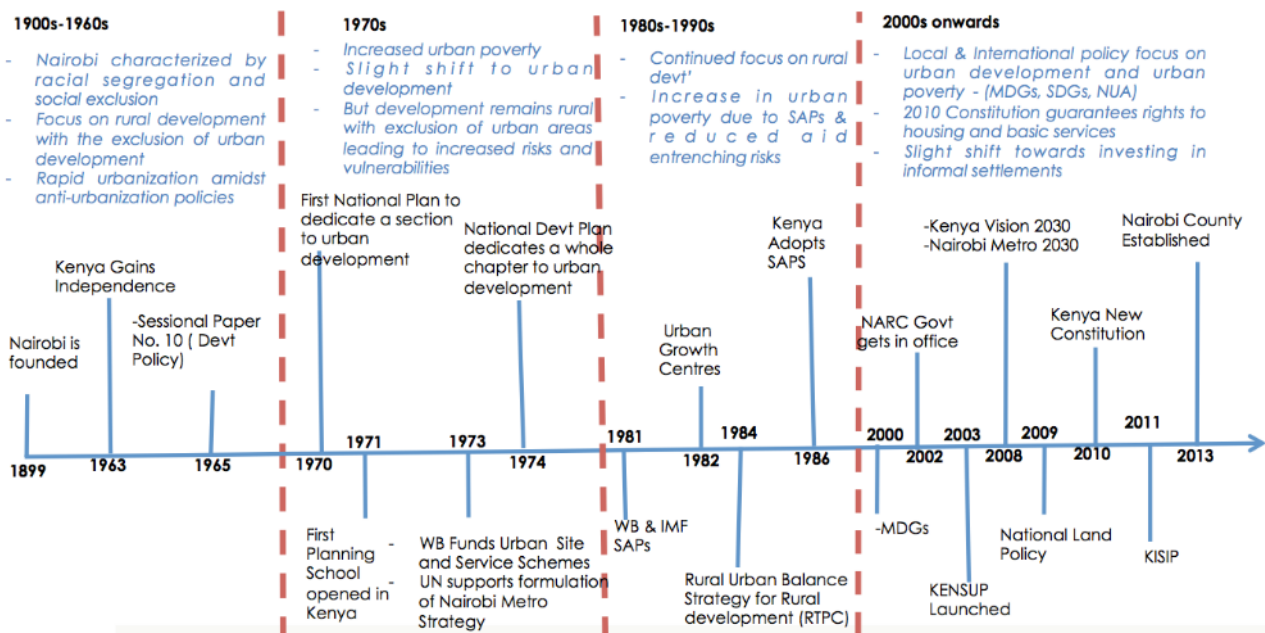
The Kenya Vision 2030, which is the nations development blueprint between 2008-2030 seeks to guide investments and growth of the country towards middle-income economy by the year 2030 (Government of Kenya 2007, Government of Kenya 2008a, Government of Kenya 2008b). Recognizing the fact that half of the nations population may reside in cities by 2030, the policy calls for the need 'to plan for decent and high quality urban livelihood' (Government of Kenya 2007, p.19). According to the policy, the urban planning vision embedded in the housing and urbanization sector strategy constitutes 'an adequately and decently housed nation in a sustainable environment'. After framing the urban question as a housing problem the policy went ahead to declare that 'the medium-term goal for 2012 is to increase the annual production of housing units from the current 35,000 annually to over 200,000' (ibid, p.19). The policy further states that, 'an initiative for high quality urban planning will be undertaken. Kenya's cities and towns are now poorly planned and that must change. There is an acute need, therefore, for an effective capacity for regional and urban development planning starting with adequate housing for those now living in slums' (ibid, p.19).

The policy further emphasizes that 'Kenya's new nationwide urban planning and development campaign will start with her major cities and towns' (Government of Kenya 2007, p.19). This was a shift from previous government policy that focused on investing in rural towns while neglecting large urban centres. The need for planning to first focus on major cities led to the establishment of the ministry of Nairobi Metropolitan Development. The purpose of the ministry was 'to provide a framework for sustainable urbanization through providing capacity for urban and regional planning, provision of adequate housing for all, replacement of slums with affordable housing, improve and enhance proper infrastructure and sanitary facilities' within the major metropolitan regions (Kiprono 2011). This led to the establishment of the Nairobi Metropolitan that resulted to the formulation of the Nairobi Metro 2030 policy inspired by the Kenya Vision 2030 (Kiprono 2011). The vision of the Nairobi Metro 2030 policy is to transform the Nairobi Metropolitan Region into a 'World Class African Metropolis'.

The housing and the slum question discourse within the vision 2030 translated to renewed government support towards slum upgrading initiatives and service provision to the urban poor particularly in Nairobi. This is how the Kenya Slum Upgrading Programme (KENSUP), was conceived in 2003 supported by the UN HABITAT and Kenya government. In 2008 talks began between the World Bank and the government establish the Kenya Informal Settlement Improvement Project (KISIP), which was launched in 2011. In 2010, Kenya adopted a new constitution that guarantees housing and basic services as human rights bolstering the focus on housing and service provision for the urban poor. Other urban interventions within this period targeting the poor include the Korogocho slum-upgrading project in Nairobi supported by the Italian government through a debt swap. In 2000, the Nairobi City also granted land to residents of Kambi Moto to do insitu-upgrading of their homes. Additionally, the constitution recognized the role of urban development on overall national development, prompting legislation mandating all urban areas to anchor resource allocation and spending on planning such as the Cities and Urban Areas Act of 2011. This led cities such as Nairobi to intensify their efforts in support of planning, which culminated with the current Nairobi Integrated Master Plan in 2014.

Despite this shift towards urban development, informal settlements upgrading and service provision, much remains to be done to reduce disaster risk and vulnerabilities for the urban poor. It is this continued disaster risk and exposure especially of the poor that led to the Nairobi Risk Hub upon which this workshop is anchored. The Sections below provide the workshop methodology and outcomes that highlights some of the challenges in achieving resilience for the urban poor in Nairobi.

Figure 1: Nairobi Development and Risk Trajectory in Relation to Kenya Socio- Political Context



Source: Authors, 2020

Workshop Methodology

Due to COVID-19 restrictions, the workshop was held virtually through Zoom. Participants were drawn from a wide range of organizations that included the Nairobi County Government/Nairobi Metropolitan Services, the National Government and particularly the State Departments of Lands, Housing and Urban Development, local universities, international agencies and donors, the civil society, professional societies and the private sector. A total of 39 people participated in the workshop. A comprehensive list of all the participants is attached as annex 1. The selection of participants was carefully targeted to ensure that only technical people with in-depth knowledge of urban development and resilience in the city of Nairobi participated in the workshop from the various target organizations. The workshop was divided into four technical sessions as described below:

Technical Session I: In this session, participants were to identify the contemporary development experience of Nairobi with a focus on housing and infrastructure and implications of such development to disaster risk especially for the urban poor. Further, they were required to identify the drivers of such development by paying attention to the predominant actors and sectors and how that has shifted over time in the last 10 years. Participants were categorized into four groups of between 5-8 people taking account of institutional representation. Each group was required to summarise their discussion in one short sentence or phrase describing Nairobi's

contemporary development experience and the shifts that have happened in the last 10 years in terms of actors or sectors are predominant to translate to the current development scenario. The four statements were then combined and summarised to form a single statement describing Nairobi's current development experience in a plenary discussion involving all four groups. The statement needed to be agreed upon by all participants.

Technical Session II: This session built upon the first technical session. It involved coming up with four possible development scenarios using the overall statement developed in technical session 1. The four scenarios would then be placed on a Cartesian plane with the variables driving development in the X axis and resilience in the Y axis. The earlier four groups were then allocated one possible scenario and required to provide the conditions that would allow such a development scenario to exist focusing on housing and associated infrastructure and disaster risk management - e.g. administrative structure, role of the private sector or civil society, use of science, and policy and law enforcement etc.).

Technical Session III: Using the Cartesian plane developed during technical session 2, this session involved workshop participants making an independent judgement on the state of development and resilience in two levels. In the first level, participants would identify and place the City in possible development axis in terms of drivers of development and status of resilience within the pre-developed Cartesian plane in Technical session 2. In the second phase each participant was expected to independently provide their desired future development scenario and level of resilience and place it in the Cartesian plane coordinates.

Technical Session IV: This session involved determining the role of science in risk reduction/resilience. Participants were asked to come up with at least two priority research questions in the areas of technical and the institutional elements that would allow transition towards the desired resilient Nairobi. These were further compiled in to a common slide and the proponents of the Nairobi Risk Hub given an opportunity to explain how the current project is responding to such issues and how the project is tapping on science to build resilience.

Workshop Outcomes and Discussions

Technical Session 1: Contemporary Nairobi City Development Experiences

In this session, participants were asked to reflect on the development trajectory of Nairobi in the last 10 years and its implications to resilience. The overall findings from this session point to a shift from government-led development towards a private sector-led development. Participants attributed the current predominant private sector-led development scenario to government action and inaction in the economic, socio-cultural and political spheres. For instance, participants opined that, the national government has heavily invested in hard infrastructure such as roads during the last decade, which has facilitated private sector investments especially in the housing and real estate sector. These infrastructure investments however seem to be concentrated in certain parts of the city while excluding other parts and especially informal settlements. The infrastructure and real estate boom is further augmented by technological revolution/advancement that make it easy to achieve large infrastructure and housing projects efficiently and a growing middle class that demand better housing, infrastructure and services.

The identified development trajectory (predominant private sector) in Nairobi aligns with the prevailing local and international economic development policy and rhetoric in urban Africa, which advocates for less government and increased involvement of non-state actors in direct service provision. The government is expected to play a facilitation role and create an enabling

environment through large infrastructure investments and enabling policy. Such an environment is not only expected to encourage private sector investments, increase job creation but also contribute to the growth of the middle class. Increased jobs and a growing middle class would then lead to economic growth through increased consumption and requiring better services from government that would lead to better living conditions for all. This argument does not however seem to hold in the case of Nairobi, according to the workshop participants' views. Rather, the investments to cater for middle class demands have widened socio-economic inequalities by creating a twin city characterized by a formal planned city for the haves and an informal unplanned city inadequately serviced for the poor.

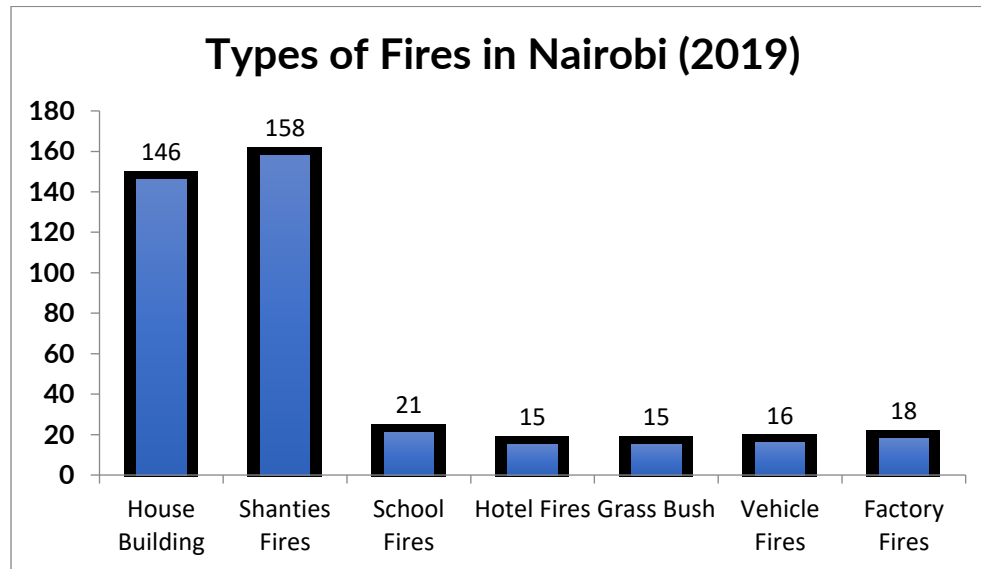
Second, poor planning and limited implementation of existing plans and policies is to blame for the skewed development and limited resilience. Participants claimed that infrastructure investments in most cases are reactive and not informed by existing development plans. Additionally, the majority of the private sector investments occur outside formal government regulation, which in turn produces and exacerbates vulnerabilities. This is particularly so in the case of low-income housing and associated services. Over 60% of Nairobi residents live in informal settlements devoid of basic services such as energy, Solid Waste Management (SWM), water and sanitation. These informal settlements are not recognized in formal city plans and therefore fall outside the confines of government regulation. Consequently the private sector in these areas operate without any regard for building and service provision standards. As a result the housing and services provided in informal settlements are sub-standard exposing residents to physical, social and health vulnerabilities and disasters such as floods, fires and health epidemics such as cholera. The majority of houses within informal slums are made of temporary materials such as mud, timber and cardboards making them prone to fires and floodwaters. Disaster data within the city of Nairobi show fire as the most prevalent hazard with the most of the incidents occurring in informal settlements (see figure 2 below). Flooding is also common in slums as most slums lie within riverbanks. It can thus be argued that, the focus of public sector investments in the formal planned parts has exposed and left the majority of the city's poor at the behest of the informal private sector who provide low quality services with high generation of risks. Table 2 below shows the most prevalent disaster incidents in the city of Nairobi as per official records.

Table 2: Main Hazards in Nairobi Between 2015-2019

TYPES OF INCIDENTS	2015	2016	2017	2018	2019
All Types of Fires	282	316	322	336	331
Road Traffic Accidents	20	23	21	27	22
Flooding	9	11	16	12	26
Trees Cutting	12	14	13	25	31
Unclassified	16	12	18	19	21

Source: Nairobi City County Government, 2020

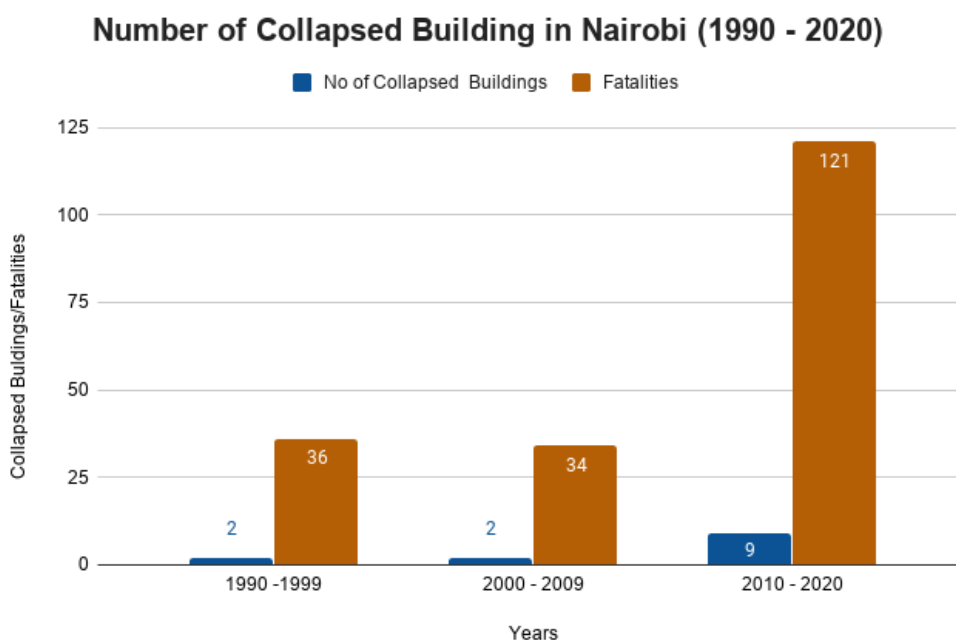
Figure 2: Category of Fire Incidents in Nairobi in 2019



Source: Nairobi City County Government, 2020

Participants also identified limited building policy and regulation enforcement by state agencies as a key driver of vulnerability and poor resilience. This is particularly so in private sector provided-lower middle and low-income high-rise housing. The majority of tenement housing despite being in formal areas that should ideally be regulated by the city authorities do not conform to prevailing basic building standards exposing occupants to risks. Indication of this is the proliferation of substandard buildings that are structurally unsound with the potential to collapse. These structures also have poor services and insufficient infrastructure. Over the last 20 years a total of 26 buildings have collapsed in Kenya with the majority of these in Nairobi. Between 2010 and 2020 alone more than 9 buildings in Nairobi collapsed killing over 100 people. Figure 3 below provides the number of collapsed building in Nairobi over the years.

Figure 3: Collapsed Buildings in Nairobi (1990-2020)



Source: Authors, 2020

Participants pointed to corruption, lack of inclusivity and few enforcement officers as reasons for the limited enforcement of building policy and regulation hence creating social vulnerabilities (gender and the poor). Investigations on collapsed buildings show that the majority of those affected are women and the poor. It can therefore be said that private sector-driven development in Nairobi compounded by limited state regulations has continued to service inequalities with the urban poor suffering more.

Third, changing political systems and governance structures have played a huge role in changing the urban landscape and development trajectory of Nairobi. Devolution though meant to promote equal development across the country, participants claimed that it has driven resources away from the capital to satellite towns and county headquarters. Satellite towns and county headquarters provide cheaper development costs due to huge and affordable tracts of land. The designation of hitherto small towns into county headquarters attracted infrastructure investments as counties strive to create 'world class cities'. Compounded with the cheap land and a growing middle class in these areas – developers find these areas lucrative to invest in, hence opting to invest in these areas rather than in Nairobi where costs of developments are high. Devolution has also created new tensions between the national government and local/county governments. This tension is more pronounced in Nairobi given its strategic location and multiple political and economic interests. Recently, the major functions of Nairobi County (including urban development) were transferred to the newly created Nairobi Metropolitan Services, an agency under the National government after long court battles that still persist. The Nairobi County Assembly the body mandated with policy formulation and oversight responsibilities has been embroiled in endless battles with the Office of the Governor that saw the Speaker to the County Assembly suspended and eventually resign. These political uncertainties and tensions between the different levels of government impact on development and service provision as it takes the focus of leaders from service delivery to political contestations.

Other factors cited to influence city development and resilience include huge reliance on foreign or externally sourced products. This participants claimed has led to reduced or limited growth in local manufacturing and jobs, which has in turn exacerbated poverty. The high cost of living in the city is also to blame for poor living conditions and reduced resilience as it pushes the poor to the margin.

Participants also cited rapid urbanization as among the factors affecting contemporary development. Though the city emerged as well planned in the 1960s and 1970s, increased population has placed pressure on the city infrastructure and services over time.

Despite the various challenges that have translated to reduced resilience, participants identified several opportunities for improvement. First, they cited informal private sector as having the potential to evolve and to provide value in service provision if properly governed and regulated in accordance with government regulations. Second there has been government driven efforts to provide housing and services in informal settlements through programs and projects like the Kenya Slum Upgrading Program (KENSUP) and the Kenya Informal Settlement and Improvement Project (KISIP). There are also community efforts in risk prevention and building resilience. For instance, community leaders in Kibera have managed to prevent people from living along riverbanks and flood areas. Further, there is a range of new legislation to support urbanization.

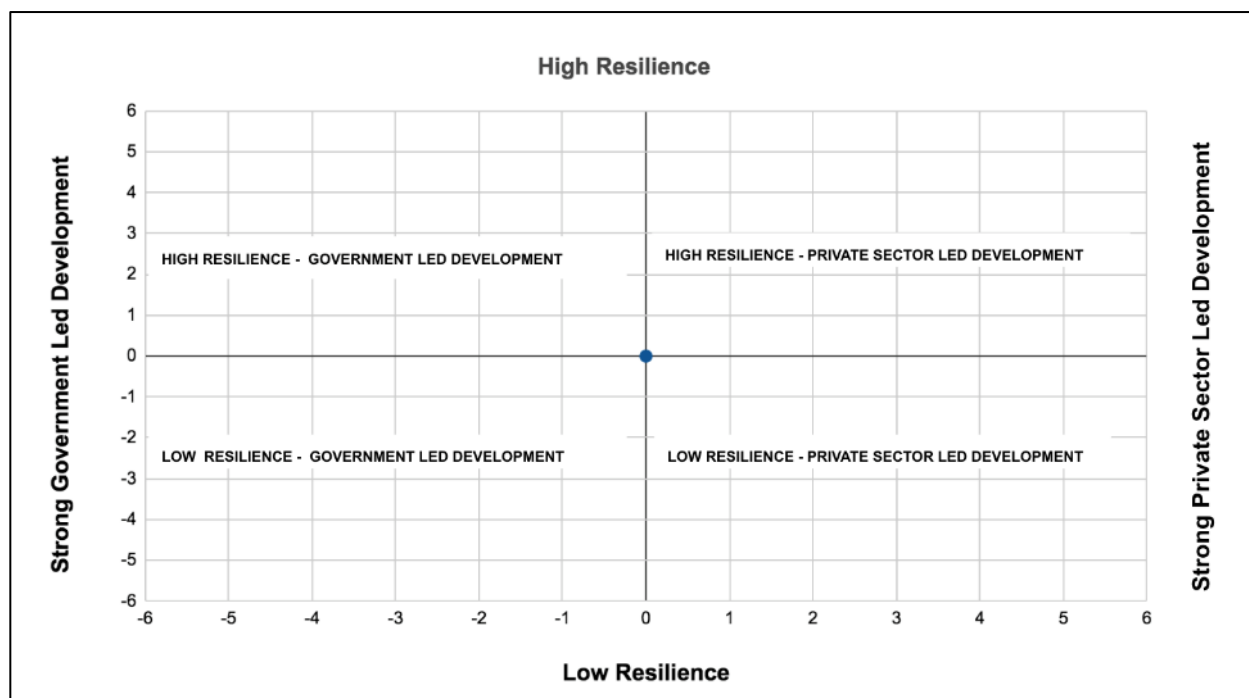
Technical Session II: Conditions that Would Allow Particular Developments to Exist

In this session, the workshop used the outputs of technical session 1 to generate possible development scenarios. The dominant perception among the participants was that development influence over the last ten years has been shifting from the state to private sector with the current development trajectory representing strong private sector led development with low resilience for the poor. Using this perception, the workshop facilitators came up with four possible development options that include:

- High resilience - private sector led development
- Low resilience - private sector led development
- Low resilience - government led development
- High resilience - government led development

The four scenarios are represented in figure 4 below.

Figure 4: Potential Development Scenarios and Resilience of Nairobi



Source: Authors, 2020

The workshop participants were then divided into four groups with each group allocated one scenario and tasked to identify the conditions that would allow such a scenario to exist and the potential impacts to resilience. Below are the group outcomes.

a. High Resilience & Strong Private Sector

In the first scenario that represents high resilience in the context of private sector led development, participants expressed the conditions required to include:

- Robust private sector & public/state collaboration
- Strong state provision of basic infrastructure & services in informal settlements

- Strong state regulation of private sector investments (to avoid exploitation of the poor and ensure quality and quantity and fairness (value for money for the poor)).
- Delegated service models where communities/CBOs take responsibility of some services by the public sector as communities have the capacity to provide some of the services.
- Presence of clear norms and procedures for engagements amongst actors
- Ensure planning and security of tenure to informal settlements to enable the state to provide services in informal settlements
- Innovation in the use of existing planning laws and state budgets (e.g. the use of special planning areas (SPA) to plan informal settlements to allow state interventions as is currently happening in Mukuru.
- Adherence to planning process that can allow the county to resolve land issues - e.g. revert back land in informal settlements to government to allow upgrading.

b. Low Resilience - Private Sector Led Development

The existence of this second scenario of low resilience in a context of private sector development according to participants would require:

- Uncoordinated rules and regulations towards private sector investments
- High speculation of land
- Unregulated, lack of proper valuation of land that favors the private sector
- Exclusion in the governance of the city
- Unregulated private sector investment, which could become exploitative, as private sector is profit driven.
- Limited/lack of enforcement
- Limited/lack of inclusivity
- Corruption related challenges
- Immediate benefits (monetary) instead of long term investment

c. Low Resilience - Government Led Development

This scenario would exist under the following conditions:

- Weak public participation and the failure to equip the masses with awareness, skills and representation.
- Unfavourable environment for private sector investments (assuming their involvement is supportive of resilience).
- If policies are not up-to-date, uncoordinated or inappropriate/reactive
- If there is corruption - disrupting policy implementation through loss of funds or lack of policy enforcement.
- Limited/lack of equitable representation in plans and actions.

d. High Resilience - Government Led Development

Strong government led development which translates to high resilience would emerge under the following conditions:

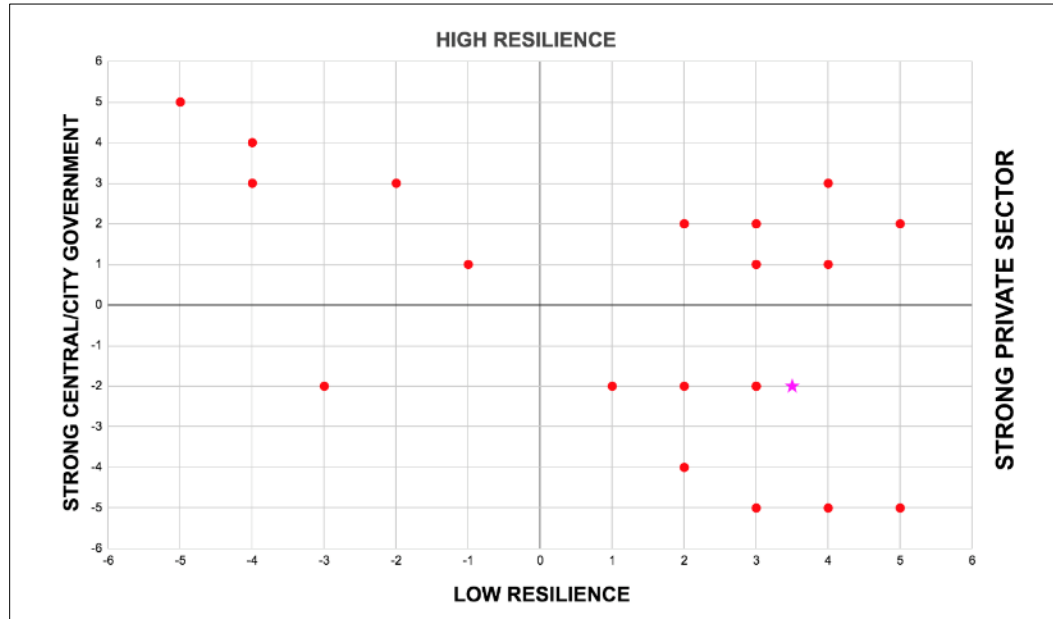
- Favourable and implemented legal and institutional policy

- Well-capacitated government agencies with access to knowledge, research and human resources.
- Strong budgets to support resilience plans linked to planning
- Less corruption especially in procurement in emergency response/recovery
- State allows strong citizen participation to support government initiatives and regulates private sector activity
- Formal planning delivers appropriate infrastructure (e.g. roads) to build resilience and enable emergency response.

Technical Session III: Placing the City

Under this session, participants were asked to vote twice. In the first phase, they were asked to place the current development and state of resilience in Nairobi under the four development scenarios. Each participant based on their own judgement would assign a score to both the actor with more influence on development and the status of resilience. The actor score ranged from between -5 to +5 with -5 representing a strong government led development and +5 representing a strong private sector led development. The score status of resilience ranged from -5 to +5 with -5 representing low resilience and +5 high resilience. Participants were further asked to give a score for their desired development status and resilience in future for the city of Nairobi. The results for the current development and resilience status indicate a strong private sector led development with low resilience as shown in Figure 5 below. The highlighted asterisk indicates the averaged score negotiated and agreed by all participants, which illustrate low resilience under private sector led development.

Figure 5: Participants Perceived Current City Development Trajectory & Resilience

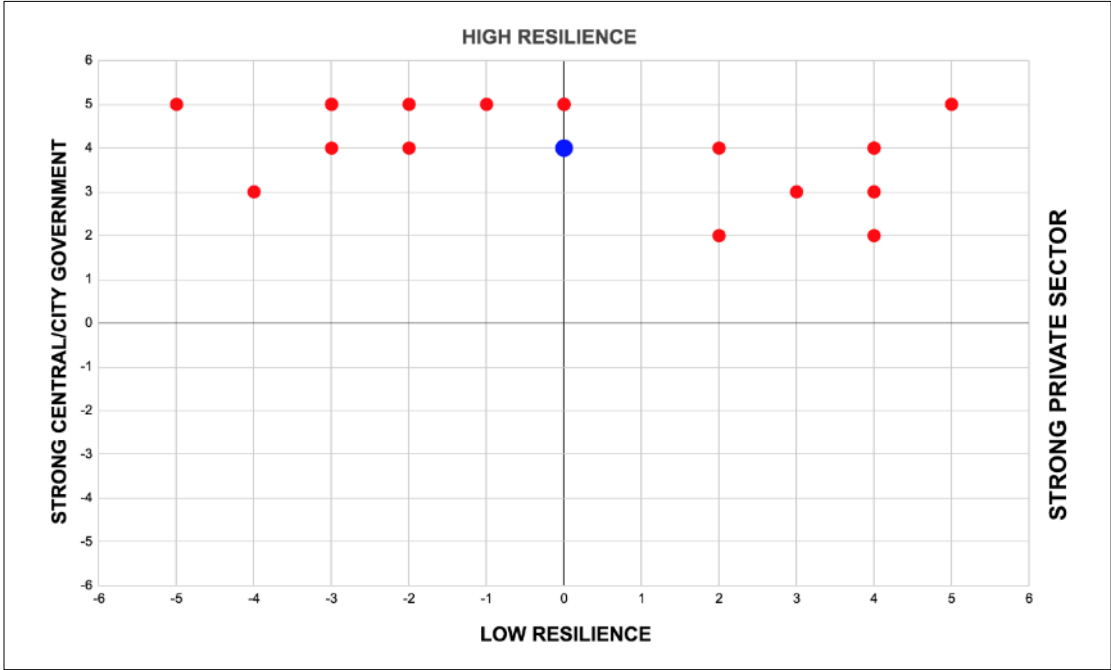


Source: Authors, 2020

Despite the majority indicating private sector driven development with low resilience as the current state, a few voted for high resilience state-led development. The votes were traced to government officials. This could mean several things. First that government officials being the implementers of government policy, voting low resilience would mean failure on their part. Second it could mean diverse perceptions of participants in regards to who is in control of development with government officials perceiving themselves as in control.

In the second step, participants were asked to vote for their desired development trajectory and level of resilience. The desired development trajectory points to a mixed approach between state and private sector led development but that fosters high resilience (see figure 6 below). The highlighted blue point indicates the averaged score negotiated and agreed by all participants. In arriving to this conclusion, participants acknowledged the important role played by the private sector and called for more government regulation of private sector investments. Figure 7 below shows the combined perceived current drivers of development and the level of resilience and the desired future status (the red arrow points the shift from the low resilience private sector led development to the high resilience driven by the both state and private sector development).

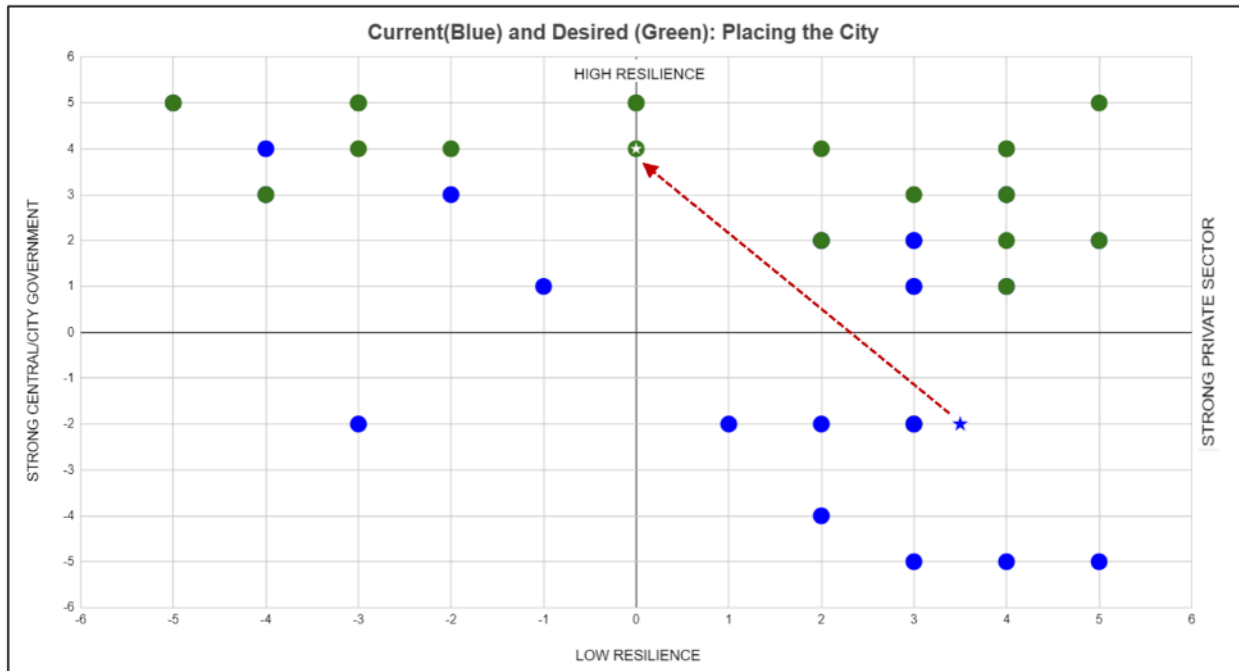
Figure 6: Participants Desired City Development Trajectory & Resilience



Source: Source: Authors, 2020

The proposal to have development shift from private sector to a mixed economy driven by both the state and public was supported by several arguments. First, according to the participants, the definition of private sector is broad and could also include civil society and the non-governmental institutions that have been very instrumental in providing services to the poor. The second argument was tied to the fact that government has limited resources and it would be critical to tap into private capital. To ensure resilience and benefits to the poor, this approach would however require proper regulation and especially of the corporate private sector investments through the enforcement of existing development policies. The need for such regulation referenced the current state of affairs where private sector is seen to have generated disaster vulnerabilities owing to limited government enforcement especially of building regulations, planning and development control. Such regulation should however be done in a manner that ensures that the commercial interests of the private sector is protected as well as the autonomy of the civil society.

Figure 7: Combined Current & Desired City Development Trajectory & Resilience



Source: Authors, 2020

Technical Session IV: Role of Science in Development and Building Resilience

This session involved determining the role of science in risk reduction. Participants were asked to identify potential areas of research in both the technical and political/institutional transitions. Participants expressed a wide range of ideas that include better understanding of the state of disaster risk and risk reduction, governance of risk and social inclusion as described below.

- The need to understand the status of early warning systems of the various disasters that can ensure resilience.
- How to deal with resistance of people in informal settlements when asked to move to developed/better areas
- How to prevent the middle level earners taking advantage of the poor through exorbitant pricing of services and in slum upgrading projects.
- How to enhance technical capacity for better planning to enhance development and resilience
- What socio-technical solutions for the urban poor can be proposed for improved resilience?
- Need for more research on grassroots innovations and how they can be supported to build urban resilience
- The Mapping of disaster prone areas
- How to enhance coordination between government and the private sector sectors to prevent overlapping of roles/responsibilities
- Involvement of people with disabilities in the whole development process
- How to scale research of proven / successful local innovations.
- Ensure learning from the informal settlements residents and including them in development decisions.
- How to find balance of inputs from all actors to create inclusive resilient development
- Understanding of the multiple sub-factors, which result in disasters (e.g. fire, flood, building collapses etc) in order to find feasible solutions. Because causes are multi-

dimensional so solutions need to be multi-dimensional and the interrelation between them understood.

Reflections and Conclusions

The Future Resilient Nairobi Workshop sought to identify a shared vision for a resilient Nairobi from policy actors. The majority of the actors desire a city with high resilience driven largely by both the private sector and state agencies. The reference to only the private sector and government however fails to acknowledge the role of the diverse actors in the city such as the civil society, community groups, individual residents and research institutions in development and resilience building. Additionally despite the two being the most dominant actors, they do not operate in isolation but under the collaboration and sometimes the contestation of other actors such as donors, civil society and residents. This oversight is attributed to the structure of the workshop, and particularly requiring participants to identify the key actors with the main influence on development outcomes. There is therefore the need to find balance of inputs from the several actors to create inclusive resilient development in Nairobi.

Second, while efforts were made to ensure a wide representation of the diverse policy makers, the identified vision, cannot be claimed to represent every policy maker in Nairobi. Indeed, despite participants agreeing on the desire for high resilience, the model towards such an outcome was divided with some preferring government driven development and others private sector led development. This means that while the majority of actors may agree on the end goal in regards to city development and resilience, how to get there may differ, requiring openness and flexibility in the management of cities. Further, the failure to have feedback on why people voted the way they voted due to time limitations only leaves us to speculate (the workshop was held online with limited opportunities for each participant to provide justification for their choices). It would be critical to understand why participants chose the positions they did as this may reveal important perspectives that could inform approaches to development and resilience building.

Additionally, there are nuances in the governance of Nairobi that have had and continue to have impact in Nairobi's development that could not be accounted for in the way the workshop and questions were structured. Nairobi has experienced various governance structures in the last 10 years. This range from a partly decentralized system during the Local Government Structure era abolished by the new Kenya Constitution, to recentralization of urban services delivery under devolution to a further decentralization through the creation of the current Nairobi Metropolitan Services (NMS) under the national government. While in mostly rural areas devolution led to the decentralization of services, largely urban counties like Nairobi seem to have experienced recentralization. This is because urban areas like Nairobi that were organized into wards with representatives and with budgets now were merged into sub-wards with the Governor being at the centre of decision-making. The creation of multiple centres of power in Nairobi (e.g. the NMS and the Governors office) has also created tensions with the potential to negatively impact on service delivery and resilience. The understanding of these dynamics is critical especially in the engagement of different agencies in projects like the Nairobi Risk Hub.

Annexes

Annex 1: List of Participants

Organization	Representative
Devolution, Public Service and Administration	Mr. Dominic Odera
Environment, Energy Water and Sanitation	Ms. Alice Ruto
Finance and Economic Planning	Mr. Johnson Akongo Abwori
Lands, Urban Planning, Urban renewal, Housing and Projects Management	Mr. Douglas Musaina Mr. Nyoike
Roads, Public Works and Transport	Mr. Alex Macharia
Governors Office (Disaster Management)	Mr. Brian Kisali
National Government	
State Department of Housing and Urban Development	Mr. Solomon Ambwere
State Department of Lands/Physical Planning	Mr. Augustine Masinde
National Disaster Management Unit (NDMU)	Mr. Cyrus Maina
National Disaster Operations Centre (NDOC)	Mr. Gordon Muga
Kenya Meteorological Department	Mr. Daniel Wepukhulu
Kenya Airports Authority	Mr. Francis Ndeleba
International Agencies, Civil Society & NGOs	
UN HABITAT	Mr. John Omwamba Mr. Baraka Mwau
Kenya Red Cross Society (KRCS)	Ms. Emma Mwangi
Akiba Mashinani Trust (AMT)	Ms. Jane Weru
Slum Dwellers International (SDI)	Mr. Jack Makau
Kounkuey Design Initiative (KDI)	Ms. Vera Bukachi
Civil Society Urban Development Platform (CSUDP)	Mr. George Wasonga
Academic & Research Institutions	
University of Nairobi	Dr. Arthur Mwaura
Kenyatta University	Mr. Jackson Kago
Professional Bodies	
Architectural Association of Kenya (AAK)	Ms. Juliet Rita
Kenya Institute of Planners (KIP)	Dr. Lawrence Esho
Private Sector	
Kenya Residents Association (KARA)	Mr. Henry Ochieng
ARUP	Carolyne Ray
Workshop Facilitators	
Centre for Urban Research and Innovations (CURI), UoN	Dr. Mbathi Musyimi
Global Challenges Research Fund (GCRF), UK	Prof. Mark Pelling
African Centre for Technology Studies (ACTS)	Dr. Joanes Atela Dr. Keziah Mwang'a Ms. Victoria Chengo Mr. Charles Tonui

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