



Working Paper

**Urban Dynamics and Everyday Hazards and Disaster Risks in Ibadan, Nigeria**

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September 2018



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## **ABSTRACT**

The lack of systematic and homogenous records of people being impacted by everyday hazards and disaster events at all scales in many African cities is a major limitation to effective planning for risk reduction. A preliminary assessment of the nature, scale and vulnerability to everyday hazards and disasters in the city of Ibadan, Nigeria is examined in the context of population growth, urban dynamics and processes at the city level and the larger scale macro-economic, social and political situations of the country. Using a triangulation of methods, data on intensive and extensive risks resulting in serious illness, injury and premature death, property and economic losses in the city was collected from different sources including newspaper reports, hospital records and databases of government departments for the period 2000-2015. Analysis of risk data for the city revealed that the total number of reported deaths and losses resulting from everyday hazards and disasters (intensive and extensive risks) during the period 2000 to 2015 has been on the increase. Excluding public health risks for which data are scarce and incomplete, road traffic accidents, crime, violence and flooding in order of importance constitute the most serious hazards in the city of Ibadan. Key drivers of the changing risk landscape in the city include new economic, technological, socio-political and urban developments as well as the growing interdependencies between them which have led to an increasing accumulation of risk.

**KEYWORDS:** Urban dynamics / Extensive and Intensive Risks / Risk Drivers / Vulnerability / Exposure / Risk Data

## I. INTRODUCTION

Contemporary urbanization processes and rapid population growth in sub-Saharan Africa is increasing the exposure and vulnerability of urban dwellers, particularly the urban poor, to everyday hazards and disaster risks.<sup>(1)(2)</sup> This is because of increasing pressure for housing, inadequate provision and unequal access to critical public and social services, basic infrastructures as well as poor urban management and planning.<sup>(3)(4)(5)(6)</sup> The historical development of cities and the political regime in which the development takes place are important factors which shape the social and spatial distribution of urban infrastructures and assets.<sup>(3)</sup> In Africa, the important role of economic, social and political systems in constructing and amplifying the exposure and vulnerability of urban populations to extensive and intensive risks has been highlighted <sup>(7)</sup> as has the groups that are more vulnerable. The interplay of these factors are uniquely dissimilar in cities of sub-Saharan Africa <sup>(8)(9)</sup> and, invariably, results in differential experiences of vulnerability to risks. The manifestation of physical and social vulnerability to everyday hazards and disasters is therefore both unique and dynamic for different African cities depending on the geographical characteristics, urbanization processes and patterns, and socio-economic and political development trajectories. Furthermore, existing urban vulnerabilities in the context of multiple exposures including globalization, rapid urbanization and climate change is giving rise to new forms of vulnerabilities and emerging urban risks in Africa. <sup>(10)(11)</sup>

The concepts of extensive and intensive risks are elucidated in UNISDR and other literature.<sup>1</sup> Intensive disaster risk refers to the risk associated with high-severity, mid to low-frequency disasters, <sup>(12)(13)</sup> with the potential for 30 or more deaths and/or 600 or more houses destroyed or seriously damaged in one municipality/local government area. In addition, the exposure of large concentrations of people and economic activities to intense hazard events, which can lead to potentially catastrophic disaster impacts involving high mortality and asset loss is associated with intensive risks. <sup>(14)</sup> On the other hand, extensive risk refers to the risk associated with low severity, high-frequency (persistent) events, mainly but not exclusively associated with highly localized hazards. It is also defined as risk of premature death, injury/illness and impoverishment from all events whose impact is too small to be classified as major disasters.<sup>1</sup> Extensive risks are closely linked with underlying risk drivers, such as inequality and poverty, which drive the hazard, exposure and vulnerability. <sup>(13)</sup> They are significant in the development context because of the resulting high proportion of morbidity and displacement, both of which feed directly into poverty <sup>(13)</sup>, and upward trend in mortality and economic losses in low-income

countries. It is noted that extensive risk can be a particular burden for the low-income households, communities, small businesses and national governments, thus inhibiting economic growth and increasing poverty <sup>(15)</sup>.

The distinct dynamics of changing urban forms, city governance, public financing and physical infrastructure and social services provision of Africa's rapidly urbanizing cities is closely connected to the construction and accumulation of risks and needs to be clearly understood if the associated serious impacts on Africa's increasing urban population will be reduced.

Nonetheless, a significant gap exists in that there is limited understanding of the distribution of risk in urban areas of Africa compared to the urban areas of Latin America and Asia.<sup>(1)</sup> This is due to the lack of, or poor appreciation of the need to register information about the characteristics and effects of diverse types of hazards and disasters affecting urban populations in a comprehensive and consistent manner. The lack of systematic and homogenous records of the impact of everyday hazards and disaster events at all scales and magnitudes in many African cities is well exemplified in Ibadan, sub-Saharan Africa's foremost traditional urban centre. Some of the factors contributing to the lack of risk data in complete and useful form for the city of Ibadan are identified as follows:

- i. Large numbers of deaths and by association their causes are not recorded in official death registers. Although there is government provision for the registration of all births and deaths by the National Population Commission (NPC), local governments and hospitals. To a large extent only deaths that occur in public/private hospitals and health facilities or which have involved the police are adequately accounted for. Deaths due to other causes or occurring in the home are rarely registered with the NPC and local government offices due to social and cultural reasons. In most cases, this is to avoid, what is perceived by family or neighbours as, burdensome interrogations by law enforcement agents or implications in the death reported. There is therefore, incomplete and grossly inadequate city-wide system recording deaths.
- ii. Poor information and data storage practices by different agencies and their causes. Not until recently, i.e. in the last ten years, was information databases for many government ministries and agencies stored in electronic form. So, for the most part risk information, where available, can only be retrieved from records manually entered into registers. The problem of missing data is commonly associated with records kept only in hard copies.

- iii. Lack of consistency in the form in which data is stored over time and from one department to another in the city. Format of records often vary within and across sources, where available.
- iv. Data collection is time consuming because data storage is mainly in hard copy written records
- v. The quality of data stored is largely dependent on the knowledge and training received by data entry staff, capacity of persons in charge of data management and resources available to each department/ministry/agency. Variations in these affect the completeness, detail and reliability of data and present a challenge because of no homogenous and compatible records.
- vi. Government agencies seldom keep reports and data on deaths and losses arising from everyday hazards and disaster events at scales lower than the state level. It is only major disaster events which attract attention that have some record of the impacts provided at the city level and when this is available, the distribution for scales lower than the city level is rarely provided. For example, a gross number for deaths resulting from the major flood disasters in Ibadan in 1980 and 2011 was recorded without reference to the number of deaths from floods in different areas of the city. In most cases little attempt, if any, is taken to record other risk-related data at the scale lower than the local government area. However, wards within local government areas are not spatially homogenous in terms of their physical and infrastructural development, available basic services and socio-economic characteristics of respective population. The social vulnerability of populations within wards and risk characteristics of wards therefore vary but these variations are masked when records are only linked to local government areas.
- vii. Risk information reported in local newspapers is not exhaustive in terms of coverage due to the large spatial extent of the city, available space for reports, and limited ability of news reporters to source for information. For example, not all road traffic accidents which are an important cause of deaths, injury and losses are recorded in police records, database of the Federal Road Safety Commission (FRSC) or reported in newspapers.
- viii. Record of risk data by age, gender and locality is limited. With the exception of hospital records for which information on age, gender, occupation and residential addresses are available for patients; detailed socio-demographic data for majority of

victims or persons affected by everyday hazards and disasters in the city is not recorded for most other sources.

The analysis of urban risk in Ibadan, therefore, presents a serious challenge due to the described constraints and many different sources need to be assessed in an attempt to profile everyday hazards and disaster risks for the city. Nonetheless, Ibadan presents an important study of risk drivers of everyday hazards, including environmental health, and disaster risk in Sub-Saharan African cities because of her distinct urban challenges and futures. These include the fact that Ibadan as a significant secondary city is one of the top 10 fastest growing cities in Africa with a projected population growth of 45.3% between 2010 and 2025, and among West African cities that are increasing by more than 100,000 inhabitants annually.<sup>(16)(17)</sup> The high population growth rate of the city is one of the important factors that influence the susceptibility of the urban population to hazard events.<sup>(18)</sup> The increasing population of the city has given rise to unequal access to essential social services, a dimension of uneven development and inequality which is reflected in spatial/geographical differences in quality of life and well-being of different social groups in the city.<sup>(19)</sup> This is pronounced in informal settlements leading to increased vulnerability of the urban poor, and has translated to risk inequality within the city and localities, the geography of which is noted to occur at all scales.<sup>(20)</sup> This understanding provides the context and scope for the analysis of population growth, urban dynamics, risk accumulation and the generic determinants of exposure and vulnerability to everyday hazards and disasters in the city of Ibadan. Specifically, the paper examines how social, economic and political structures at the national, city and locality levels produce the most serious urban risks in the city and how these drive the process of risk accumulation.

## **II. URBAN RISKS – EXPOSURE AND VULNERABILITY**

The determinants of risk i.e. exposure and vulnerability (susceptibility and adaptive or coping capacity) are highly context-specific<sup>(21)</sup> and dynamic, varying across temporal and spatial scales, and on economic, social, geographic, demographic, cultural, institutional, governance, and environmental factors. Generally, the factors of the components of risk in the city i.e. exposure and vulnerability (susceptibility and adaptive or coping capacity) are described in Table 1. There may however be some overlap between exposure and susceptibility. Several factors shape vulnerability of individuals or communities to different risks.<sup>(22)(23)</sup> There are generic determinants of vulnerability such as poverty, inequality, poor health, lack of access to resources and social status which may cut across the spectrum of different risks while some

other factors however are specific to the risk context.<sup>(24)</sup> The factors that shape vulnerability to the risk of market fires, for example, are different from those of flood hazards or road traffic accidents. Significant body of literature acknowledges that urbanization can contribute to vulnerability to disaster risks particularly as a driver of present and future urban exposure. This is because the volume and distribution of population in cities and marginal or at-risk areas at a given moment in time, as well as the vulnerability of the population determines the level of exposure.<sup>(25)</sup> The dynamics of urban growth, including spatial distribution is therefore important in determining future exposure to risk conditions. Although little acknowledged, urbanization is important in shaping other vulnerability factors, particularly sensitivity, adaptive capacity, and actual response actions.<sup>(18)</sup> For developing countries, the adaptive capacity and response actions are noted to be highly dynamic and rapidly changing along with socio-economic transformation and development.<sup>(18)</sup> The Pressure and Release (PAR) model developed by Wisner et al, provides an apt framework for the analysis of urban vulnerability to everyday hazards and disasters resulting from population growth and urban dynamics.<sup>(26)</sup> The components of progression of vulnerability described by the PAR model in terms of root causes, dynamic pressures and unsafe conditions guides our analysis of urban vulnerability in relation to the dynamics of social, political and economic processes operating within the city. The analytical framework for the study is based on an understanding of risk as an accumulation of vulnerability and hazard exposure

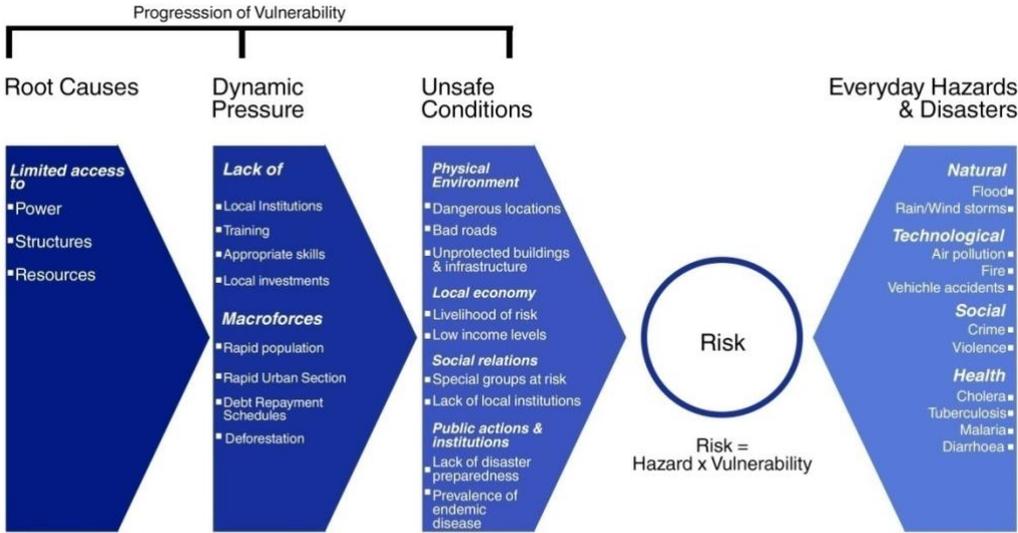


Figure 1: Conceptual Framework-Pressure and Release model showing progression of vulnerability in Ibadan (modified after Wisner et al, 2003)

According to Wisner et al, demographic, economic, and political processes are the most important root causes that give rise to vulnerability.<sup>(26)</sup> They also affect the allocation and distribution of resources, among different groups of people. Rapid urbanization, structural adjustment programmes, external debt, and violent conflicts are examples of forms of dynamic pressure.<sup>(26)</sup> Dynamic pressures channel the root causes into particular forms of unsafe conditions that then have to be considered in relation to the different types of hazards facing people. Unsafe conditions are “the specific forms in which the vulnerability of a population is expressed in time and space in conjunction with a hazard” and may include the physical environment either lived or work place which exposes people to hazards, livelihood or economic activity undertaken that predisposes to hazards. Others are the public actors and institutions and their actions or inactions which reduce adaptive capacity or preparedness/response actions.

Table 1: Sample generic factors of risk in Ibadan

<b>Component of risk</b>	<b>Factors</b>
Exposure	Physical location of dwelling with respect to source of risk (e.g. living in flood plains, slums, marginal or risky locations); quality of housing; unregulated public transport system; use of motorcycle as public transport; non-municipal sources of domestic water supply for households; inadequate toilet facilities; non-availability of street lights; inadequate waste management facilities and state of roads and drainage facilities.
Susceptibility/sensitivity	Gender, age, socio-economic class, ethnicity, migrant, residential status (landlord or tenant), occupation, livelihood activity- dangerous occupations with high risk of illness, injury and death.
Adaptive Capacity	Income, educational status, availability of basic services (emergency services, access to health facilities, public transport, policing, communications, information on good building practices), provision of public infrastructure, access to social capital, governance, awareness, limited official recognition of risks and preparedness measures.

**III. IBADAN CITY CONTEXT**

**3.1 Urban dynamics**

Ibadan was already classified as an urban centre by the middle of the nineteenth century and was regarded by Mabogunje as the “pinnacle of pre-European urbanism in Nigeria and the largest purely African city”.<sup>(27)</sup> The city has grown significantly both in terms of population and spatial extent since the area was first settled as a war camp in 1829. The city’s phenomenal population

increase in recent years has taken place mainly in the sub-urban areas. During the period 1991 to 2006 the average population growth rate per year in the metropolis was 0.5 per cent while the average growth rate for the sub-urban areas was 4.8 per cent a year.<sup>(28)</sup> The national internal migration survey conducted in 2010 shows that 31 per cent of households in Ibadan are migrants.<sup>(29)</sup> The factors that pulled migrants to the city have changed with time and so also the socio-economic characteristics of the migrant population. The poor state of the national economy, ethnic clashes, religious violence and terrorist activities in northern Nigeria since year 2000 has significantly influenced the characteristics of migrants. New migrants to the city are largely poor, uneducated or have only primary school education. These characteristics has implications for the ability of majority to access employment opportunities, affordable housing in non-marginal locations, health and other social services. An important outcome of rapid population growth in urban areas in unfavourable economic environment is the increase in population of inhabitants living in substandard housing and overcrowded conditions.<sup>(30)</sup> From area coverage of only one sq. km in 1830 the built-up area of Ibadan extended to become a large, sprawling city as a consequence of rapid population growth over the years (Figure 1). By 1988 the city had extended to cover an area of 214 sq. km and significantly thereafter so that the built-up area of the city was 401 sq. km in 2012.<sup>(31)(28)</sup> The Atlas of Urban Expansion shows that 83.07 sq. km of built-up area was added to the city's urban extent between 1984 and 2000 and another 105.37 sq. km was added between 2000 and 2013.<sup>(32)</sup> Much of the city growth has been due to unplanned expansion and development of new areas extending outwards from the older immigrant suburbs to the west and north of the core area and east and southwards. The added built-up area during the period 1984-2000 was by infill (38%), extension of the existing urban boundary (56%), and by inclusion (5%) while during the latter period (2000-2013), 30% of the added built-up area was by infill, 57% by extension, and 13% by inclusion.<sup>(32)</sup> Open spaces and natural surfaces within the city area continue to decrease by continuous infill even as flood plains, hill slopes and other marginal areas are built up. This development has the effect of modifying the urban hydrology through increased runoff generation and the urban climate through enhanced warming and increased local winds. Analysis of the share of residential land use settlements by the same study showed that atomistic settlements and informal land subdivisions made up 36% and 56% respectively of the additional built-up area during the 1984-2000 period while formal subdivisions and housing projects characterized by higher level of regularity and provision of infrastructure, and better connections to existing roads occupied only 8% of the additional built-up area. The working definitions of the different land uses are

provided in the Atlas<sup>1</sup>. The city expansion during the 2000-2013 period comprised primarily of atomistic settlements (75%) and informal subdivisions (25%). The large-scale development of atomistic settlements in the latter period is indicative of poor urban planning and failure of local authorities to effectively manage urban development. Many of the newly developed areas which are a mix of the slum characteristic of the inner city and low-medium density, planned residential layouts have not been integrated into the planning system of the city. Presently, no less than 72 slum localities are identifiable in the city. While a large number of listed slums are in the densely populated inner city, the slums in the ‘newer’ city area are of larger spatial/areal extent than those of the inner city and increasingly accommodate large populations. The 2006 national population census statistics show that some of the newer areas of Ibadan e.g. Akinyele LGA (25.8%), Ido LGA (24.1%) and Ona-Ara LGA (20.1%) have higher than the city average (18%) of non-literate people above six years of age.<sup>(33)</sup> Furthermore, about half of the economically active are engaged as traders (34.3%), artisans (16.0%) and farmers (4.3%). The described socio-demographic characteristics of the city population influence their vulnerability to different hazards and disasters.

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<sup>1</sup> Informal land subdivisions, though subdivided for urban use, do not conform to land subdivision regulations e.g. regular plot dimensions, streetlights and paved roads. Atomistic settlements are squatter settlements that grew incrementally without an overall plan and dwellings built on irregular parcels of land

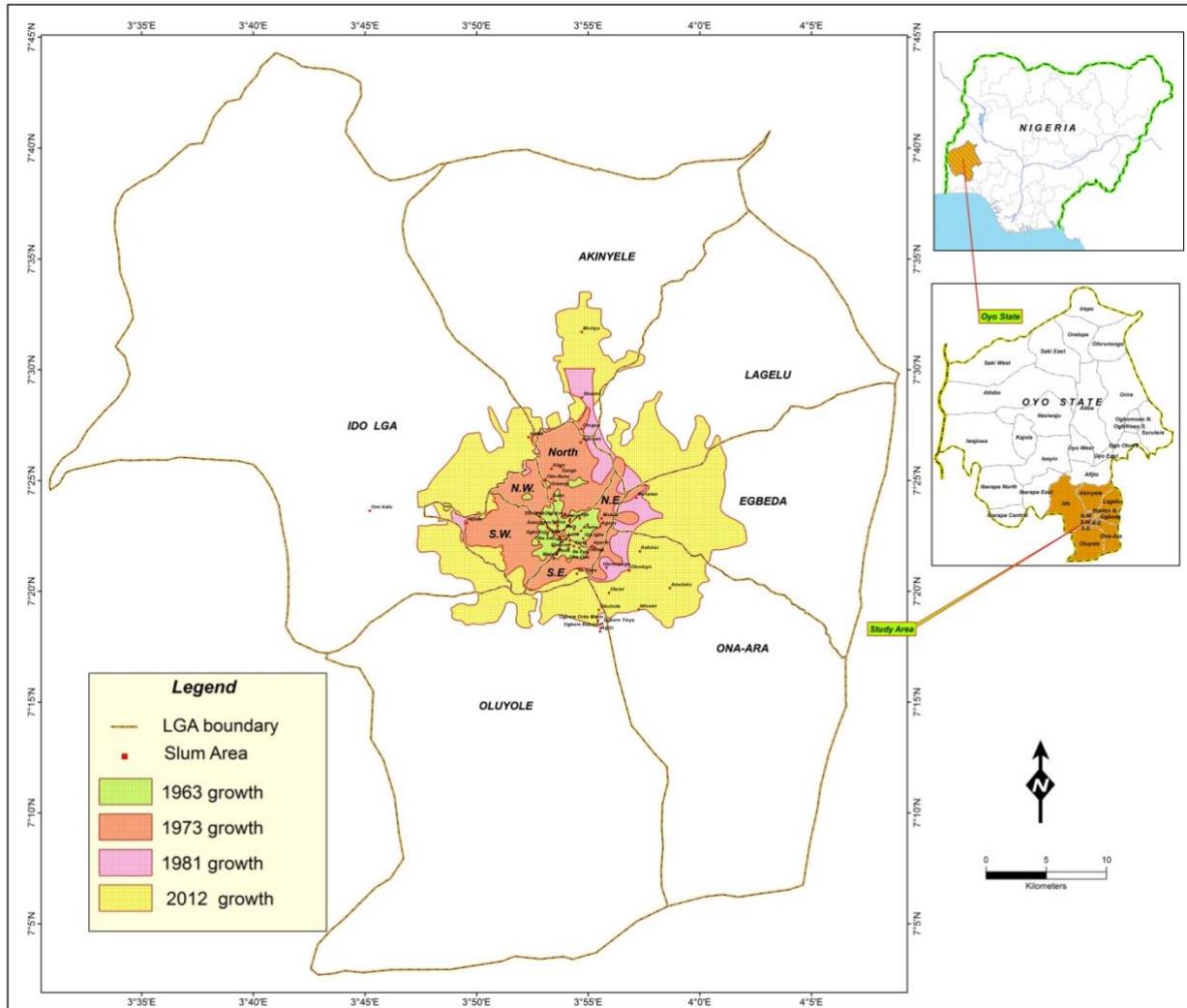


Figure 2: Ibadan city growth and the development of slum settlements

### 3.2 Drivers of risk

A combination of factors is responsible for the exposure and vulnerability of the urban population to the everyday hazards and disasters in the city. These are the underlying structural factors that influence exposure, sensitivity and adaptive capacity of the population to risks and include social, economic and political processes within the urban environment. Some of the key drivers are discussed in this section.

#### 3.2.1 City governance

Efficient urban management and good urban governance is key to reducing disaster risks and everyday hazard risks including public health risks and making cities safer.<sup>(20)(34)</sup> Dodman et al noted that local authorities play a major role in shaping urban vulnerability and hazard profiles through their decisions and actions around disaster preparedness, infrastructure and service provision, land management and other urban functions.<sup>(9)</sup> In 1961, Ibadan was constituted into

seven local governments comprising Ibadan City Council for Ibadan city and six District Councils for the sub-urban areas. Ibadan District Council was created to coordinate the affairs of the seven local governments. In 1976 the Nigerian Local Government Reform was formulated to make the local governments autonomous, functional and developmental while the 1999 Constitution of the Federal Republic of Nigeria strategically positioned local governments as the third tier of government to provide public goods and services whose benefits and impacts are localized in nature.<sup>(35)(36)</sup> With the creation of local governments in 1989, Ibadan Municipal Government formerly Ibadan City Council was split into five autonomous local governments while the sub-urban areas retained the structure of six local governments. The arrangement erased the holistic governance of Ibadan metropolis resulting in un-coordinated urban planning and urban management and subsequent spatial inequality in the provision of basic social services and urban infrastructures. This also resulted in increasing poverty and proliferation of slum and informal settlements in the city.<sup>(37)</sup> Studies (e.g. Hardoy et al 2001) suggest that the manner of planning and management of urban growth and expansion is what largely determines the extent and distribution of risk.<sup>(38)</sup>

To a large extent, urban development in the city has taken place without compliance with building regulations. The relatively low levels of compliance with building regulations have been attributed to several factors which include the institutional context of urban development and planning regulations; the administrative machinery for physical planning implementation which does not make for inter-agency coordination; poverty of the general populace; and the disdain and apathy of the public towards formal planning institutions in the city.<sup>(39)</sup> The inability of successive city governments to provide a city plan is the cause of the absence of a standard zoning arrangement in the city while the haphazard pattern of urban development, especially in the newly developed and peripheries of the city is an outcome of the Nigerian Land Use Law of 1978 which hampered the preparation of a layout. Although the State regulations guiding the minimum riparian setbacks on either side of watercourses ranges from 15 to 46 m, depending on the size of the river or stream,<sup>(40)</sup> in the aftermath of the August 2011 floods in Ibadan 26,533 buildings were identified within the statutory setbacks for rivers and streams.<sup>(41)</sup> In two slum localities of our study- Mapo (core area) and Apete (newly developed sub-urban), Adeniji and Ogundiji had shown that only 10 per cent and 41 per cent of houses respectively have approved building plans.<sup>(42)</sup> Poor urban planning, poor development control, weak building code regulation and enforcement has increased the vulnerability of large population of the city

inhabitants to various risks including the risk of floods, road traffic accidents, building collapse and fire hazards of different forms.



Figure 3: Buildings close to a stream in Agbowo, a slum settlement in Ibadan North LG

### 3.2.2 Public Financing

A key challenge to good city governance and urban management in Ibadan is shortage of public financing. The constraint of public finance to governance in most cities of developing countries is acknowledged.<sup>(43)</sup> National macro-economic conditions, poor financial management and corruption by successive state and local governments are serious limitations to city governance and environmental management. Since the Nigerian economy is largely driven by revenue from oil production, the fall in global oil prices in mid-2014 and later destruction of oil refineries and exploration infrastructures in the country through vandalization which drastically reduced daily oil production and earnings had significant impact on the national budget<sup>(44)</sup> and subsequent reduction in allocations to States from the federation account. This is observed in the pattern of annual domestic debt of Oyo state which increased by about 300% during the period 2011 to 2014 (Table 2). Two strategies for managing costs among others, devised by the state government, which have far reaching implications for city management and the welfare of households, are withholding of funds for local governments use with resultant erosion of the autonomy of local governments<sup>(36)</sup> and defaulting on payment of salaries to civil servants. Non-payment of salaries to civil servants in Ibadan (about 38,722 persons) slowed down the local economy and increased urban poverty. In 2016 the state government incurred ₦29 billion wage deficit representing five months' salary arrears.

Table 2: Annual domestic debt - Oyo State (2011-2014)

Year	Domestic Debt (Million Naira)
2011	4,808.39
2012	11,726.21
2013	19,106.05
2014	12,912.64

Source: Central Bank Annual Statistical Bulletin

The effect of dwindling finances and increasing domestic debt for the state also translated to a general decline in state budget allocation for social services during the eight-year period, 2008 to 2014 (Figure 4). The budget allocation to the health sector was especially affected reducing from 20.4% in 2008 to 8.5% in 2014. The year 2012 recorded the lowest budget allocation to the health sector (4.35%) during the period (Figure 5). Noteworthy is the fact that budget allocation to regional planning and environmental development consistently recorded the lowest allocation during the 7-year period (Figure 4). This pattern reflected in financing allocated to the important components of water resources, housing, environmental sanitation/drainage/sewage and town/country planning under the sector.

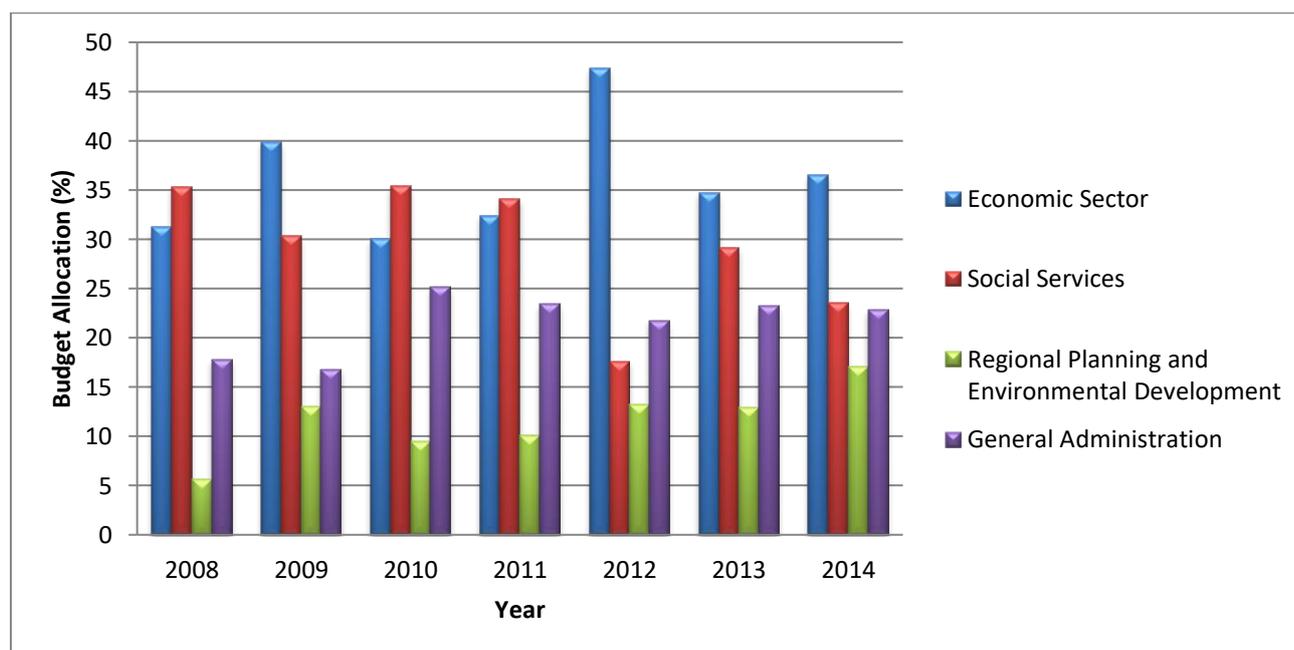


Figure 4: Annual allocation of Oyo state budget to various sectors (2009-2014)

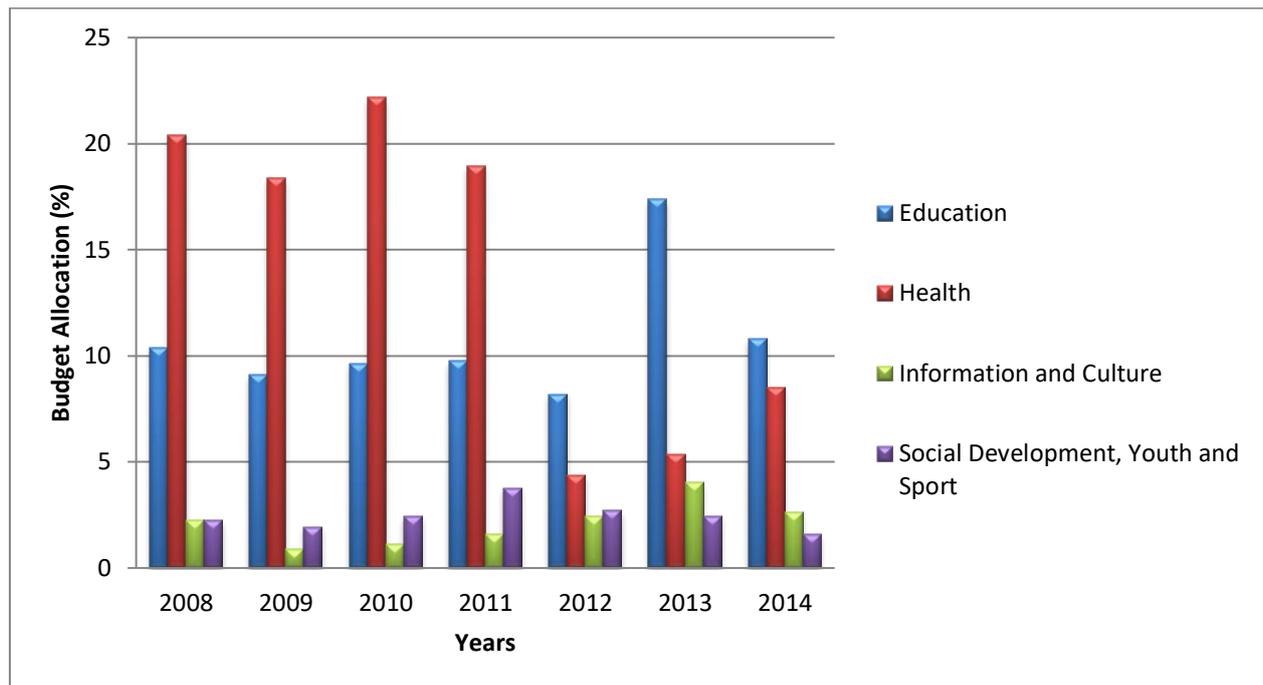


Figure 5: Allocation of Oyo state annual budget to social services (2008-2014)

There is close association between urban poverty and disaster risk <sup>(45)</sup> as indicated by increase in illnesses, premature deaths and serious injuries among the urban poor due to, for example, overcrowded housing with poor sanitation, inadequate water supply and lacking infrastructure. Financial crisis accentuates known hazards by hampering the capacity of city and local governments to provide basic infrastructures and social services, and the vulnerability of individuals and households.<sup>(46)</sup> For many in the city, low and unstable incomes and problems of indebtedness means inadequate consumption of food with the associated health risks and, limited capacity to pay for quality housing which means living in poor housing in slums and settlements lacking provision of infrastructure and services including adequate sanitation and safe and sufficient water.

### 3.2.3. Access to infrastructure and basic services

Lack of, or inadequate access to basic services (e.g. health care, public transport, emergency services) and infrastructure (e.g. roads, drainages, and water supply) directly affect everyday hazards and disaster risks.<sup>(47)</sup> For example, inadequate sanitation and poor access to safe water supply increases health risk including diarrhea and cholera from contaminated water, lack of drainage exacerbates flooding while lack of roads hinder evacuation and access by fire services when flood and fire disasters occur. The downturn in the Nigerian economy which began in the 1980s and has continued till date is a major contributory factor to inadequate provision of infrastructure and basic services in the city. The sprawling nature of Ibadan city growth demands greater financial costs for the provision of adequate urban infrastructures and basic

social services. Nonetheless, investment in infrastructure does not correspond to the needs of the growing population. This is particularly pronounced in informal settlements leading to increased exposure vulnerability to everyday hazards and disasters causing premature death, disease and injury.

**Transport system**

The development of Ibadan as an urban settlement before the introduction of motorized vehicle to the city has to a great extent influenced the pattern and quality of road network in the traditional core area of the city and also, to some extent, in the newer slum areas which have developed with the characteristic of the inner city. Majority of roads in these sections of the city are barely more than footpaths and many buildings are still not accessible by motorized vehicles. Before year 2000, about 50 percent of houses in the traditional inner core of the city were not accessible to vehicular traffic.<sup>(48)</sup> Many of the newer areas of the city have developed with poor road networks which are largely untarred and in poor state.<sup>(49)</sup> The changing and poor characteristic of road network of the city extension over the years is shown in Tables 3 and 4. The share of 1990-2014 built-up expansion area occupied by roads is only 12% relative to 23% in the pre-1990 period. Similarly, the share of built-up residential area within walking distance of an arterial road in the 1990-2014 expansion period is also less than earlier expansion period. In Moniya about 70 percent of buildings are accessed mainly by footpath <sup>(50)</sup> and where roads exist they are largely in a state of disrepair (Figure 6). The poor financial capacity of local governments means very little is undertaken with regard to provision of tertiary roads for neighborhoods and several localities in the city do not have direct access to public transport network.

Table 3: Road network characteristics of Ibadan city expansion area

<b>Characteristic</b>	<b>Pre-1990</b>	<b>1990-2014</b>
Share of built-up expansion area occupied by roads	23%	12%
Average road width (meters)	6.0	3.2
Density of arterial roads (Km/Km <sup>2</sup> )	1.04	0.71
Share of built-up area within walking distance of an arterial road	82%	65%

Source: Atlas of Urban Expansion (2017)

Table 4: Ibadan street width composition

Street width (metres)	1984-2000	2000-2013
< 4	19	69
4-8	36	30
8-12	17	2
12-16	6	-
>16	22	-

Source: Atlas of Urban Expansion (2017)



Figure 6: Poor access road to dwellings in Moniya, a slum community in Akinyele LGA

The public transport system in the city changed significantly as a consequence of changes in the national economy, city governance and urban management.<sup>(49)</sup> The lack of, or poor physical planning in many parts of the city and the inability to adequately control and manage public transport system by the local and state governments have exacerbated transport problems. During the period from 1988 to the early 1990s the city benefited from the operation of a city mass transit bus system and the transportation needs of the urban population was adequately catered for. However, due to poor management the bus service declined within a very short period. Presently, the public transport system in the city is controlled by hundreds of small taxis and mini buses as well as several thousands of motorcycles and tri-cycles. The number of new motorcycle registrations in the city increased from about 300 in 2009 to 2000 in 2014.<sup>(51)</sup> Many

motorcycles are however not registered and it is estimated that not less than 200,000 commercial motorcyclists presently operate in the city.<sup>(49)</sup> Majority of the riders are uneducated, migrant populations and many security and safety concerns are associated with their operations. The increase in road traffic accidents resulting in severe injuries and deaths is closely connected with the operation of commercial motorcycles in the city.

### **Water and sanitation**

Ibadan has very low water and sanitation coverage (Table 5). The poor water supply situation in the city has been worsened by urban expansion and population growth. According to <sup>(52)</sup> not more than 25% of the city population has access to potable water supply while only about 33% has access to sanitation facilities. In the newer suburban areas, municipal water supply is virtually non-existent and many residents depend on ground water from wells and boreholes and other water sources for drinking and household use. Studies of pattern of water use in low-income communities of traditional core areas, the low/middle-income areas showed that over 65 per cent of households in these localities do not depend on the municipal water supply for their domestic use.<sup>(53)(54)(50)</sup> Many wells in these communities are highly polluted because of their proximity to pollution sources such as pit latrines and solid waste dumps, unsanitary practices and overflow from flood overflow. Households in these communities, because of their dependence on ground water sources are, therefore susceptible to water-borne health risks.

Poor financial capacity of city governments and weak governance has contributed significantly to the poor sanitation situation of the city. About 70 per cent of solid waste generated within the metropolis is not properly disposed and managed, and majority is dumped in drainage channels, unapproved dump sites and wetlands. It is estimated that only 15% of households in the city have their wastes collected and properly disposed. The number of waste collection trucks owned by the State Waste Management Agency and local governments estimated at 70 is grossly inadequate to cater for the city which would require at least 500 trucks more to effectively collect solid waste generated in the city.<sup>(55)</sup>

Table 5: Average household coverage of basic services in Ibadan

Services	Average Coverage (%)	Source
Municipal water supply	25	AfDB, 2013
Sanitation	32.5	AfDB, 2013
Sewerage	0	IWA 2010
Electricity	97	Arimah 1994
Solid waste collection	35	OYSSWMA 2015

### **Electricity supply**

Although majority of households in Ibadan is connected to the national electricity grid, irregular electricity supply daily is the experience of households across the city. A study of energy poverty in an area of Ibadan North LG revealed that 93.4% of households only have electricity supply an average of one to four hours a day and 71 per cent of households used electricity generators.<sup>(56)</sup> Energy poverty is more prevalent among the urban poor households particularly the lower and low-income households without generators. The use of generators and storage of petrol and diesel for generator use in residences and work places as well as private/illegal electricity connections are therefore major causes of fire hazards in the city.

### **Access to health**

Access to health is unequally distributed in the city with the five LGAs in the inner city recording a larger number of private and public health facilities than the other six LGAs. With higher costs attached to private health services, the relatively large number of private health facilities in the city means that health care is not readily accessible to majority of the urban poor. Most primary health care facilities in the city are not served by medical doctors on a daily basis.

### **Emergency services: Fire stations**

There are only seven government-owned fire stations in the city, of which five are located in the metropolitan area and only two (one each in two sub-urban local government areas). In addition, there is a fully equipped fire station at the University of Ibadan. The provision of fire services for the city is therefore grossly inadequate, considering the large population, land area/spatial extent of the city and residential, industrial and commercial facilities present. More often than not the fire services lack or only have limited supply of water to use in case of emergencies.

### **3.2.5. Poverty and unemployment (Macro-economic conditions)**

National economic and political conditions at different periods of Nigeria's history continue to have significant influence on urbanization processes in Ibadan and the vulnerability of the city inhabitants to hazard events. Traditionally, the large migrant population in the city comprised mainly of peoples from other areas in the Western region of the country. The macro-economic policies of the structural adjustment programme (SAP) adopted by the Nigerian government in the 1980s however contributed to influx of large population of migrants as a consequence of declining socio-economic conditions and human development in the rural areas.<sup>(57)</sup> The effect of poor economic performance at the national level in the past decade is evident at the city scale as relative economic growth in Nigeria has been accompanied by increasing inequality and vulnerability.<sup>(58)</sup> The 2014 re-based GDP figures that showed an increase in the size of the Nigerian economy have drawn attention to official poverty statistics and concern about their accuracy.<sup>(58)</sup> Official statistics of Nigeria's poverty profile show that while relative poverty measurement was 54.4% in 2004, it increased to 69% in 2010. Also, poverty rate has not reduced markedly. While urban poverty is a long-standing problem in Ibadan, poverty level worsened in the last ten years. As far back as 1978 when the economic situation in the country was buoyant about 68 per cent of the city population were low-income earners.<sup>(59)</sup> With national economic depression the situation worsened. Unemployment is a major factor of poverty, and the twin problem of unemployment and poverty in Nigeria has been comprehensively assessed by Iyoha et al.<sup>(60)</sup> The economic crisis and structural adjustments of the 1980s and 1990s weakened the employment and law enforcement capacity of the state and encouraged a high level of informalization of economic activities.<sup>(61)</sup> In urban areas many workers lost their jobs and unemployment rates increased as a result of privatization and commercialization of public enterprises and the low capacity utilization of industries. Between 1980 and 1999 the highest rate of urban unemployment (9.8%) in Nigeria was recorded in the years 1985-1987 (National Bureau of Statistics). However, from year 2000 the rate of urban unemployment became highly pronounced reaching the highest rate of 22.8% in 2010. The 2010 unemployment rate for Oyo State for which Ibadan is the capital city is 27.7%.<sup>(62)</sup> The situation of youth (15-24 years) unemployment in the country is much worse with a record of youth unemployment rate of 37.7% in 2011.<sup>(63)</sup> Rising unemployment rates especially among youths is a key driver of many social vices among which are car-snatching, armed robbery, kidnapping and all forms of violence.<sup>(59)(64)</sup> The scale and nature of such social vices has increased in Ibadan within the last decade.

Based on literature and experience, different types of everyday hazards and disasters risks characterize the risks profile of the city and which can be classified under the four main categories of hazard types- technological, natural, social and public health risk (Table 6).

Table 6: Examples of risks in Ibadan

<b>Types of hazard</b>	<b>Urban Risks</b>	<b>Scale</b>
Technological	Road traffic accidents, indoor air pollution, electrocution, fire, building collapse	Extensive
Natural	Flood, rainstorm, windstorms, heat stress	Extensive and intensive
Social	-Urban violence -crime/political and economic violence (armed robbery, kidnapping, missing persons, killings, etc.) -police violence -social tensions (domestic violence, urban gangs)	Extensive
Health	Tuberculosis, cholera, diarrhea, malaria, respiratory infections	Extensive

#### **IV. RISK DATA SOURCES AND ANALYSIS**

A systematic collection of historical data on both intensive and extensive risks (i.e. the whole spectrum of risks, including disasters and everyday hazards, resulting in illness, injury and premature death, property and economic losses) in the city for the period 2000-2015 was undertaken. For every hazard/disaster event or health risk the following information was elicited, to the extent available:

- i. Date of hazard or disaster event
- ii. Incidence location or residential address of patients in the case of hospital records
- iii. Number of deaths - i.e. people who died due to direct causes immediately or sometime time after the disaster
- iv. Number of people injured - i.e. persons with bodily injuries
- v. Number of persons affected i.e. persons who suffer indirect or secondary effects
- vi. Number of victims-i.e. persons whose individual or collective property and/or services have suffered serious damage directly associated to the event.
- vii. Number of damaged houses- i.e. houses that suffered some damage and requiring repairs
- viii. Number of destroyed houses- i.e. houses that have collapsed, or have been swept, submerged or damaged in such a manner that they are not habitable

A triangulation of methods using daily newspapers, hospital records and ministry of health records and other sources including government departments and agencies was adopted to collect relevant data on intensive and extensive risks in the city. Daily newspaper reports were a major source explored for risk data. Newspapers have been utilized as sources of historical data, and to complement official data sets relating to disaster and hazard events.<sup>(65)(66)</sup> Specifically, data was collected from the following sources:

1. Nigerian Tribune newspaper for daily reports deaths and losses from everyday hazards and disaster risks in the city for the period 2000-2015
2. University College Hospital, Ibadan (UCH) and the Government Chest Hospital, Ibadan. Records of deaths resulting from purposely sampled diseases causing premature deaths - typhoid fever, diarrhea, meningitis, and gunshot injuries was collected from the medical records department of the UCH while death cases from tuberculosis was sourced from the Government Chest Hospital. Data was collected for the period 2000-2013. The records of deaths for the different diseases available in the two hospitals were specifically for patients who were brought into the respective hospitals alive, received treatment but later died from the causes of treatment.
3. Oyo State Ministry of Health hosting the database of cases of selected non-communicable diseases, road traffic accidents and cholera compiled from all public health facilities in the city including general hospitals and primary health care facilities. The health records of the foremost federal government owned tertiary health facility in the country, the University College Hospital, was however not included in the database of the State Ministry of Health.
4. Government Ministries and Agencies:
  - Federal Road Safety Corps (FRSC) for records of road traffic accidents and associated impacts including deaths and other losses
  - Oyo State Emergency Management Agency,
  - Oyo State Fire Service,
  - Nigeria Police Force
5. Relevant publications

#### **4.1 Gaps in data sources**

To a reasonable extent risk data sourced from Nigerian Tribune newspapers cover most types of everyday hazards and disaster risks that might be expected in a highly populated city and to a

negligible extent health risk of epidemic nature. Nonetheless, the reporting of urban risks might be biased or incomplete. This is due to the tendency to report events perceived as news worthy and with human impact, and also underreporting of other events especially of low magnitude. By and large, newspaper reports give an indication of the nature and scale of risks in the city. However, impacts data for reported events is mostly incomplete in terms of gender and age of persons associated with the particular event and monetary value of the damage and loss. Data on premature deaths collected from the University College Hospital (UCH) and the Government Chest Clinic for tuberculosis are considered to be reasonably complete because individual patient records with sex, age and residential address were available. The two hospitals did not keep medical records in electronic form for the study years, which was a major limitation to collecting data on patient cases for some diseases of interest at the UCH. Malaria, a major health risk and cause of premature death in Nigeria and tropical Africa in general was therefore not studied because of the herculean task of manually going through the thousands of records of malaria cases not kept electronically.

Disease data kept by Oyo State Ministry of Health is very heterogeneous in the sense that different formats have been used over the years for storage of disease records. Firstly, records in the period before 2009 are available in hard copy only. It was not until 2009 that storing of health records in electronic form began. Data kept in hard copy are susceptible to loss. Secondly, before year 2000 a format specifically designed by the State Ministry of Health was deployed for collection of health records across the state including Ibadan city. In 1999, the National Health Management Information System (NHMIS), a generic format for health data collection nationwide was developed by the National Council of Health. This formed the basis of health data collection during the period 2000-2012. A newer version of the NHMIS was introduced in 2013. Thirdly, before 2013, available disease data was recorded at the level of LGAs. It was therefore difficult to access disease data for the city at the scale of locality or ward level. Disease data collected at the LGA level could not be processed using the DesInventar software because of the unit of analysis for the city is the ward level. The newer version of the NHMIS currently in use overcomes this limitation and disease records since 2013 can be retrieved at ward level and health facility level. Data on tuberculosis and mental health conditions is also not included in the disease data base. Finally, the newer version of the NHMIS does not enable direct access to disease surveillance from source as is the case with the earlier version. Disease surveillance data is also not received promptly and directly from the Disease Surveillance Offices. Only summaries of disease records are received by departments of planning, research and statistics of state health ministries. The prevailing situation whereby a lag

period of some years before the surveillance data is made available does not allow the timely assessment of disease profile of different localities within the state. In 2017, disease surveillance data for the period 2013-2017 was not yet available. There are also data gaps resulting from random cases of non-reporting of deaths by some health facilities, especially public health facilities, or local government offices. Non-supply of data on deaths is mainly due to attempts by concerned health facilities to avoid stigmatization of being associated with death of patients. Data on fire incidents in the city were mainly obtained from newspaper reports because of poor record keeping by the different fire stations and the State Fire Service. Records of road accidents kept by the Federal Road Safety Corps cannot be considered to be complete because of inadequate monitoring of roads and overlapping of roles with the Police force with regard to road safety. In addition, data on road traffic accidents is available in electronic form beginning from 2009 and accident data recorded in registers for earlier period could not be accessed from FRSC. While road accident data for longer period was available by gender and age from the State Police Headquarters, Ibadan, this was only provided at the state level as city level data was not available. Although inconsistencies have been identified in risk data held by the different sources as described above, nevertheless, consistent patterns in the risk profile of the city still emerge which are described in the section 5.

## **V. EVERYDAY HAZARDS AND DISASTER RISKS IN IBADAN**

### **5.1 Nature**

The observed nature and scale of risks in Ibadan over the period of study reflect urban dynamics and vulnerabilities. Analysis of daily newspaper reports showed that city residents are exposed to many different risks with a small number of hazard types – road traffic accidents, crime, violence and flood in order of importance accounting for the largest number of premature deaths (Figure 7). Everyday hazards in the city are therefore mainly in the category of technological and social risks, and natural risks on seasonal basis.

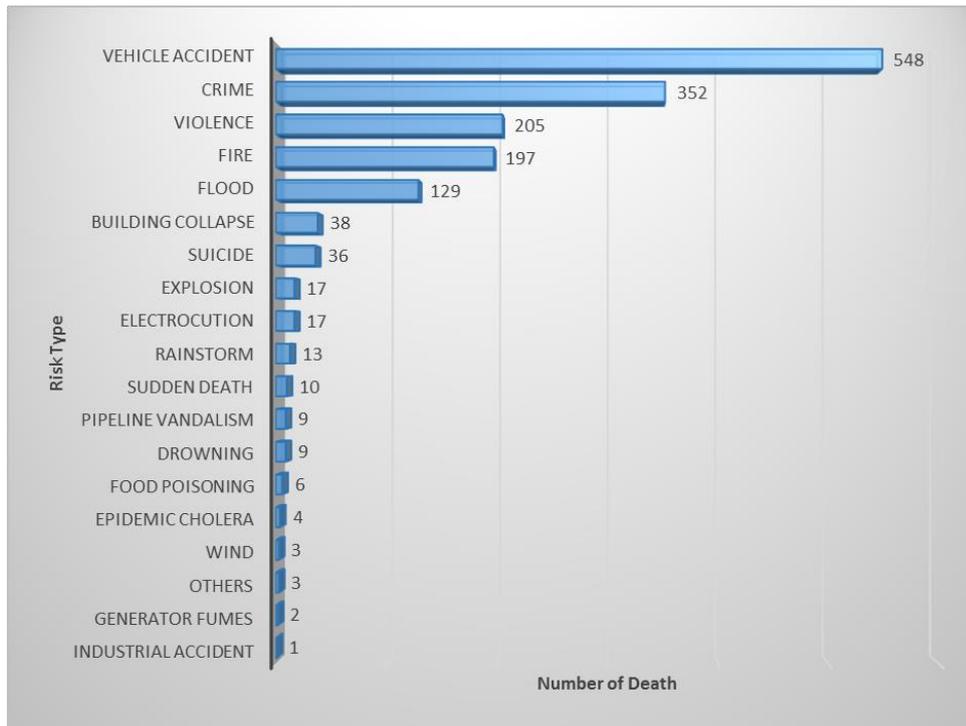


Figure 7: Total number of reported deaths by risk type in Ibadan (2000-2015)  
Source: Nigerian Tribune newspaper

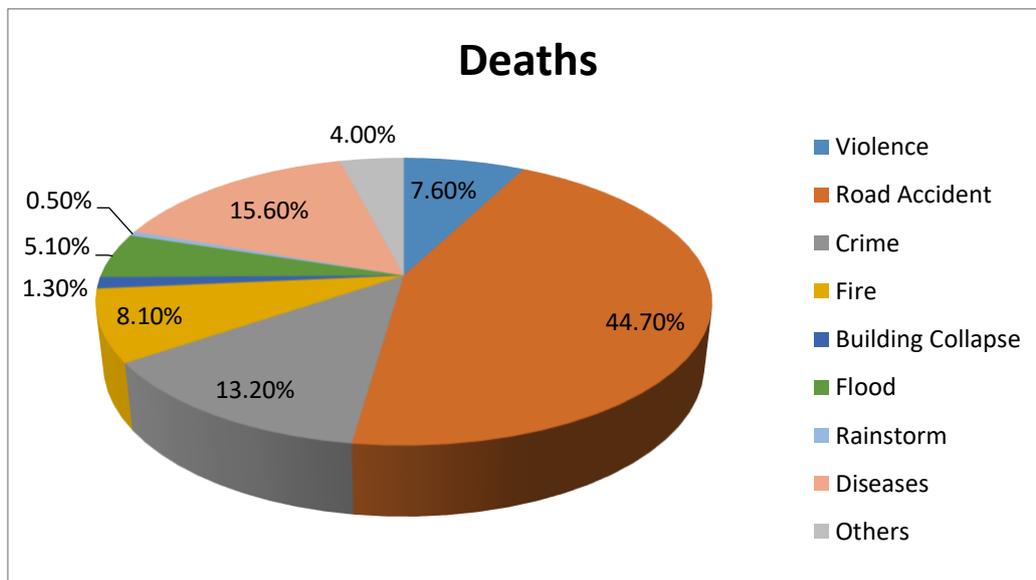


Figure 8: Desinventar analysis of proportion of deaths by hazard type in Ibadan

Apart from mentions of cholera or meningitis epidemics, parasitic and infectious diseases (e.g. diarrhea, malaria, tuberculosis, typhoid) does not appear in Figure 7 as major causes of premature death because these do not get reported in newspapers. Earlier study of disease morbidity in Ibadan identified malaria, diarrhea, gastroenteritis, pneumonia, tuberculosis, chickenpox, measles, malnutrition, anemia, eye disease and hypertension as the top ten diseases

affecting Ibadan city dwellers. <sup>(67)</sup> It is noteworthy that cholera, typhoid and meningitis which did not appear in this list have become important health risks in the city in contemporary times. Premature death from selected diseases from the study hospitals for the period 2000-2013 is shown in figure 9. The University College Hospital, Ibadan records showed diarrhea (124 deaths), meningitis (57 deaths) and typhoid fever (33 deaths) to be important causes of premature death. During the same period, 133 cases of deaths resulting from tuberculosis were recorded at the Government Chest Hospital, Ibadan. There is nonetheless prevalence of water-borne diseases particularly typhoid, dysentery, cholera and diarrhea, especially among the urban poor largely due to the poor water supply and sanitation situation in the city. <sup>(53)(68)(52)(69)</sup> Cholera in particular is associated with pollution of water sources in the aftermath of major flood events such as the 2011 flood in the city. Following the August 2011 floods, an outbreak of cholera in six localities of Ibadan North West Local Government Area claimed four lives. The Oyo State government noted that 50 houses had no toilets in these localities.

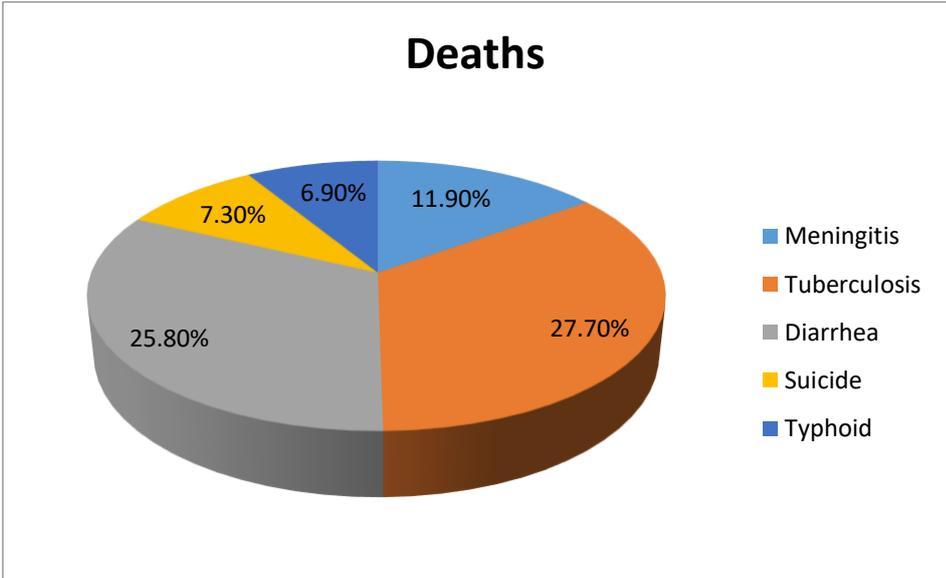


Figure 9: Deaths from diseases and suicide reports (2000-2013)

Oyo State Ministry of Health disease record show that cholera was an important cause of morbidity in Ibadan during the period 2003-2012 (Figure 10). Cholera cases were reported in different parts of the city following the 2011 flood disaster (Figure 11) with the urban poor in the inner city LGAs and sub-urban LGAs being the most vulnerable. In 2004, the number of reported cases of cholera and typhoid in the city was 1872 and 3048 respectively <sup>(51)</sup>. The increased urban population affected by water-borne diseases can be strongly related to the increasing poor water supply and sanitation situation in the city in the context of city growth and

inadequate provision of services. While tuberculosis remains an important health risk in Ibadan especially in the inner city because of the poor housing conditions and overcrowding in the slum areas, death cases from tuberculosis has nonetheless reduced (Figure 12) because of improved health services for treatment of tuberculosis in the city provided by international agencies.

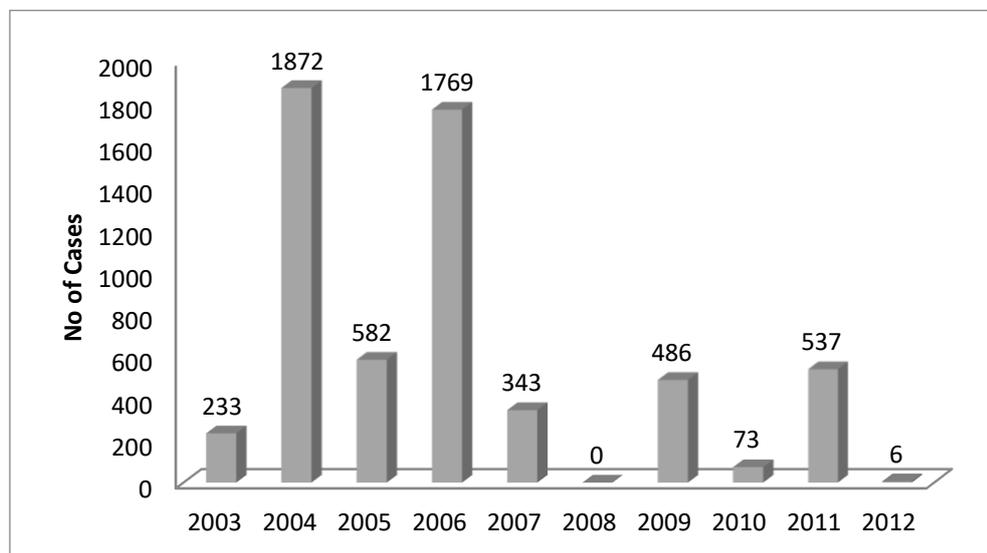


Figure 10: Total number of cholera cases in Ibadan (2003- 2012)  
Source: Oyo State Statistical Health Bulletin (2007); HMIS (2009-2012)

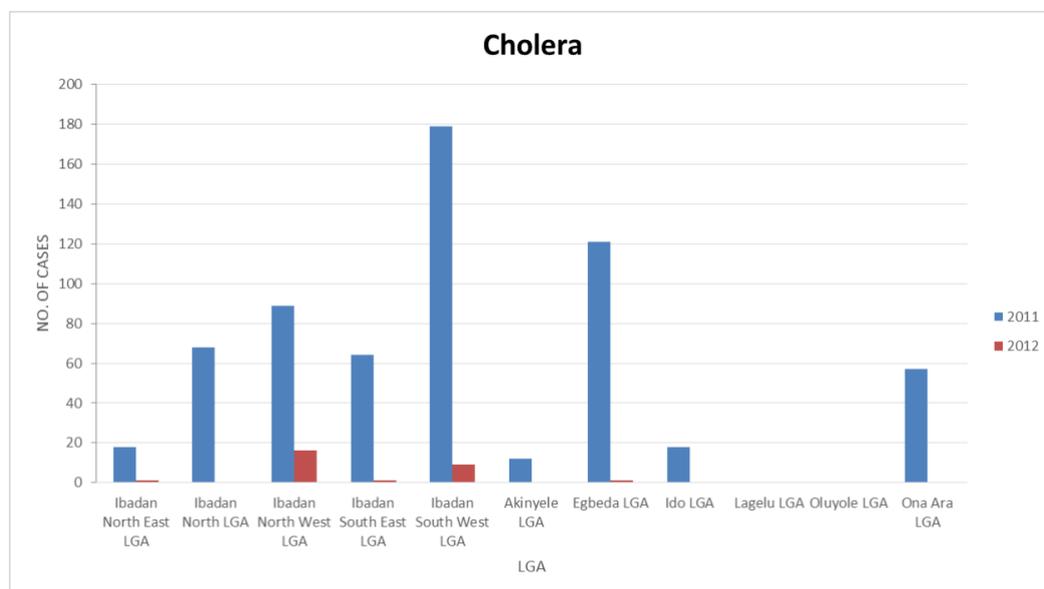


Figure 11: Cholera cases during significant flood years in Ibadan (2011 and 2012)

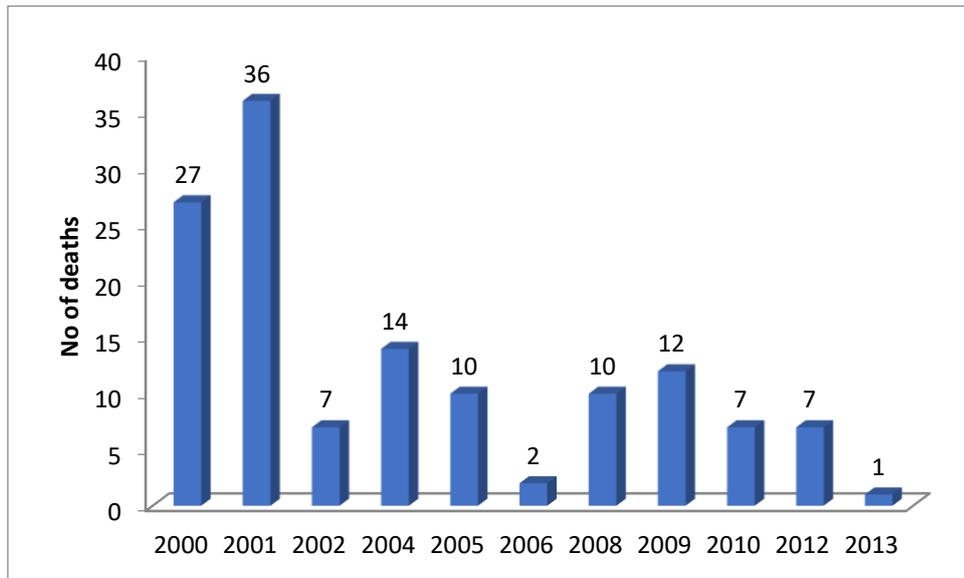


Figure 12: Reported deaths from tuberculosis at the Government Chest Clinic, Jericho, Ibadan (2000-2013)

Broadly, the total number of reported premature deaths from everyday hazards and disasters (intensive and extensive risks) during the period 2000 to 2015 shows increasing trend from reports in the local newspaper (Figure 13). Similarly, all entries into DesInventar database indicate an upward trend for both persons killed and injured in the same period (Figure 14). The observed upward trend corroborates the view that mortality associated with extensive risk appear to be trending upwards in low-income countries <sup>(25)</sup> since greater proportion of risks in the city are a consequence of everyday hazards and small disasters.

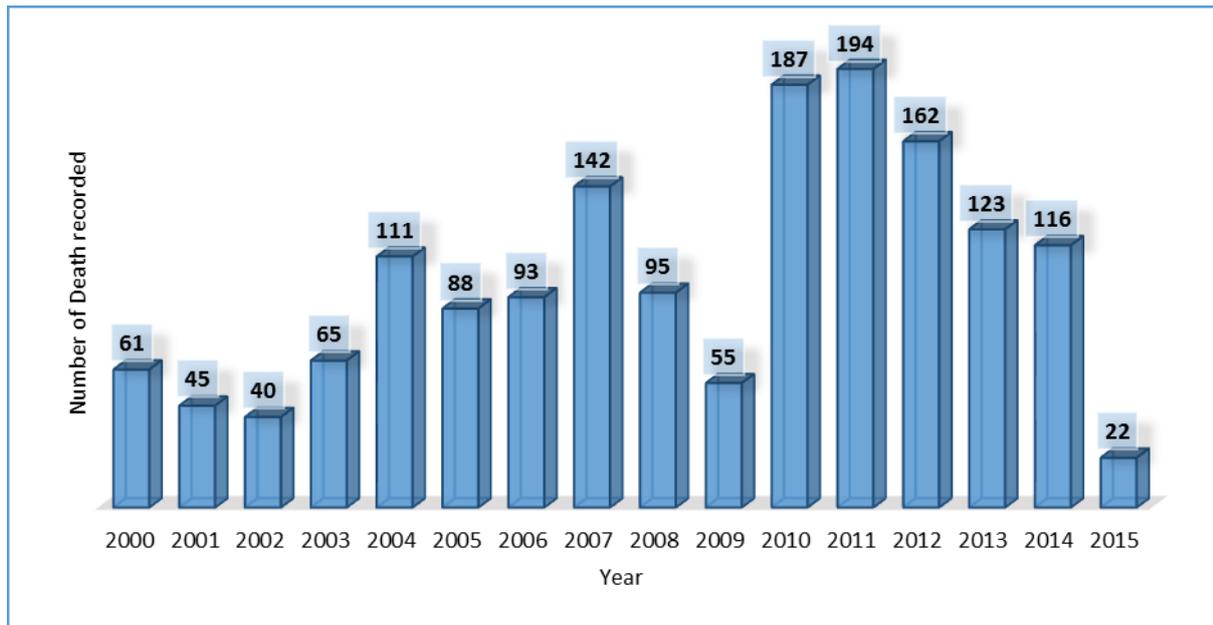


Figure 13: Total number of reported deaths from various risks (2000-2015)  
Data source: Tribune Newspapers

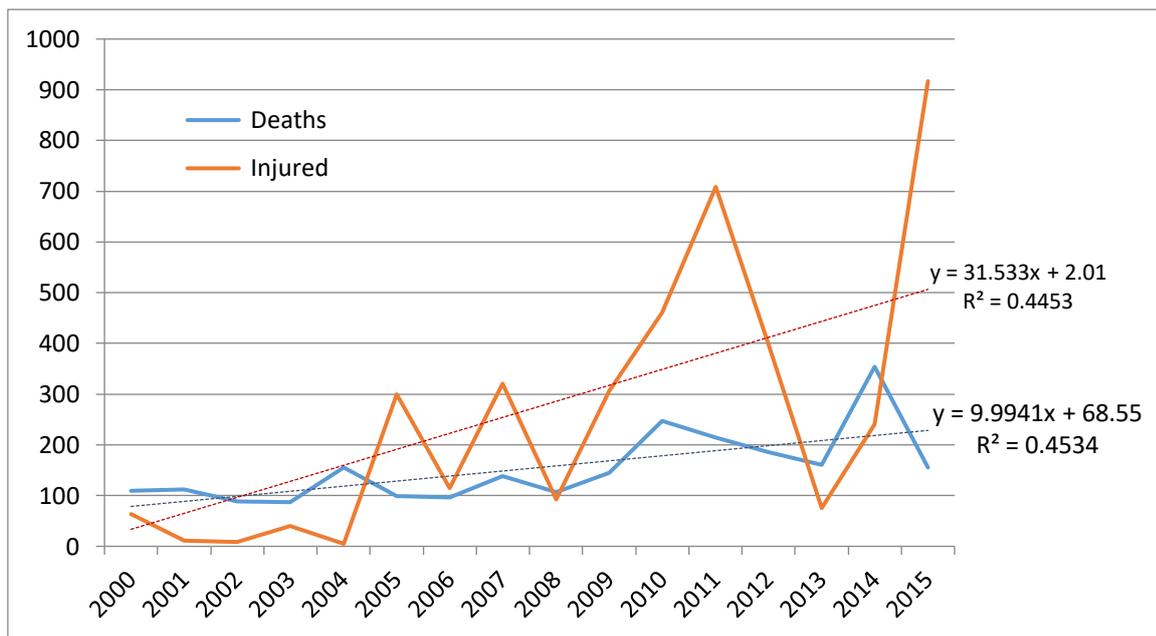


Figure 14: Upward trend of premature deaths and injuries from risks in Ibadan (2000-2015).  
Source: Desinventar database

## 5.2. Scale

The scales of impact of the more serious urban risks in the city as shown in results of analysis are examined in this section.

Table 7: Other losses recorded from major hazard types in Ibadan (2000-2015)

	Missing	Injured	Affected	Victims	Houses Destroyed	Houses Damaged
<b>Road Accident</b>	-	2593	3780	49	40	
<b>Fire</b>	NA	87	3528	519	371	1593
<b>Building Collapse</b>	-	73	NA	NA	6	6
<b>Crime</b>	10	214	605	1440	NA	NA
<b>Violence</b>	50	966	3595	1344	225	15
<b>Flood</b>	53	100	101	624	3102	9112
<b>Rainstorm</b>	1	8	5	3131	16026	52
<b>Windstorm</b>	-	3	90	NA	2	30

Source: All study sources  
NA-Not Available

### Road traffic accidents

Road traffic accidents have emerged as a leading cause of premature deaths and second leading cause of injuries after violence in the city with the numbers of injured and deaths increasing markedly over the 15-year study period (Figure 15 and table 7). Road traffic accidents statistics sourced from the Federal Road Safety Corps show that large numbers of persons were injured in road accidents compared to numbers killed in the period 2009-2014.

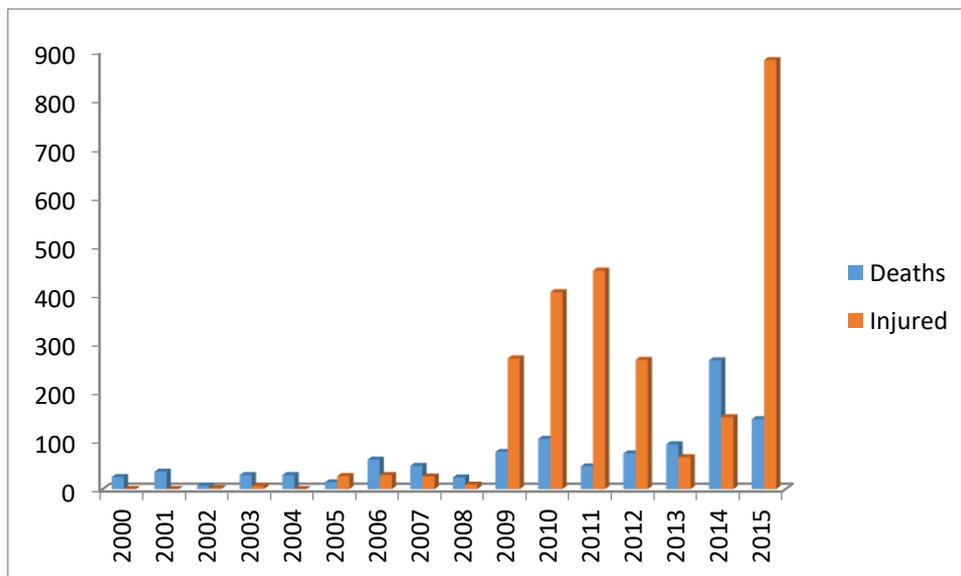


Figure 15: Impacts from road traffic accidents in Ibadan from all study sources (2000-2015)

### Crime and urban violence

The risk of urban violence is explained as the cumulative effects of multiple risks within cities, and aggravated by socio-economic failures in relation to governance and spatial characteristics of cities.<sup>(70)(71)(72)</sup> Such characteristics include urban density and size, extent of heterogeneity,

inability to absorb surplus low-skill labor, under- and unemployment, inequalities in provision of services, income inequality, local grievances and failures of cultural integration which are readily observed in Ibadan. Anti-social behavior such as crime, thuggery and gang groups are considered to be indicative of lack of social control which manifests in urban disorder such as presence of abandoned housing.<sup>(72)</sup> The prevalence of pockets of abandoned older residential buildings in the inner city, is a feature of the urban morphology and a driver of risk especially in the inner city. The buildings left unoccupied as younger generations of indigenous owners seeking to upgrade their status move out of these areas provide convenient hideouts for gang boys, miscreants etc. Furthermore, the low educational status of majority of indigenous population and by association endemic poverty in the inner city because of inadequate provision/lack of schools is also a major driver of different forms of social risks-thuggery, gangs and violence. The nature and scale of crime and violence has intensified over the last decade. The introduction or implementation of policies by governments which are considered unfavourable by citizens has also engendered urban violence. At different times since 1992 mass violent demonstrations and destruction of property have taken place in the city in response to attempts by government to increase the prices of petrol and allied products. Elections processes have also been source of conflicts and violence,<sup>(73)</sup> sometimes resulting in injury, loss of lives and property.

### **Flood, Strong Wind and Rainstorm**

Changes in the local climate as a consequence of climate change and local environmental changes in the context of urban development have resulted in increased frequency of climate hazard events – flood, rainstorm and windstorm in the city.<sup>(74)(75)(28)</sup> The increase in exposures to these climate hazards have profound disaster impacts on the urban poor and resulting poverty outcomes.<sup>(76)</sup> While the numbers of injured and premature deaths from these climate-related hazards does not compare with that recorded for road traffic accidents, violence and crime, the impacts in terms of buildings, physical infrastructure and property damaged or destroyed is significant (Figure 17). Most of the localities experiencing serious impacts from the effects of rainstorm and windstorms are mainly in the inner city, and the newer eastern suburbs which have the housing characteristics of the inner city. For example, in February 2009, the Oyo State Emergency Management Agency recorded that a major rainstorm event either damaged or destroyed not less than 269 buildings in different localities in the inner city and eastern suburbs of Egbeda and Ona-Ara LGAs (Figure 18). The risk was largely due to the susceptibility of buildings in these locations to the hazard since majority are either old, poorly maintained or poorly constructed. This event was however not reported in the Tribune newspaper. Similarly,

in February 2013, about one thousand residential, religious and commercial buildings and schools as well as urban infrastructure were damaged or destroyed by a strong wind of 72 knots which accompanied the first rainfall of the year. As in 2009, the most affected areas were in Ona-Ara local government area where more than half of affected buildings were located. Most of the affected areas are high density with narrow spaces separating buildings.

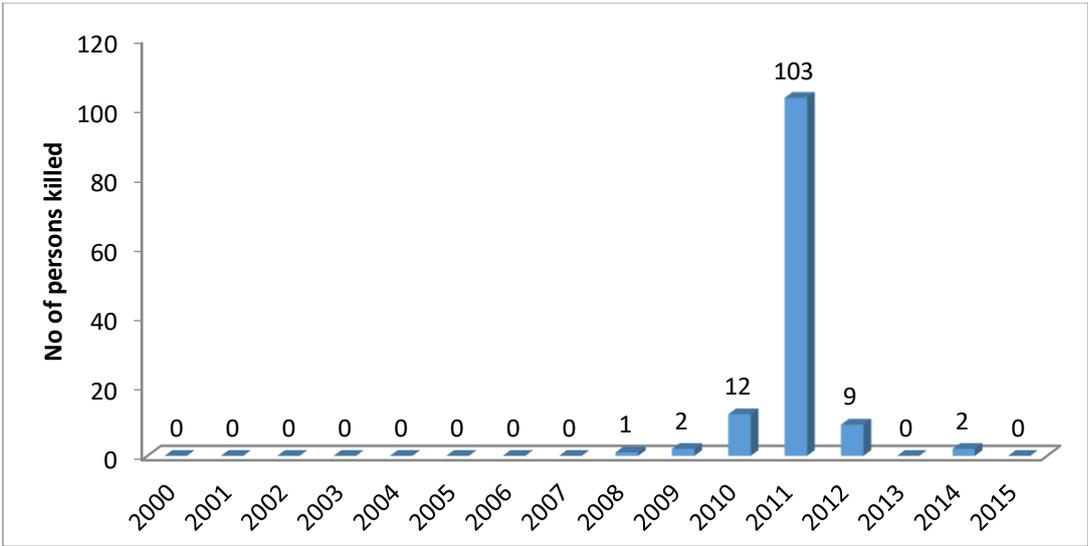


Figure 16: Reported deaths from flood events in Ibadan (2000-2015)

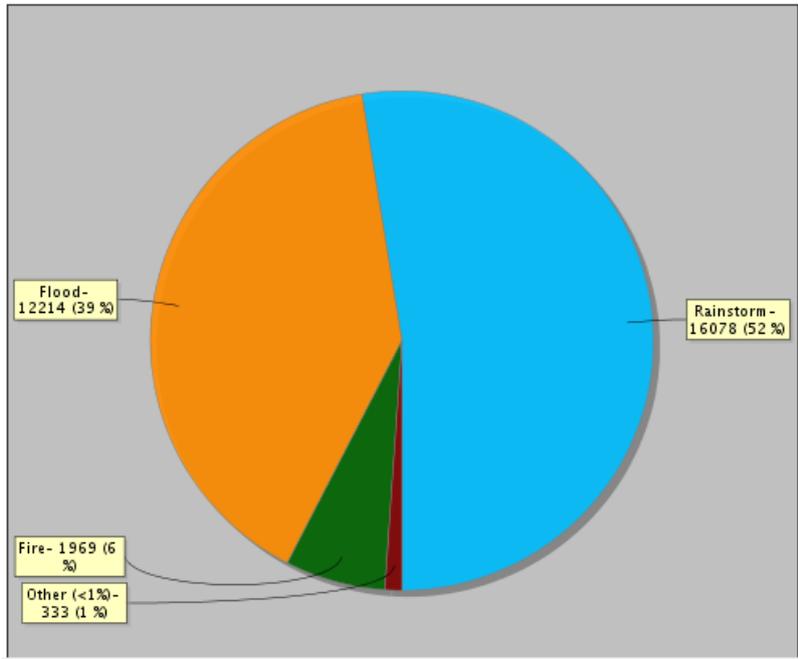


Figure 17: Destroyed and damaged buildings from climate-related and other hazards

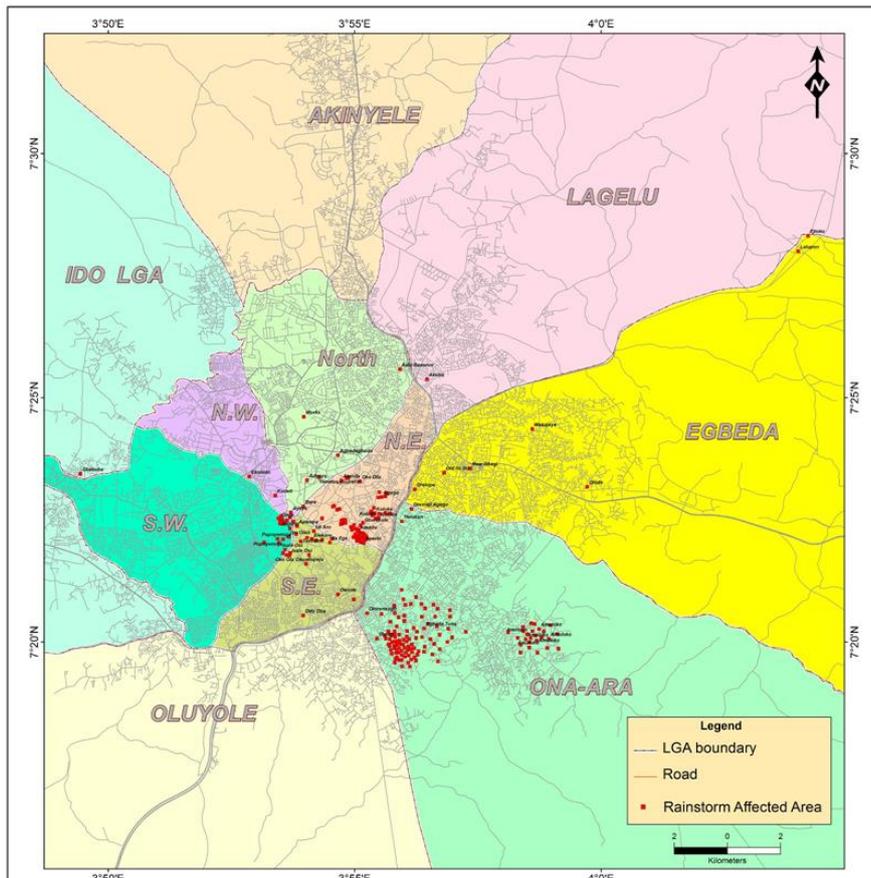


Figure 18: Location of buildings affected by rainstorm in Ibadan (February 2009)  
 Data source: Author's drawing using SEMA data

## VI. CONCLUSIONS

The risk landscape of African cities is conditioned by factors not only in the urban system of concern but is influenced by factors beyond the city region including macro-economic conditions, local politics and policy decisions at the national, state and local levels and to some extent international development agenda. In Ibadan, the interplay of the evolving urbanization processes and pattern, and social, economic and political structures at different scales shape the process of risk accumulation and vulnerability to intensive and extensive risks. Although the pattern of city growth and uncontrolled urban development are important to driving urban risks, the qualities of operating systems of the city in terms of institutional capacities, governance at different scales and by extension public financing for urban infrastructure and social services are significant determinants of the nature and scale of risks in the city. While the sprawling nature of Ibadan city growth demands increasing financing for investments in physical infrastructures and basic social services, changing macro-economic conditions, poor financial management by successive state and local governments are serious limitations to robust city governance and environmental management. Poor urban planning and failure of local authorities to effectively manage urban development has resulted in increased proportion of atomistic settlements,

characterized by inadequate physical infrastructure and lack of/poor social services, in the development of newer areas of the city since the 1990s. The pressures described have to a large extent influenced the observed patterns of both extensive and intensive disaster risks in Ibadan. Apart from public health risks, and recognizing that these are under-reported, road traffic accidents, crime, violence and flooding have emerged the most serious hazards in the city resulting in social and economic losses, injuries and deaths. Road traffic accident is the leading cause of premature deaths and second leading cause of injuries after violence. The nature and scale of crime and violence has intensified, especially over the last decade.

For African countries like Nigeria, largely dependent on the export of a single primary resource as the main source of revenue for economic development, risk accumulation may be closely linked with the effect of global market forces on the economy which invariably affects public financing and other sectors. As Africa progresses into the Twenty-First century, changes in urban morphology, with increasing tendency for people to move to sub-urban and peri-urban areas from the inner city while migrant populations increasingly settle in risky and city outskirts will have more bearing on risk accumulation both in the inner city (a result of degeneration) and in sub-urban newly developing areas. This is because of the high likelihood that provision of infrastructure and social services will not be commensurate with urban expansion and population growth. This means that addressing urban risks must prioritize public financing and actively managing/controlling urban development including renewal of older sections of cities, and inner cities in the case of traditional cities. For the most part, there is lack of city-wide risk information across the spectrum of risks occurring in sub-Saharan African cities to inform risk-sensitive development and disaster risk reduction. In the case of Ibadan, the lack of risk sensitive urban planning and management in Ibadan has been noted.<sup>(77)</sup> Deliberate and systematic action planning for risk reduction including measures for reducing vulnerabilities to urban risks need to be integrated into short and long-term city development plans with goals for investment and financing clearly defined. This will contribute towards achieving the targets of the New Urban Agenda and achieving safe communities and sustainable cities.

## **ACKNOWLEDGEMENT**

This paper was supported by the Urban Africa: Risk Knowledge programme, funded by the UK Economic and Social Research Council (ESRC) and Department for International Development Humanitarian Innovation and Evidence Programme under Grant No ES/L008777/1. The author appreciates the insightful review comments and suggestions of Sheridan Bartlett, Mark Pelling and David Satterthwaite, which have enhanced the quality of the paper.

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