

Original Research

Urban Slums and Suburban Sprawls: Environmental Challenges of Safe, Resilient and Sustainable Cities

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Abstract

This paper presents a review of urban slum and suburban sprawl situations across the world. The article is more descriptive in nature than analytical and has the objective of bringing out the interrelationships among urbanization, urban slums, suburban sprawls, and environmental sustainability. It begins by examining the concepts of urbanization, urban slums, suburban sprawl, safe cities, resilient cities, and sustainable cities. It then goes on to look at the causes and consequences of urban slums and suburban sprawl. Findings from the study revealed that slums and suburban sprawls are cogs in the wheel of safe, resilient, and sustainable cities. Therefore, the study recommends efficient urban management, the implementation of urban master plans, development control, and citizen participation in urban planning and management. Above all, for the achievement of safe, resilient, and sustainable cities, this study places more emphasis on the use of modern techniques of environmental monitoring and management.

Keywords: resilience, sustainability, urbanization, slum, sprawl

Introduction

Improvements in science and technology have made it possible for more and more people to be concentrated in cities and in density conditions that were previously impossible [1]. The process of migration of people to urban centers, as well as natural growth in population, is accountable for urbanization. The reasons for

urbanization are numerous and complex [2-6]. They include natural population growth, increased education, transportation improvement, agricultural improvement, increased service activities, industrialization, social and cultural attraction, as well as market potential [7].

Rapid urbanization in Africa comes with myriads of problems [8]. The consequences of urbanization include slums, sprawls, shortages of housing, fear and insecurity, traffic congestion, a high rate of unemployment, a high level of illiteracy, and poverty. Others are pressure on existing facilities, high cost of living, land use conflict, environmental pollution, and ecological problems.

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Urbanization is equally responsible for reductions in agricultural land, deterioration in health status, and environmental degradation and decay. In his own view, [9] submitted that rapid urbanization, the concentration of urban population in large cities, the sprawl of cities into wider geographical areas, and the rapid growth of megacities are having adverse consequences for man and his environment.

In his own perspective, [10] considered an urban center as the most complex human creation that is at great risk both from a wide range of hazards and from its own multiple vulnerabilities. According to Jay, the challenges that are associated with urbanization are land use conflicts, urban health challenges, an increased rate of crime, and environmental degradation. Hence, the major solutions to the challenges of urbanization are the implementation of a master plan, the fulfillment of urban and housing programs, development control, the formation of new towns, and the involvement of relevant professionals like town planners, architects, builders, estate managers, surveyors, and municipal engineers in urban planning.

Researchers have confirmed that urban slums and suburban sprawls are major challenges for safe, resilient, and sustainable cities [2-8, 11-14]. Urbanization is associated with challenges like neglect, insecurity, and social vices. All these menaces are cogs in the wheel of sustainable development. Therefore, for the attainment of sustainable cities, there is a need to design cities with meaningful opportunities for working, recreation, and circulation. Furthermore, there is a need to design cities where the inhabitants can build optimism, adapt easily to change, and cope with environmental challenges. These are the basic tenets of safe, resilient, and sustainable cities.

In recent times, the pursuit of smart cities has been considered a vital option for the attainment of safe, resilient, and sustainable cities [15-23]. For instance,

[21] perceived smart growth as 'a movement that addresses urban sprawl by protecting sensitive lands and directing growth to limited areas, creating attractive and sustainable communities'. Other researchers have also confirmed that the execution of smart cities is a possible correction to urban slums and other problems that are associated with unbridled urbanization and the resultant stress [4, 16, 24-27].

Urban slums, suburban sprawls, safety, resilience, and sustainability are paradigm shifts in contemporary environmental management and urban planning. They are multi-disciplinary, inter-disciplinary, trans-disciplinary, interdependent, and inter-related. The achievement of safety, resilience, and sustainability in urban centers requires adequate environmental planning, sustainable governance, a public/private partnership in housing, the provision of social amenities, poverty alleviation, rural development, waste management, and sustainable urban development. The underlying principle of sustainable development is to utilize ecological productivity without damaging

it, secure adequate resources for sustainable human consumption, and support fairness, cooperation, and well-being in the effort toward human development and social health [28]. Hence, this study is anchored in the framework of sustainable development. This is the type of development that encourages safety and resilience. Nevertheless, major limitations to sustainable urban development are physical, economic, social, political, and technical constraints.

Material and Methods

This paper is descriptive in nature; it addresses the impact of slums and suburban sprawls on safety, resilience, and sustainable development. The paper identified and described contemporary keywords in the subject matter. Hence, literature was selected, collected, and reviewed on the topic. In addition, multi-disciplinary case studies were considered from different countries and continents. The research framework for this study is the concept of sustainable development.

Urban Slums

Slums can be defined as a group of buildings or an area characterized by overcrowding, deterioration, unsanitary conditions, or the absence of facilities or amenities such as potable water, drainage systems, schools, health facilities, recreational grounds, post offices, etc., which, because of these conditions, or any of them, endangers the health, safety, or morals of its inhabitants or the community [29]. In other words, slums are formed as a result of unbridled urbanization. The mechanisms underlying the formation of urban slums include natural growth and rural-urban migration. The continued rapid growth is a function of both natural population growth (which is high in many developing countries) and migration into the city from rural areas [21].

According to [30], slums are the areas or pockets within or outside municipal limits where poverty-stricken rural migrants search for their work and livelihood and find their shelter. Similarly, [31] identified the features of slum areas as scarce and insufficient health, sanitation, water, and waste disposal services, as well as environmental degradation. Also, urban slums are characterized by a lack of secure tenure, poor structural quality of housing, a high rate of violence and crime, poor access to water and other social amenities, insufficient living areas, as well as poor sanitation conditions. Other characteristics of urban slums are a dense population, traffic congestion, environmental pollution, a high rate of illiteracy and poverty among inhabitants, inadequate recreational facilities, the prevalence of diseases, and a squalid environmental condition. All these characteristics are peculiar to urban slums in developed, developing, and underdeveloped

countries around the world. Examples abound in Orangi town in Karachi (Pakistan), Kibera in Nairobi (Kenya), Nexa (Mexico), and Dharavi in Mumbai (India).

Slums have an adverse impact on the inhabitants, land use, transportation systems, services, and other components of the urban environment [8, 12, 29, 32, 33]. Among the detrimental repercussions of slums are a shortage of housing, traffic congestion, unemployment, pollution, and a greater demand for water resources and other amenities. Other repercussions are an increased rate of poverty, vulnerability to insecurity, indiscriminate disposal of waste, and degradation of the urban environment [2, 7, 21, 31, 34, 35]. In the same vein, [31] outlined some of the complex and economic challenges of urban slums, such as housing, poverty, health issues, sanitation, waste disposal, and traffic congestion. Nasir submitted that the issues are hampering the sustainability of cities. Solutions to urban slums include urban renewal, slum clearance, poverty alleviation, the provision of jobs, and the provision of social and infrastructural amenities. Researchers have also suggested family planning, the creation of new towns, rural development, and the application of modern techniques in environmental monitoring and management [8, 10, 12, 29, 30, 36].

Suburban Sprawls

Around the central core of a town, there are areas in which various residential land uses exist. Collectively, they are called suburbs [7]. The process of expansion or growth of an urban center into a the suburban area is called suburban sprawl. The reasons for suburban sprawl include population growth, improved urban transport, a higher standard of living, human nature, and the building society movement [7]. From the foregoing, urban sprawl occurs at the peripheries of urban centers, popularly known as the suburbs. It happens when people abandon the city for the suburbs. Examples abound in Sao Paulo (Brazil), Los Angeles (USA), Brisbane (Australia), and Quebec City (Canada).

As the world becomes increasingly urbanized, individual cities are growing in area as well as population. Residential areas and shopping centers move into undeveloped land near cities, impinging on natural areas and creating a chaotic, unplanned human environment [35]. Major characteristics of suburban sprawl are low-density physical development, unplanned expansion, low rent at the periphery, inappropriate disposal of waste, and ineffective land use control. Other peculiarities are social segregation, dependence on automobiles, haphazard development, and displeasing aesthetics. All these abound in sprawling cities across the world [7, 13, 29, 37, 38].

Several factors are responsible for suburban sprawl. The factors are categorized under social, cultural, economic, and physical determinants. Suburban sprawl is caused by inefficient design and is responsible for

urban growth and expansion. A suburban slum has effects on individuals, government, biodiversity, and the environment. It has positive and negative impacts. The positive influences include urban growth, moderation of land prices, and material and economic growth. Moreover, urban sprawl makes inner city housing cheaper as a result of the filtering of high-income people to the suburb. It creates a better quality of life, cultural diversity, and the diffusion of ideas. Above all, it creates job opportunities as a result of new construction.

Urban sprawl is a major concern to urban planners, architects, surveyors, municipal engineers, and allied professionals because of its multi-dimensional negative consequences. It is responsible for land fragmentation, encroachment on sources of food and agro-based raw materials, loss of farm labor, and discouragement of farmers. Urban sprawl is a major threat to agricultural practices, sustainable ecotourism, and wildlife habitat. Other consequences of suburban sprawl are an increase in public expenditure, a threat to groundwater supplies, the destruction of natural resources, a change in ecosystems, environmental pollution, and a decline in community distinctiveness.

Researchers have revealed that combating suburban sprawl is a herculean task. It requires the collective efforts of individuals, government, and professionals [2, 3, 7, 13, 21, 29, 34, 35, 39]. Major solutions to the challenges of suburban sprawl are environmental monitoring, sustainable land use management policies, preservation of natural resources, encouragement of smart growth, environmental education, citizen participation in urban planning, and development control. Furthermore, curbing uncontrolled urban sprawl entails effective urban administration, conservation of natural resources, sustainable land management, implementation of urban master plans, as well as private/public participation in urban planning.

Safe Cities

Safety is a contemporary issue in urban and regional planning. Urban centers across the world are faced with a lot of safety challenges. Safety refers to the quality or condition of being safe from danger, injury, damage, loss, or accident [40]. A safe city is an idea in a community that uses technology to help government, communities, and businesses reduce the possibility of crime and provide an environment where people feel safe and comfortable [41]. It is a prerequisite for sustainable development. Hence, [41] identified security as one of the aspects that must be met in order to make a city sustainable. A safe and secure urban space produces a conducive environment for the sustained growth of the city [42]. Nevertheless, many urban centers across the world are faced with a lot of safety or security challenges [41-44].

An environment is considered unsafe when it has a fragile physical environment, dangerous locations,

or unprotected buildings and structures [1]. Hence, insecurity is associated with urban slums and suburban sprawls because of their vulnerability to sabotage, espionage, interference, attack, or criminal activities. Moreover, if development activities are not controlled in the slums and suburbs, insecurity becomes the order of the day.

In his own assessment of the security challenges of crime and sustainable development in Nigeria, [44] submitted that criminal behaviors are inimical to the safety, resilience, and sustainable development of every society. Obioha identified the major types of criminality and insecurity as violence, armed robbery, murder, man-slaughter, felonious wounding, stealing, burglary, house-breaking, rape, and other acts that are likely to cause breaches of peace and security. Obioha recognized the major causes of insecurity as illegal possession of firearms, unauthorized arms trafficking, communal violence, cultism, ethno-religious disturbances, materialistic culture, violent crimes, and inefficient policing. Above all, Obioha suggested the role of traditional institutions, law enforcement, effective policing, and the prohibition of illegal possession and trafficking of firearms and ammunition.

The issue of safety is all-encompassing. It refers to protection from untimely death, injury, fire hazards, panic, or the breakdown of social order. It includes preparedness, prevention, and mitigation of hazards like chemical, electrical, environmental, radiation, industrial, social, and domestic safety. Thus, a safe city refers to one that guarantees a feeling of security with minimal security threats [34]. Exposure to danger has many consequences for man and his environment. It causes insecurity, fear, restiveness, anxiety, and damage to the environment. In addition, it lowers the morale of citizens, disrupts economic activities, and undermines innovation.

In order to enhance security within the neighborhood, [43] suggested the use of neighborhood design, careful zoning of districts, building setbacks, articulated streets, and layouts, as well as residential density control. For crime prevention through environmental impact design, Ibimilua suggested street lighting, perimeter parking, illuminated pedestrian walkways, iron gates, iron bars, firefighting services, fire alarms, as well as rectification of the structural errors in neighborhood design. Other measures of enhancing safety and resilience are guarded streets, neighborhood watch, patrol, policing, and surveillance.

The links between the environment and peace are strong. The role of international institutions in preventing war is key, as peace is essential to developing the regional cooperation that is required to build sustainability [14]. Enhancing safety, security, and the decline in incidence and severity of insecurity demands the collaborative efforts of stakeholders like ministries, firefighting establishments, health services providers, environmental agencies, humanitarian societies, and international agencies [10, 40, 41, 43-45].

In order to enhance the safety and security of lives and properties, especially in urban slums and suburbs, there is a necessity for risk reduction and mitigation, equitable development, as well as the maintenance of law and order. The measures include safety management, infrastructural development, the creation of a safe working environment, as well as the use of modern technologies in hazard prediction and forecasting, disaster and risk assessment, vulnerability assessment, and hazard mapping. Other measures are rehabilitation and reconstruction, safe transportation, prevention of accidents, fire prevention, pollution control, and the creation of environmental awareness.

Resilient Cities

Resilience is a multidimensional and complex phenomenon [46]. There is no universally acceptable definition of resilience. The terminology cuts across many disciplines. Thus, there are many definitions of the subject matter [24, 46-50]. It means the ongoing capacity of cities to resist, adapt, transform, and prepare for shocks and stress, be they of environmental, social, institutional, or economic origin, with the aim of maintaining the functions of the city and improving response to future shocks [46]. Another definition of resilience is 'the ability of a living system to repair damage after an external disturbance that is not too drastic' [39]. Key factors in the concept of resilience are flexibility, inclusiveness, integration, resourcefulness, and robustness. Others are mitigation, adaptation, and restructuring of the system. Thus, a resilient community is characterized by its capacity to withstand or absorb the impact of a hazard. A community may show resilience, meaning that it changes in response to disturbance but later returns to its original state [51].

Within the context of urban planning, resilience implies the ability of urban dwellers to survive, recover, and thrive well in times of tragedy, misfortune, frustration, threat, trauma, or adversity. The ability of an ecosystem to return to normal functioning after a disturbance, such as a fire or flood, is called resilience [21]. A resilient city, therefore, is one that is designed or planned in such a way that the inhabitants have the propensity to adapt to or cope with environmental challenges within the city. Resilience is needed in order to preserve or/and get through stress, setbacks, crises, or hardships from natural and anthropogenic disasters.

Many of the environmental challenges, like overcrowding, traffic congestion, crime, indiscriminate disposal of waste, pollution, and outbreaks of diseases are inevitable in urban centers. They are associated with the processes of urbanization, slum formation, and suburban sprawl. As an urban area and the urban population continue to grow, so will the scale and impact of shocks and stress upon them [46]. The stresses contribute to slums and sprawl. Hence, it is necessary to be flexible and willing to adapt to the negative changes.

Urban dwellers are subjected to challenges like a shortage of housing, ecological predicaments, inadequate infrastructural amenities, and neglect, among others. Hence, they are subjected to environmental stress.

Resilience in slums and suburbs is a pre-condition for sustainable urban development. Resilience helps to maintain the sustainability of ecosystems [21]. A resilient city is one that supports cultural diversity and promotes respect for nature. In this regard, it is a city where disasters are anticipated, mitigated, or minimized. The attainment of resilience in urban and rural areas demands competent and accountable governance, development control, and citizen participation in urban planning.

Resilience to environmental hazards can be reduced by over-urbanization, poverty, ignorance, and inadequate technological know-how to deal with environmental problems. Hence, there is a necessity to increase resilience in urban and rural settlements. Possible ways out of urban problems are physical, social, mental, and emotional resilience. These are enhanced by proper planning, development control, and good urban governance. Resilience gives us the strength to cope with urban problems. Environmental stress in urban centers can be reduced through risk assessment, risk financing, emergency response, and ecosystem planning and management. It requires the concerted effort and responsiveness of individuals, policymakers, the government, non-governmental organizations, and international agencies.

Sustainable Cities

The research framework for this study is the concept of sustainable development. This concept was adopted for this study because it is required to solve the problems that are related to urban slums and suburban sprawls. The notion of sustainability is required for the achievement of safe, resilient, and sustainable cities. It is the type of 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs' [52]. Meeting the needs of the present and future generations in cities requires the provision of housing, tackling health challenges, curtailing ecological challenges, reducing the rate of environmental degradation, and ensuring safety and security.

Sustainable development has become a widely recognized goal for human society ever since deteriorating environmental conditions in many parts of the world indicate that its sustainability may be at stake [53]. The term 'sustainability' has been defined and used in literature variously [2, 14, 16, 19, 23, 28, 40, 42, 51, 52, 54-56]. Sustainability has multiple meanings and interpretations, although most advocates would probably agree that it involves a holistic approach to solving complex, interrelated, and multi-dimensional problems [54].

"Sustainable development is a process of change in which the exploitation of resources, the direction of investment, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potentials to meet human needs and aspirations" [52]. Within the context of urban planning, sustainability requires the protection of inhabitants from pollution, health, and environmental hazards. It depends on the conservation of resources, the provision of basic human needs, a sustainable population, the recognition of indigenous knowledge, technological advancement, and innovation diffusion.

Various authors have established significant relationships among safety, resilience, and sustainability [10, 24, 31, 41-43, 46, 57, 58]. Several other authors have supported the perspective that slums and sprawls are major cogs in the wheel of smartness, safety, resilience, and environmental sustainability [8, 12, 20,

32, 33, 37, 38, 48]. Other researchers have advocated for smartness in cities as a precondition for the attainment of sustainable development [15, 17, 23, 25-27, 59-64].

There are so many indicators of sustainable development. However, critical indicators for sustainable management of slums and suburban sprawls in countries like America, Japan, Britain, Canada, Germany, and Nigeria include physical planning, implementation of planning laws, involvement of relevant professionals in urban planning and management, development control, participation of government and nongovernmental organizations in city planning, as well as promotion of 'green urbanization'. Nonetheless, [53] opined that in the transition process to sustainable development, the community may be the most crucial component. Bossel identified the indicators of sustainable development as the infrastructure system, resources and environment, economic system, government system, individual development, and social system. For cities to continually transition to sustainable development, therefore, the fundamental causes of urban problems like unemployment, poverty, neglect, political instability, and poor physical development should be addressed. For the achievement of sustainable development, therefore, the issue of environmental management deserves serious attention. There is an urgent need to work towards developing a commonly shared vision involving all principal stakeholders and targeting improved environmental quality and social cohesion [40].

Sustainable development is seen as a co-evolutionary process of interacting systems in a common environment, where each system follows its own path of self-organization in response to the challenges of its particular environment [53]. In cities, it entails the peaceful coexistence of psychological needs and neighborliness, as well as a reduction in poverty, unemployment, and insecurity. For the achievement of sustainable cities, [55] identified the priority areas as the provision of basic social and essential services, the rehabilitation of dilapidated social and economic

infrastructure, the creation of employment and income opportunities, as well as strengthening of institutions of governance at all levels. Other areas identified by him are provision of basic needs of life, creation of affordable housing, rural development, discouragement of rural-urban influx, management of urban transportation systems, waste management, and improvement in health services.

For a city to be sustainable, it should be resilient, effective, secure, adaptable, support cultural diversity, and promote respect for nature. A sustainable city should cater for the social, economic, cultural, psychological, and material needs of its inhabitants. The strategies for achieving sustainable cities include the enhancement of resilience, safety, and inclusiveness. It encompasses the provision of an adequate and effective transportation system, landscape planning, population control and planning, conservation of environmental resources, control of the use of land, environmental impact assessment, as well as enforcement of environmental policies and legislation [2].

The bedrock of a sustainable future is the freedom for communities and nations – within a universally accepted framework that prescribes penalties for harming another community or nation – to control the use and management of their natural resources and thereby determine their own form of economic and social development [14]. From the foregoing, a sustainable city should provide its citizens with the ability to adjust easily to misfortunes or negative changes in the environment. Moreover, it should promote effectiveness, freedom of action, security, peaceful existence, and comprehensive adaptability. The critical indicators of sustainable management of slums and suburban sprawls in several countries around the world (America, Canada, France, Japan, China, Nigeria, Britain, and Germany) include development control, transportation planning, infrastructural development, slum clearance, urban renewal, as well as upgrading and conservation.

The Challenges of Safe, Resilient and Sustainable Cities

This research work is anchored on the notion that urbanization is a global debate. Slums and urban sprawls vary in generation mechanisms and impact on resilience and sustainability. Hence, ways to respond to urban and suburban sprawl are geographically specific. Slums and suburban sprawls are major constraints on safe and resilient cities. Researchers have confirmed that crime, violence, insecurity, and vulnerability result from haphazard development, anti-planning, over-urbanization, shanty development, and blightedness [10, 12, 13, 34, 40, 41, 43-45]. The process of urbanization that has made urban dwellings attractive has also introduced a whole new set of hazards. Vulnerability to such hazards seems to increase in correlation with the number of people accommodated within a fixed geographic space [1].

There are significant interrelationships among safety, resilience, and sustainability. Proper planning, development control, safety, and resilience facilitate environmental sustainability. On the other hand, unplanned and arbitrary urbanization propels insecurity and vulnerability to environmental hazards and risks. Researchers have confirmed that unbridled urbanization is the major cause of slums, uncontrolled urban sprawl, and the associated problems like crimes, delinquencies, conflicts, and other social problems [7, 8, 10, 12, 13, 32, 33, 36, 38, 65-67]. Urbanization has also resulted in a shortage of infrastructural amenities like water, electricity, and other amenities that are required for sustainable cities.

Urban slums and suburban sprawls are major issues in cities. They come with environmental problems like pollution – land, air, noise, water, feed lots, and aesthetics. They are equally responsible for land use problems, degradation of ecosystems, health issues, and reductions in renewable resource bases. Urban slums and suburban sprawls have significant effects on the environment, government, biodiversity, and sustainable development. The challenges of safe, resilient, and sustainable cities include the complexities of land ownership, conflict of interest among land uses, social and psychological problems, as well as constraints imposed by the existing haphazard urban planning.

The serious predicaments of safe, resilient, and sustainable cities are associated with slum formation and suburban sprawl. The quandaries arise from migration to cities, the uncontrolled growth pattern of cities, and shanty developments. Specifically, urban slums are characterized by unemployment and underemployment, a high cost of living, a shortage of housing, traffic congestion, crime, and other social vices. Urban slums are responsible for inadequate social amenities, insufficient environmental protection, insecurity, and vulnerability to diseases. Again, the consequences of urban sprawl include depletion of natural resources, destruction of the rural ecosystem, disturbance of the hydrological balance of the environment, encroachment into the land in the adjoining rural areas of urban centers, as well as loss of biodiversity. All these are cogs in the wheel of safety and resilience, and they are barriers to the achievement of sustainable cities.

Recommendations

The attainment of sustainable cities requires the control of growth in urban centers, most especially in the core areas and at the fringe belts. It entails sustainable land management, land use controls, pollution control, enforcement of environmental laws, and sustainable management of waste. Other measures are crime prevention, poverty alleviation, biodiversity conservation, environmental impact assessment, environmental cost-benefit analysis, and the use of appropriate technologies in harnessing environmental resources.

For the attainment of safe, resilient, and sustainable cities, there should be good governance, the implementation of urban housing programs, the creation of new towns, as well as the development of rural areas. Other measures are execution of master plans, urban development control, efficient urban management, protection of land, as well as support for the growth of smart cities. Modern strategies for controlling urban slums and suburban sprawls are environmental awareness, environmental monitoring, environmental impact assessment, control of population growth, and citizens' participation in urban planning. All these require the application of modern techniques like Geographic Information System (GIS), Global Positioning System (GPS), Aerial Photo Interpretation (API), and Remote Sensing (RS).

Curtailing the menace of urban slums and suburban sprawl requires the sustainable management of the urban environment. It entails the development of new towns, the creation of satellite settlements, the preservation of structurally sound buildings, and slum clearance. Other measures are the construction of new roads, the rehabilitation of existing roads, landscape planning, the provision of infrastructural amenities, and the implementation of physical planning laws and regulations. In the developed countries of the world, smart cities are used as corrective measures against urban slums and suburban sprawl.

Achieving safe, resilient, and sustainable cities requires the concerted efforts of professionals like architects, urban planners, lawyers, engineers, surveyors, building technologists, and estate managers. Furthermore, it necessitates the provision of transportation choices, vis-à-vis pedestrian walkways, efficient energy, urban open space, as well as improved medical services. A safe, resilient, and sustainable city requires tackling the challenges of urban slums and suburban sprawl. It entails building up instead of sprawling, meaningful planning and coordination, prohibition of development beyond defined areas, strong implementation of planning laws and regulations, as well as the application of modern techniques in urban and regional planning. These proposed solutions are expected to improve the situation of urban slums and suburban sprawls by creating safe, resilient, and sustainable cities.

Conclusion and Discussion

This research has revealed clearly that urban slums and suburban sprawls are major cogs in the wheel of safe, resilient, and sustainable cities. Urbanization is a major cause of slum formation and suburban sprawl. The problems in the urban core areas are unemployment, poverty, high cost of living, shortage of housing, growth of slums, traffic congestion, inadequate social infrastructure, indiscriminate disposal of waste, insecurity, and environmental degradation, among

others. On the other hand, the challenges in the fringe belts are the destruction of natural habitat, fresh water deterioration, land degradation, discouragement of production in agriculture, biodiversity loss, stratospheric ozone depletion, and climate change.

Urbanization is desirable because it has several advantages over rurality. Likewise, urban sprawl is advantageous because it helps solve some social, economic, political, cultural, and environmental challenges in the core areas of urban centers. Nevertheless, urban slums and suburban sprawls become issues when they impede smartness, inclusiveness, safety, resilience, and sustainability. Hence, for combating slums and suburban sprawls and, invariably, for achieving safety, resilience, and sustainability, this study recommends the implementation of an urban land use master plan, development control, hygienic disposal of waste, environmental hazard and risk management, safety management, environmental impact assessment, as well as the use of modern technologies in urban management and governance. Furthermore, the paper recommends the conceptual framework of sustainable development in the mitigation, management, and control of urban slums and suburban sprawls. The proposed solutions are expected to improve safety resilience, and sustainability in cities across the globe.

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Conflict of Interest

The authors declare no conflict of interest.

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