

243. Urbanization in Pakistan: Challenges and Way Forward (Options) For Sustainable Urban Development

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Abstract

Over the years Pakistan is confronting with an emergent phenomenon “urbanization” like other developing countries, which is sturdy in nature but anxiously affecting urban sustainability due to lack of prevalence of good governance in this regard. Urban authorities and institutions fail to address the core issues pertaining to urbanization and problems emerging due to this phenomenon. Lack of attention towards resolving these issues is due to prevalence of an unpredictable rural-urban migration, access for basic services for the population, poor livelihood and issues of sustainability for the poor populace in urban areas. This study is compiled with the secondary source of data gathered via published articles, working papers and other documents with a simple descriptive analysis, which offers a broad perception of Pakistan’s urbanization, in addition strive to address concerned sustainability challenges as well as hindrances in urban development in Pakistan. At last it concludes by providing such strategies and a way forward that might be extremely useful for the policy makers while they draft development policies for the provision of urban services to the urban populace and sustainable urban development in Pakistan.

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Keywords: *Urbanization; Urban Sustainability; Slums; Governance; Pakistan.*

1. Introduction

Urbanization refers to the rapid increase in percentage of the total population residing in urban areas [1]. Pakistan has experienced extraordinary pace of urban growth, rapid urbanization have been encouraged by the range of factors economic necessity, decrease in dependency on the agrarian sector, and insecurity [2]. In generally it suggests a rising change from agricultural towards distributive occupation and industrial service [3]. Those occupational opportunities and services act as pull factor, which promote rural-urban migration and being reacted through push factor such as, inactive economy, poverty, and natural disaster. These urbanizing trends in deprived countries are substantially different from American or European industrial urbanization [4]. Whereas, the overwhelming urban population growth is a complicated output of both factors ‘push’ and ‘pull’ [5]. Within the perspective of countries like Pakistan, existing state of urbanization holds the dual nature of challenges, and opportunities. Hence cities consist of positive and negative magnitudes; positively it is the hub of a country’s economic development in terms of communication and modernization [6]. Furthermore cities are agglomeration of industrial activities, economic opportunities as well as modern technological advancement, educational and health institutions that fuel dynamic industries and rapid growth [7]. On other hand cities in developing countries particularly in Pakistan, are currently vulnerable venues to enjoy and live with quality and safety of life due to environmental concern, rapid increase of terrorism and urban poor. Several scholars disagrees that the poverty is not being reduced by urbanization, somehow it provides opportunity to mammoth challenges and other problems, which directly affects urban poor [8].

Several studies suggest that emerging cities of developing world would face tremendous challenge being caused by uncontrollable and unpredictable urbanization which may engender a massive suffering for urban population [8]. In

the context of Pakistan, this state might be more hazardous while having poor governance, having vast and uncontrollable rural-urban migration and while inequity in resource distribution is clearly visible. Such as informal living of urban poor in unsteady locality is key cause to sustain the urban development. Even concerned institutions are curious regarding apparent issue, but it is being ignored by then in reference of the administrative and political obstacles, limited resources and neglecting urban poor rights within the vicinity. Thus current urbanization trends and poor governance cause challenges for sustainable urban development in emerging cities. This paper attempts to study these circumstances illustrated generally through example of developing countries and Pakistan as particularly. Study indicates the major challenges of emerging cities, which includes inadequacy of essential amenities, infrastructure and services, ecological goods and degradation, accidents and traffic congestion, socioeconomic insecurity, and violence. To investigate these challenges, study presents overview of world's urbanization and aims to highlight Pakistan having largest share of urban population in the region facing housing backlog, inadequacy of safe drinking water as well as sanitation.

This study is compiled with the secondary source of data gathered via publish articles, working papers and other documents with a simple descriptive analysis, second section illustrates significant features of urbanizing world mainly focusing to Pakistan, section three point-out the key challenges of urbanization an focusing on their direction and vulnerability in the cities. Final section briefly provides a way forward and concludes for sustainable urban development.

1.1. Rapid Urbanization: A Global Challenge

The world is rapidly changing to be urban, uneven status of public policies, natural disaster as well as wars had slow down the rate of urbanization [9]. A revolution in developing countries is now taking place in terms of weakening the sustainability and liveability on one hand, and escalating modern technological opportunities on other hand [9]. Population is mainly concentrated within or around megacities [10]. In addition according to (UN-WUP 2000) report, almost 90percent growth of urban population would be in emerging cities of Latin America, Africa, and Asia. Estimation shows that developing country will share 80percent of world's largest cities [4]. As a result apparently it illustrates that in future more challenges are expected to be created by the megacities in developing world. Trends of world's urbanization focusing on mega-cities in developing world will be discussed in the next section.

Table 1: World population by size of settlements, 2016 and 2030.

Size class	2016			2030		
	Number of settlements	Population (Millions)	percent of world Population	Number of settlements	Population (Millions)	percent of world Population
Urban	..	4034	54.5	..	5058	60.0
10 million or more	31	500	6.8	41	730	8.7
5 to 10 million	45	308	4.2	63	434	5.2
1 to 5 million	436	861	11.6	558	558	13.4
500 000 to 1 million	551	380	5.1	731	731	6.0
Fewer than 500 000	..	1985	26.8	26.8
Rural	..	3371	45.5	40.0

Source: The World's Cities in 2016 (UN Data Booklet)

1.2. World's Urbanities

At present cities are home as well as hope for more than 50percent population of the world [11]. United Nations forecasts illustrates that current ratio of world's urban populace is 54.5percent and will rise nearly to 60percent till 2030, when six (6) out of ten (10) inhabitants will reside in urban centres [12]. Majority of people in deprived regions will reside in city centres till 2020 [13], and will-be remarkable among Africa and Asia [12].

Table 1 shows clearly that in 2016; 22.6percent of the world's population which amounts to 1.67 billion people lives in cities with at least 1 million residents. By 2030, a projected 27.3percent of people worldwide will be concentrated in cities with at least 1 million inhabitants. The population from 2016 to 2030 is projected to increase in all cities, size and class, while rural population is projected slightly towards decline, although at present rural areas accommodates 45.5percent of world's total population, this proportion is predicted to decrease to 40percent by year 2030. Currently 6.8percent of global population resides in mega cities with 500 million habitants. However these emerging cities will increase in both number and size, and will become home for the growing amount of population. It is projected that 730

million inhabitants will live in mega cities with minimum of 10 million people representing 8.7percent of total population by 2030.

1.3. Population Trends in Metropolitans

A recognized metropolitan area habitually defines as megacity with minimum 10 million habitants. UN estimates that in beginning of 21st century there were 19 megacities [13]. UN data booklet “the world cities in 2016” reports that currently such cities are 31 in number and most of them exist in developing countries (Table1). Other reports and literature suggests that in 1950’s there were just 8 cities with more than one million of population, among them 34 cities were located in developing countries. In the start of 21st century this figure increased to 280 settlements with same population proportion, and expected to be doubled by 2030. Furthermore 28 cities were existed in 2000 with the population of 8 million habitants, whereas 22 of them were located in developing countries. Although New York was only city with more than 10 million habitants in 1950, it was estimated that 12 megacities will independently share more than 15 million population by 2015 [14]. Table 2 present’s world’s 12 megacities by the year 2016 and 2030.

Table 2. Megacities of world by city size rank, 2016 and 2030.

City-size rank	City	Population in 2016 (thousands)	City	Population in 2030 (thousands)
1	Tokyo	38 140	Tokyo	37 190
2	Delhi	26 454	Delhi	36 060
3	Shanghai	24 484	Shanghai	30 751
4	Mumbai (Bombay)	21 357	Mumbai (Bombay)	27 797
5	São Paulo	21 297	Beijing	27 706
6	Beijing	21 240	Dhaka	27 374
7	Mexico City	21 157	Karachi	24 838
8	Kinki M.M.A. (Osaka)	20 337	Al-Qahirah (Cairo)	24 502
9	Al-Qahirah (Cairo)	19 128	Lagos	24 239
10	New York-Newark	18 604	Mexico City	23 865
11	Dhaka	18 237	São Paulo	23 444
12	Karachi	17 121	Kinshasa	19 996

Source: The World’s Cities in 2016 (UN Data Booklet)

The contribution of Asian emerging cities and megacities in urban world’s population has increased tremendously. As shown (table 2), Karachi ranked on 12th number among largest cities in the world in 2016, and will shift to 7th by 2030. At present cities of the world with 10 million or more habitants are 31 in number, 24 of them are located in “global south” or the less developed regions. China alone have six of them, well India have 5 and Pakistan shares one. It is projected that 10 cities will become megacities by the year 2030, and all will be the part of developing countries, which includes Lahore (Pakistan), Hyderabad (India), Bogotá (Colombia), Johannesburg (South Africa) Bangkok (Thailand), Dar us Salaam (Tanzania), Ahmadabad (India), Luanda (Angola)[15]. Hence the major contribution is being brought by developing countries, notably in this tier Lahore will be second one from Pakistan by 2030, consequently a high rate of urban transformation in Pakistan is expected in coming years. Suggested by Far Economic Review, Asia will have 10 hyper-cities with population of 20 million or more by 2025, which includes Bombay (Mumbai), Dehli, Dhaka, Jakarta, Karachi, Shanghai [16]. Therefore, massive growth of population will-be absorbed in numerous urban centres of developing country in next twenty years.

2. Urbanization in Pakistan

Pakistan shares one of the largest shares of people residing in urban areas, as compared to other south Asian countries. Recent report on urbanization by the United Nations estimates that nearly 40percent of Pakistan’s population live in urban areas, as compared to 34percent in Bangladesh, and 33percent in India [17], however, urbanization estimates of Pakistan do not differentiate between “urban” area within tehsil/town boundaries, and “peri-urban” growth taking place outside the major urban centres and along the transportation corridors.

In several cases, cities exhibit informal spatial expansion due to range of various factors including topographical constraints, transportation infrastructure and biophysical characteristics that support growth of the city in a specific direction. Hence, areas that are not located within administrative boundaries of the city may still get advantage from economic density of nearest urban area. Expansion infrastructure is affecting urban formation, “peri-urban” areas neighbouring emerging cities with efficient infrastructure and services can provide a favourable environment to flourish the manufacturing sector [17]. In Pakistan, importance of peri-urban vicinity is along transportation corridors as an important economic link between urban and rural areas [2]. During 1960s, industries developed along highways

attracted labour migrants which lead development in ribbon form as peri-urban areas [18]. This peripheral development of urban areas continues to portray the urban sector and make up a large proportion of urban population in Pakistan.

2.1. Facts: Current State of Affairs

Rapid increase in urban population of Pakistan from 1998 to 2014 is observed at 43.0 million in 1998 and 72.5 million in 2014, and is predicted to be primarily urbanized by 2025. Currently almost 47percent of urban population resides in ten major cities, each with the population of more than 1 million [19]. Increase in rural-urban migration is the key factor in this conglomeration. Therefore it is important to address the present challenges being faced in major cities during planning for unstoppable migration direct to cities. Presently 68.4percent population in Pakistan less than 30 years of age, so there is a great chance avail maximum benefits of “Demographic Dividend” by the year 2045. Ration of female comprises little bit less than 50percent of urban population. Therefore urbanization has to accommodate necessities of this massive youth group. Also gender inequality among edification is almost been vanished in urban centres [20].

Major cities of Pakistan are experiencing both urban population growth, and urban expansion (horizontal development). Such as, in 1965 both major cities Karachi and Lahore had more than 1 million urbanities within their fringes, but their expansion overwhelmed other adjoining towns and especially rural areas by the 1990s. Karachi expanded in all three directions north, west, and east, with other small towns and villages, previously which were poorly connected to the city as well as port, and Lahore is expanded towards northwest and linked to Gujranwala as well as other small towns and villages too [17].

2.1.1. Challenges

Urbanization in Pakistan has brought remarkable development in country, challenges of rapid urbanization includes aggravating urban deficits, such as eroding-liveability, efficiency and productivity of urban centres, degradation of urban ecology, and annihilation of urban poverty. There is a need to meet these challenges efficiently and successfully for building sustainable cities. In general identify major challenges for sustainable city and should be consider at present? Mainly sustainable cities should be viable in terms of economy, environmental friendly and socially-peaceful. Moreover it is a venue where citizens live in peace with worth of life, sufficient income, and lacking in mental and social. Next sections explain the sustainable-urban development; in addition try to summaries challenge’s being faced at present. Urban development carried in a smooth way that meets multiple goals, such as to provide healthy environment in terms of access as safe drinking water, sanitation, sewage drains, paved street and roads, waste disposal, and several mode if infrastructure and services necessary for the affluent socioeconomic pedestal [21]. It depends on relationship of parent society with surroundings, which is the output of how influential or powerful cluster in societies which creates and maintains the facts [22]. Sustainable cities are well planned to facilitate general public equally meet the necessities, to improve wellbeing with-out harming nature or effecting living conditions of other citizens, at present or in future [23], sustainable city is a place where citizens and businesses constantly struggle to impose their built, cultural and natural environment, while working in a way that supports the global sustainable development goal.

Above literature reflects key challenges of rapid-urbanization in the constraint of sustainable urban development, which are aimed to explain in following sections and are crucial to sustain urban development. These challenge includes essential problems, such as a) rapid increase in population; b) shortage of essential amenity, infrastructure and services; c) poverty, social insecurity, and violence; d) environmental challenges, environmental health and pollution, e) poor governance and political instability.

2.1.2. Rapid Population Growth

Increasing urbanization is an essential phenomenon in Pakistan’s demographic dynamics. At present Pakistan is most urbanized country in the region, and proportion of urban population in country has increased from 32.5percent in (1998) to 40percent till (2014). So present trend of rural to urban migration continues with same pace, will surpass 50percent by 2025. According to Pakistan vision 2025, during last three decades urban population is increased more than 3 times, at present 75 cities have population within 0.1 to 1 million [19], Small towns comprises by less than 0.1 million inhabitants, are around 448 in numbers [20]. Vitally large cities govern urban scene, under the umbrella of

population scenario. Karachi as Pakistan's largest city Karachi and world's 12th largest city shares about 20percent of countries total urban population, tracked by Faisalabad and Lahore shares additional 15percent. Gujranwala, Hyderabad, Multan, Peshawar, Rawalpindi mutually shares another 12percent, whereas remaining 46percent of urban inhabitants resides comparatively in small cities or towns. During last few year populations in most of the large cities increased with the growth rate of over 3percent per year, and for the current decade it is projected that present growth rate will continue [19]. Although the population of major cities is increasing, there was also a rapid increase in population of cities within 200,000 to 499,999 from 4.5percent in 1981 to 9.1percent in 1998, most of these large towns and small cities are located in the zone of 1 million plus population, along the highways. It means that now governments have to plan outside the city boundaries as agglomerations, clusters, urban regions relatively than individual cities or towns.

Table 3. Growth of Pakistani cities with 1 million population or more (2000, 2016 and 2030)

City	Statistical concept	City population (thousands)			Average annual rate of change (percent)		City population as a proportion of the country or area's total or urban population in 2016 (percent)	
		2000	2016	2030	2000- 2016	2016- 200	Total population	Urban Population
Karachi	Urban Agglomeration	10302	17 121	24 838	3.3	2.7	9.0	22.8
Lahore	Urban Agglomeration	5 452	8 990	13 033	3.1	2.7	4.7	12.0
Faisalabad	Urban Agglomeration	2 142	3 667	5 419	3.4	2.8	1.9	4.9
Rawalpindi	Urban Agglomeration	1 521	2 582	3 809	3.3	2.8	1.4	3.4
Gujranwala	Urban Agglomeration	1 226	2 193	3 274	3.6	2.9	1.1	2.9
Hyderabad	Urban Agglomeration	1 221	1 812	2 613	2.5	2.6	0.9	2.4
Multan	Urban Agglomeration	1 263	1 969	2 866	2.8	2.7	1.0	2.6
Peshawar	Urban Agglomeration	1 066	1 787	2 640	3.2	2.8	0.9	2.4
Quetta	Urban Agglomeration	615	1 148	1 740	3.9	3.0	0.6	1.5
Islamabad	City Proper	597	1 433	2 275	5.5	3.3	0.7	1.9

Source: The World's Cities in 2016 (UN Data Booklet)

The basic factor in population growth of metropolitan is growing rate of migration from rural to urban. According to 1998 Census, 8percent of total population were migrants, in numbers 10.8 million Pakistanis. Among them 63.7percent migrated to urban areas, whereas 25percent of the whole were migrated to emerging cities, such as Karachi, Lahore, Faisalabad and Rawalpindi. Alone Karachi expected 13percent of total migrant populace of country. City's population is growing with the pace of 5 percent/year as compared to 3percent increase in urban populace, generally as a result of rural to urban domestic migration. It is estimated that every month 45000 workers are going to the city from different parts of country.

There are several reasons (economic, physical, and social) for inhabitants to migrate from rural to urban areas. Push factor is related with low agrarian output, landlessness, sub-division of land, additional ranch labour force, poor economy, educational, and health opportunities, such factors narrate people to migrate from rural or deprived areas. Whereas pull factor in the spectrum of destination consist of economic environment, such as better wages, improved living standard, availability of essential needs related to education, health, and urban infrastructure, therefore more populace is attracting to cities. Furthermore, simple physical relocation from rural to urban areas, there is also a general saturation of phenomena across the rural urban fringe of mixed rural urban livelihoods in Pakistan. Whereas rapid change in urban area and urbanization can be the depressing indication of growth present that urban problem occurs because of unplanned growth as well as indecent management On the other hand, environmental problems may not pose seriously, if prompt urban transformation is managed cautiously [24]. However, illogically expansion of urban population in most of the third world countries, without adequate services and facilities, can be necessary to safe and healthy environment [21]. In developing countries urbanization occurs very quickly, which typically overload the capacity of concerned local government to provide sufficient housing, infrastructure, amenities, and essential services [25], next section discuss above said issues more in detail.

2.1.3. Services and Infrastructure

Rehabilitation of housing, infrastructure and services for urban poor in urban center are main challenge in developing countries. Within many developing countries, slums are overpopulated and facing high rate of disease due to poor sanitation, and shortage of essential health related services [16]. More than 90percent of urban populace among 3 of the world's most deprived/rural countries i.e. Uganda, Ethiopia, and Malawi, resides in slums. It was estimated in 2001 that almost 31percent of urban population of world or 924 million people live in slums or informal settlements,

90percent among them were situated in deprived countries. In 2030, amount of slum resident worldwide is estimated to attain 2 billion [26]. Though, also in Lahore 38percent of urban or 1.7 million live in slums, as well as in Karachi 45percent of cities population or 7.6 million inhabitants live in Karachi, most of the slums lacking essential infrastructure services, urban utilities, with deprived hygienic situation.

At present Pakistan has a serious housing backlog and crisis, in 1998, 4.3 million housing unit were estimated, and had climbed to 9 M as supplementary housing unit. Pakistan Standard National tenancy rate/unit is more than 6, with the density of 3.5 persons per room as compare to 1.1 persons per room with international standard. With rapid urbanization major cities of Pakistan i.e. 20percent or more increase in demand for housing is going to be faced by Karachi and Lahore in upcoming twenty years. Around 30 to 40percent demand of housing is to be address by main developer. Leftover unit falls in the category of the poor sector, today in Pakistan shortage of low cost housing shortage is about 4.5 million residential unit with annual addition of 150, 000 units [19]. Due to the lack of affordable housing for urban poor, inhabitants are forced to live in slums and informal settlements. Slums develop primarily as illegal invasion build in low laying area, for example beside water ways, natural drain, nearby the work location within fringe of low-cost dwellings [2].

According to PSLSM Survey (2010-11), assuming that further sources are the same to unimproved water sources, existing access to the improved water source is 91percent, whereas MDG target was 90percent. Even if Pakistan has met the target of MDG for drinking water in quantitative terms, however in qualitative terms, the stated problem is yet not completely met because water quality has not much improved due to several reasons including contamination of water sources and old infrastructure [19]. Sanitation is one of the essential necessities that contribute to human pride, quality of living, and sustainable livelihood. Inadequate sanitation system in “peri-urban”, deprived, and rural areas is costing 3.9percent of GDP which is insufficient. This inadequate sanitation costs PKRs.343.7 billion (USD. 5.7 billion), annually 3.9percent of GDP. Mortality rate of children under the age of 5 years is high in Pakistan i.e. 72 children per 1000 ranking 2nd highest in South Asia. Annually in Pakistan 25 million children suffer cases of diarrhea and every day around 395 children dies, because of poor sanitation in Pakistan (GOP). Polio is also out of control due to the inadequate and improper sanitation. Pakistan has not yet met the target of MDG for sanitation. Disease related with sanitation is foremost cause for high mortality and morbidity of Pakistan children.

Poor performance of transport sector is costing about 5percent percent of Pakistan’s GDP [19]. Nearly it is a massive commuting problem occurs because of shortage of public transport in urban areas, and absence in less developed or deprived areas. Due to deficiency of transport between people and goods within cities transportation is a serious issue. Frequency of the road accidents is escalating due to careless driving, aging transport and non-maintenance. Urban services in Lahore such as Metro bus service and public buildings are user friendly for aged and handicapped citizens. Female while doesn’t feel secure while utilizing Underpasses build for pedestrians, especially in evening.

The demand for electricity in Pakistan will be double in coming 10 years. Currently load shedding in urban areas use to be from 6 to 12 hours/day during winter, and from 9 to 18 hours/day during summer season. It means that by year 2017, ne capacities of around 15,000 MW need to be installed. Essentially energy drives economy of the country, whereas shortage of energy hindrance Pakistan’s economic growth “as reflected with an estimated 4percent to 7percent loss to Pakistan’s GDP”, and seriously affecting livelihood of general citizens [19]. New industries aren’t being promoted rather existing industries are also moving to other neighbouring countries. The current deficit in energy supply has also resulted as huge negative impact on social life of the Pakistani citizens. In addition, the inefficient energy utilization, haphazard use of subsidies, poor governance, lack of public awareness, unenforced or ineffective legislation, and less developed infrastructure, exists among other issues in energy sector of Pakistan.

Deficiencies in urban basic infrastructure and services is reducing economic growth, and severely hinder potential for urban area to play more important role in country’s economic growth. These deficiencies mainly affect urban poor which leading to a significantly reduced quality of life, poor health care and increased poverty [2]. However, it is necessary to develop an effective mechanism to ensure operations and regular maintenance of basic infrastructure, services, and utilities. Housing sector can be helpful in economic growth and poverty reduction, because it is highly intensive with labour and has front-forth linkages with industries.

2.1.4. Poverty and Social Insecurity

Third World cities suggest the poverty incidence in urban is an environment of excessive opportunity rich people, also can be truly worst reality for urban poor. Poverty level in urban are generally imagined lower as compare to rural, although total amount of famished is rapidly growing in urban vicinity. Noted by UN-Habitat (2003), that “locus of poverty is moving towards cities, such process is now recognized as urbanization of poverty” [12], as consequences of inadequate approach to health service, safe drinkable water, as well as sanitation apparently identifies serious diseases (Diarrhea, Pneumonia, etc), and it effect poverty too. Urban poor spends major share of their earnings at health care/services, and are vulnerable to lose income with less job security, those who grind down their surviving capacity and can potentially remain mobile families, trapped within the poverty cycle [12]. Poverty is been considered as a main driver of crime and violence too. About one billion people of the world’s population lives in shanty towns, [27]. These seemingly function as “breeding grounds” for social issues such as crime, unemployment, poverty, violence, and drug addiction. A study of World Bank on urban violence in urban centres of Latin American showed that murder rate ranged 6.4 per 0.1 million/year [28]. Similarly katchi abadi’s (slums) are mostly measured as propagating ground of unfriendly or unsocial element in Pakistan. Most of the criminal, drug suppliers, hijackers, and killers live in these informal settlements. Therefore, the increasing slum dwellers as well as behaviour have become the uncontrollable social problems for the cities.

Rapid growth of urban population laid additional demand on ongoing constrained job market, especially to low-income employment[7][10]. Therefore urban poverty is one of the most critical issues for sustainable urban development in Pakistan and other developing countries. Urban rural migration has complicated the task of poverty reduction due to rapid urban growth of population. Importance of informal sector couldn’t be ignored while explaining the facts of urban poverty, in developing countries large amount of urban population use to be absorbed by Informal sectors. Hence informal sectors are dominant parts of an urban area or a city, which accommodates a huge amount of workers, who are consistently becoming the part of an urban population because of rapid increase in rural-urban migration, reclassification of area, and urban population growth. In past two decades absorption of the labour in informal sectors of economy increases from 60.2percent in (1999-2K) of total “labour force” to 66.1percent during (2006-07) in urban areas of Pakistan[8]. The poor segment of the urban populace can be separated in two categories unemployed and working poor, whereas working poor are dominant in informal sectors but the misery of unemployment can’t be ignored at same time [4]. Poverty dynamics are intimately associated with demographic characteristics of household’s particularly family size, dependency share, as well as age composition, sex, and literacy of the head of household. Household size is considered as a prime demographic factor, vitally related with poverty status, whereas household assets and resources are directly over burdened by large family size [29]. Jamal (2005) showed that in urban areas dependency ratio is also positively related with the poverty status of the household. Dependency ration in urban areas is positively related with the household’s poverty status [8]

Provision of basic public services in locality of the household seems critical in shaping the household status. Human poverty indicators, such as health, housing, safe drinking water, sanitation, and waste collection facilities in deprived or neglected areas of the city are in worst conditions [8] Urban poor comprises of housing with low standards, vitally use well/ underground water, with open drains, poor waste disposal, which prevents chronic diseases and majority of them are being suffered with these diseases. Provision of education facilities (especially for girls), health facilities and access to electricity in public sector plays a significant role while explaining the poverty level and its differences [8][29].

Currently the relation between unemployment and violence isn’t well understood. Whereas, literature on Pakistan shows that severe socio-economic inequality are the contributing factors to crime and violence in emerging urban centres, several features including inequity in wealth distribution, land ownership, and uneven access to economic opportunities and social services[30]. In 2011 a conflict on land between “Pashtun Land Mafia” and MQM workers in Gulzar-e-Hijri Karachi lead citywide riot in which 23 people were killed [31]. Due to these facts, people loose trust among, with due effects sociable community, activities as well as personal feeling disappeared progressively from society. Whereas root causes of social insecurity continue to be uncontrollable growth of population, deficiency of employment opportunities and failure for law enforcement leading to social-disparity and various urban issues associated with it. Hence, urban centres of Pakistan had become uninhabitable due to lack of equal opportunity.

2.1.5. Environmental Challenges

Problems related to environment problems in urban vicinity comprise air-noise, water contamination, also relates problem to wastes (hazardous and deadly waste). Track of urbanization or industrialization directs a decline in healthy environment. Using fuel, fossils as a whole within industries, households as well as transportation causes massive contamination in urban atmosphere. Furthermore, issues or problems related to urban environment are serious mainly in developing countries due to urbanization or industrialization. For example, huge amount of industrial waste is being generated by Bangkok, Dhaka, and Mexico; such cities are mainly affected by environment problems and also experience similar problems related with industries beside such in Japan, EU, and N America. Environmental problems in several urban centres are extremely serious [21].

Hazardous pollutants and toxics includes arsenic, cadmium, carbon monoxide, chromium, cyanide, lead, mercury, nitrogen dioxide, nitrate, petroleum hydrocarbons, sulphur, and suspended particles. In addition, most hazardous and **toxic waste** are being dispose off as fluid waste, that flows without any treatment in channels, such as canal, lake, rivers, and are placed at land-fill site through minimal protection for species within or near water source via pollution. Which is causing frequency of diseases linked with water, for example cholera, typhoid etc, are increased this situation also prevails in major cities of Pakistan [21].

Air pollution is a big challenge in urban centres of Pakistan including Islamabad, Karachi, Lahore, Peshawar, and Quetta indicating a high concentration of SPM 2.5 microns (suspended particulate matter), and reached at level that is 2 to 3.5 higher than (NEQS) National Environmental Quality Standards [19]. Inadequate public transport and accessible car loan via commercial banks is leading to a great increase of private vehicles on roads in major cities of Pakistan [32]. This fact is generating serious traffic congestion, deterioration of environment and air pollution in cities. Environmental degradation in developing countries includes air, noise, soil and water pollution along with deforestation, heat island effects, health hazards, decreasing number of wetlands, floods and water logging, and loss of biodiversity. The fast pace of urbanization is mostly distinguished by urban expansion in outskirts of a city, leading to a conversion of agricultural land into urban areas. The current form of expansion is exploiting prime resources[33].

2.1.6. Poor Governance and Political Instability

Cities are the source of political clash and turmoil. Demographic change in Pakistani urban centres and cities has fuelled ethno-political tensions and urban violence[34][35]. Future of the Pakistani cities will be shaped by quality of urban governance[30] however municipal corporations and development authorities lacking in technical expertise and resources essential for good governance and modern urban planning.

Karachi's ethnic composition must be taken in account of consideration that, why violence has increased rapidly. At present, in Karachi native Sindhi people are in the minority, whereas Urdu-speaking Migrants from the Indo-Pak sub-continent and Pathan refugees began moving towards the city during 1960s. Despite this, key positions/posts in the provincial government are in the hand of Sindhi representatives through the quota system, while these groups are underrepresented[36]. Neglecting migrants concerns and the lack of political representation have intensified conflicts in several cities. Urbanization is also been linked with increasing conflicts between political opponents, and has often resulted in violence. Growth of urban population in Karachi has increased competition between Mohajir (urdu speaker) dominated MQM, and ANP Pashtun dominated political parties [7]. These ethnic divisions have been emphasized by links forged largely in criminal gangs and ethnic based political parties [30].

Criminals and extremist groups are been able to exploit poor urban governance and infrastructure to launch recruitment and support networks in provincial capitals Karachi, Lahore, Peshawar, and Quetta(ICG 2014). By providing inadequate employment opportunities and service, criminal groups have utilized the weak service provision to acquire followers, generally among young generation[30]. Water mafia is the prominent example of corruption, and political involvement in service provision. These mafias siphon over 40percent of water supply in Karachi's and vend it at high rates. Several experts point out that the lack of state capacity towards law enforcement in urban centres as a participating factor to violence [31]. The context of state failure had led a few urban citizens to turn as corrupt politicians or local criminals to settle urban disputes. Corruption and Political favouritism are among essential factors behind poor urban governance as well as failure in planning and implementation. Whereas failure of law enforcement is also caused by the Political intervention, and left the terrorist unpunished. Therefore crime and violence became major segment in urban environment, where government is completely unsuccessful in curbing the crime and violence [34].

Thus major challenges in emerging cities are economical, ecological and social sustainability [25]. The existing situation of urban demography is change [13], in quest of sustainability is considered a major issue, which demands more attention of both political and social actors. Hence, the overwhelming growth of urban population in developing countries will definitely be matter of future success and sustainability of the whole world [28].

Economically sound countries must be more keen and devoted towards these urbanization challenges while in viewing the dynamics and problems of metropolitan. Thus all these concerns overlap each other because of poor governance as well difficult to deal them separately, so good governance can be a tool to bring and solve them under the one umbrella.

3. Way Forward for Sustainable Urban Development

Most important challenge of urban governance is centralizing administrative and financial powers by provincial government in spite of introduction of the 18th Constitutional Amendment. As a result the third tier of government is not yet functional on ground in any of the province. Pakistan has a Gender Inequality Index value of 0.567, ranking it 123 out of 148 countries [19]. Another issue is to protect the interests of diverse society along several ethnic and religious minorities. Still one more challenge is to form laws that not only explain the distribution of power in balanced manner, and function between provincial and Local Governments, but also provide strength to the efficiency of local governance. Additionally, there are serious flaws in implementing government policies and regulations [19]. The study suggests such governance approach that might offer better coordination among federal, provincial, and local governments, also associating them with non-government organizations without ignoring main concerns of urban poor. This study highlights urban challenges and suggests few steps in detail, which are needed to be considered in development of policies, and are mentioned below,

Good governance can be a proficient approach towards sustainable development of urban areas, which demands accountability, coordination, decentralization, transparency, and effective participation, that is lacking in Pakistan. Political will is an essential component in order to bring a meaningful change in governance, as in the local governance system meaningful change is impossible bring without political will. If local governments have significance, provincial government will need to make sure that those recently elected local/union council have enough funds and authorities to deal with development challenges within neighbouring communities. It will need provincial governments to modify their approaches toward the third tier of government; as a result the local government is still not functional in any of the province. Whereas recently enacted Local Government Acts in all provinces, requires evolving over time as the Local Governments become functional, so relations of both provincial and LG can achieve balanced power. As well as federal government need to explore experience sharing, and sustaining inter-provincial coordination to classify guiding principles for Local Government reforms. Whereas, there is a dire need to create governance system in terms of both urban safety and security which will be more accountable, efficient, and responsive to control crime, disaster, land tenure insecurity, and terrorism. Alleviating urban poverty might require interventions in credit services, education, and skill training with low interest rate in housing sector and food prices, labour markets, to tackle it effectively. Government should encourage income support programs and technical education to generate job market for the urban poor.

In consideration, the positive effect of NGOs in dealing with urban poverty in Orangi town Karachi, Arif Hasan highlights the significance of collaboration among government institutes, NGO's, and CBOs to attain tangible and sustainable outputs in poverty alleviation[29]. Additionally local government structures across the cities must to be strengthened and completely functional in its regard, and it has a tangible effect on mobilizing communities and quality of service delivery. Disparately the national and provincial governments, local government can develop flexible policies that are suitable to local conditions, as well as deliver it by tackling challenges more specific to the local conditions. There is a need to promote mass media to increase awareness of both ecological and social challenges.

Finally, responding efficiently to governance challenges is necessary to upgrade urban legislations, ensure participation of the local communities including, youth, minorities, special people, women, and effective implementation of current legislation on time. Moreover there is also a need to change the pattern "centralization-to-de-centralization" of power and resources to local levels (union councils) to efficiently meet need and expectations of the people in new urban settings.

4. Conclusion

Rapid urbanization in emerging cities of developing world has been a bottleneck of economic growth and environmental safety. This paper aimed to highlight issues of the urban population growth and major challenges of urban sustainability in Pakistan. It is clear that emerging cities of Pakistan are tremendously growing due to both factors “pull and push”, whereas provision of services and income-earning opportunity lacks the same pace. Thus, the cities are continuously suffering from insufficient infrastructural, public services aimed at urban population, natural hazards, social insecurity and bad governance. The purpose of study was to address the themes of urban sustainability by keeping the view modern challenges of rapid urbanization in emerging cities. It also highlights major environmental, infrastructure and service problems, which may motivate some researcher, to tailor other parts of paper. Whereas this study had its own limitations in the form of limited essential information and data for the appropriate locations because of inadequate accessibility to information as well as poor data management in Pakistan for example the last population census was conducted in 1998 which gives a huge gap between available data and ground realities for researchers.

References

- [1] G. W. Jones, “Urbanization Issues in the Asian-Pacific Region,” *Asia. Pac. Econ. Lit.*, vol. 5, no. 2, pp. 5–33, Sep. 1991.
- [2] G. M. Arif and S. Hamid, “Urbanization , City Growth and Quality of Life in Pakistan,” *Eur. J. Soc. Sci.*, vol. 10, no. 2, pp. 196–215, 2009.
- [3] X. Li and A. G.-O. Yeh, “Analyzing spatial restructuring of land use patterns in a fast growing region using remote sensing and GIS,” *Landsc. Urban Plan.*, vol. 69, no. 4, pp. 335–354, 2004.
- [4] R. B. Mandal, *Urban Geography: A Text Book*, vol. 2000. .
- [5] V. R. Savage, “Ecology matters: sustainable development in Southeast Asia,” *Sustain. Sci.*, vol. 1, no. 1, pp. 37–63, 2006.
- [6] E. Browne, “Benefits of urbanisation in Asia (GSDRC Helpdesk Research Report 1082) Research for Development Output - GOV.UK,” 2014.
- [7] M. Kugelman, “Urbanisation in Pakistan: causes and consequences,” *Noref*, no. January, 2013.
- [8] I. N. Awan Masood Sarwar, “Determinants of Urban Poverty: The Case of Medium Sized City in Pakistan [PIDE,” 2010.
- [9] J. D. Kasarda and D. A. Rondinelli, “Mega-cities, the environment, and private enterprise: Toward ecologically sustainable urbanization,” *Environ. Impact Assess. Rev.*, vol. 10, no. 4, pp. 393–404, 1990.
- [10] M. Haider and M. G. Badami, “Urbanization and Local Governance Challenges in Pakistan,” *Environ. Urban. Asia*, vol. 1, no. 1, pp. 81–96, 2010.
- [11] B. Cohen, “Urbanization in developing countries: Current trends, future projections, and key challenges for sustainability,” *Technol. Soc.*, vol. 28, no. 1, pp. 63–80, 2006.
- [12] IRIN PlusNews, “AFRICA: Year in Review 2005 - The long slow road to ‘3 by 5,’” *IRIN Africa PlusNews*, vol. 2006, no. January 24, 2006.
- [13] Brockerhoff Martin P, “An Urbanizing World,” *Population Bulletin*, vol. 55, no. 3, pp. 8–10, Sep-2000.
- [14] J. P. Rodrigue, C. Comtois, and B. Slack, *The geography of transport system*. New York: Routledge, 2006.
- [15] Population Division UN, “The World’s Cities in 2016: Data Booklet,” 2016.
- [16] M. DAVIS, *Planet of Slums*. London. New York: VERSO , 2006.
- [17] A. W. Mekamu Kedir, Emily Schmidt, “Pakistan’s Changing Demography: Urbanization and Peri-Urban Transformation Over Time,” 39, 2016.
- [18] J. H. Abbasi Sami M, Hollman, Kenneth W, Murrey, “Employment at Will: An Eroding Concept in Employment Relationships,” *Labor Law J.*, vol. 38, no. 1, pp. 21–29, 1987.
- [19] Ministry of Climate Change GOP, “National Report of Pakistan For HABITAT III,” Is, 2015.
- [20] Planning Commission of Pakistan, “Pakistan in the 21st Century Vision 2030,” Islamabad, 2007.
- [21] J. E. Hardoy, D. Mitlin, and D. Satterwaite, “Environmental problems in third world cities by . (Earthscan, London, 1992, pp. 160, £12.95.),” *J. Int. Dev.*, vol. 7, no. 5, pp. 801–802, Sep. 1995.
- [22] S. Buckingham and M. Turner, *Understanding environmental issues*. SAGE Publications, 2008.
- [23] H. Girardet, *Creating sustainable cities*. Green Books for the Schumacher Society, 1999.
- [24] J. Rabinovitch, “Curitiba: towards sustainable urban development,” *Environ. Urban.*, vol. 4, no. 2, pp. 62–73, Oct. 1992.
- [25] L. S. Marina Alberti, “MANAGING URBAN SUSTAINABILITY: AN INTRODUCTION TO THE SPECIAL ISSUE,” *Env. IMPACT ASSESS REV*, vol. 16, pp. 213–221, 1996.
- [26] UNFPA, “State of World Population 2007 | UNFPA - United Nations Population Fund,” *State of World Population 2007*, 2007. .
- [27] J. E. Cohen, “Human Population: The Next Half Century,” *Science (80-.)*, vol. 302, no. 5648, pp. 1172–1175, 2003.
- [28] M. M. P. Rana, “Urbanization and sustainability: Challenges and strategies for sustainable urban development in Bangladesh,” *Environ. Dev. Sustain.*, vol. 13, no. 1, pp. 237–256, 2011.
- [29] A. Hasan, “Orangi Pilot Project: the expansion of work beyond Orangi and the mapping of informal settlements and infrastructure,” *Environ. Urban.*, vol. 18, no. 2, pp. 451–480, Oct. 2006.
- [30] Hinds R, “Urbanisation and conflict in Pakistan,” Helpdesk Research Report 1115, 2014.
- [31] Huma Yusuf, “CONFLICT DYNAMICS IN KARACHI.”
- [32] Salman Qureshi, “The fast growing megacity Karachi as a frontier of environmental challenges: Urbanization and contemporary urbanism issues,” *J. Geogr. Reg. Plan.* , vol. 3, no. 11, pp. 306–321, 2010.
- [33] M. D. K. Zaman, “The Environmental Ethical Commitment (EEC) of the Business Corporations in Malaysia,” *Procedia - Soc. Behav. Sci.*, vol. 36, pp. 565–572, 2012.
- [34] H. Gazdar and H. B. Mallah, “Informality and Political Violence in Karachi,” *Urban Stud.*, vol. 50, no. 15, pp. 3099–3115, Nov. 2013.

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Energy, Environment and Sustainable Development 2016 (EESD 2016)



- [35] L. GAYER, "Guns, Slums, and 'Yellow Devils': A Genealogy of Urban Conflicts in Karachi, Pakistan," *Mod. Asian Stud.*, vol. 41, no. 3, p. 515, May 2007.
- [36] D. Esser, "The city as arena, hub and prey patterns of violence in Kabul and Karachi," *Environ. Urban.*, vol. 16, no. 2, pp. 31–38, Oct. 2004.