

Urban Sprawl, Its Impact and Challenges: A Case Study of Quetta, Pakistan

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Abstract: Urban areas are often developed according to their zoning codes. Each city's zoning is planned considering its character and function. The size of streets, height and size of homes, building sizes, space reserved for pedestrians, and even operating a small food business from home are designed based on the zoning rules. The opinion of residents can be helpful for better planning and management of a city. Unfortunately, in Pakistan, public opinion is not considered in the planning and management of cities. This study focuses on the urban sprawl, its impact and urban challenges faced in Quetta, Pakistan. It is based on field survey, questionnaire, observations, and interviews. The results focus on seven key aspects of urban facilities. The results show that urban sprawl is rapidly growing in Quetta city, and there is an urgent need to address this issue. In the end, the recommendations are made to provide better health and living facilities for the residents of Quetta.

Keywords- Urban planning, Land use, Urban resources, Balochistan, Pakistan

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I. INTRODUCTION

Cities cover more than 3 per cent of the land surface, but they are the centre of economic development as they produce 80% of global GDP. Urban areas use 60 to 80% of the global energy resources, and 75% of the energy carbon emission comes from cities [1]. In recent years, the trend toward urbanization led us to environmental degradation and poverty. The challenge will keep increasing in the coming decades as 70 to 80% of people will shift toward urban areas in future [2]. Around 60 per cent of the infrastructure needed for urban areas till 2050 still needs to be constructed. Cities must therefore be the key factors of sustainable development in the future [3].

Urbanization is the process in which the population tends to move from rural to urban areas. The regular increase in the number of people living in built-up areas and how each society adapts to this change comes under the fold of urbanization [4]. Due to that urbanization, the pressure on the existing infrastructure of urban areas increases resulting in urban sprawl. Due to individual, collective, and government action, urban sprawl occurs either organically or planned. Urban sprawl is a phenomenon associated with urbanization due to industrial development, commercialization, social benefits, facilities, employment opportunities, transformation and change in the

mode of living, and rural-urban transformation [5]. Urban Extension is a geographical phenomenon, and it is related to urban settlements. Urban sprawl can affect an urban area in so many ways. It affects an urban area's geography, resources, climatology, and infrastructure [6]. In Pakistan, urban sprawl can affect many urban settlements [7].

Quetta city is the most significant urban hub of Balochistan province in Pakistan. With over one million urban population, the city has witnessed a considerable urban sprawl trend over the past few decades, affecting its urban resources, land use management, and organic growth [8]–[10]. There are many reasons why urban sprawl has occurred in Quetta city. Still, one of the significant causes is man-made disasters like the U.S-Afghan war [11], and in recent times we can also call the urban sprawl of Quetta related to the climatic refugees. People from other parts of the province shift to this city, especially in the summer [9], while in winter, they return to their hometowns. The violation of bylaws and codes can also cause urban sprawl. Two objectives are set for this study, i) identification of impact and challenges related to urban sprawl in Quetta, and ii) identification of inequalities caused by urban sprawl and access to urban services.

II. LITERATURE REVIEW

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The literature review presented in this section defines urban sprawl, its causes and effects on the urban environment and human life. It further focuses on metropolitan areas of Pakistan and urbanization in Quetta city.

Urban outbreaks or dispersal in the suburbs mainly refer to housing, commercial development, and irregular development of roads on large-scale land, with no concern for urban planning. In addition to describing a form of citizenship, the term has to do with its development's social and environmental consequences [12]. Definitions of sprawl vary among many researchers, and it is generally understood that this phenomenon lacks precision. Batty et al. define this as "uncoordinated growth: the expansion of community without concern for its consequences, in short, unplanned, incremental urban growth which is often regarded unsustainable" [5]. Oueslati et al. explain that despite a lack of concerns for one organized definition, there is "general consensus that urban sprawl is characterized by an unplanned and uneven pattern of growth, driven by a multitude of processes and leading to inefficient resource utilization" [13].

Urban sprawl is a passive problem. Urban areas are increasing day by day. Although the population's trend moving from rural areas to urban areas has slowed to a drop, the demand for new housing units is still increasing, giving rise to the urban sprawl in the world. This situation leads to urban sprawl in various areas at different times, creating a more complex urban problem [14].

Urban sprawl is directly related to urban growth. As the cities are growing, there is a concern about the sizes of cities as well. In the ancient world, Rome was the first city to reach a population of one million, and it also bared the consequences, but due to imperial rules, the sprawl was managed by many rulers in many ways. In 16th Century London, the same sort of urban management was adopted to save the city to protect the countryside and stop the plague and outside invaders [15]. As cities get bigger, they must expand and rise to the urban sprawl moving towards the peripheries. It is challenging to increase any city's central density [16].

A. CAUSES AND EFFECTS OF URBAN SPRAWL

A few known causes and effects related to urban sprawl are listed in Table 1. [12], [17]–[19]:

Table 1. Causes and effects of Urban Sprawl

The Urban Sprawl		
S.No	Causes	Effects
1	Lower land rates: Lower land rates in the city's outer suburbs tend to make people move out of the town as the central areas of the cities get congested, and people tend to invest outside the city for better and cheap living.	Increase in public expenditure: The increase in public expenditure is not a thing which can be left unnoticed. The increased cost of changes in infrastructure on all levels is actually paid by public money.
2	Improved infrastructure: The load on the infrastructure is more in the downtown cities which gives rise to a limitation on infrastructure, especially electricity and roads. The outskirts areas have less burden	Increased traffic: Due to urban sprawl, people will use more vehicles and modes of transportation, increasing traffic. The increase in traffic will give rise to environmental problems like pollution and poor air

	on the infrastructure, which is relatively new, saved from density fatigue.	quality. It also leads to more road accidents giving rise to much bigger problems.
3	The rise in living standard: The increase in the living condition of individual family units is witnessed because of the expenditure on transportation for going to work and getting the associated services.	Health issues: Health issues are also evident with urban sprawl. Lack of environmental quality or consuming contaminated water give rise to health issues. People using vehicles decrease their chances of walking daily, leading them to obesity.
4	Lack of urban planning: People very happily like to move towards areas with less traffic and more calm, leading them towards urban sprawl.	Environmental issues: Urban sprawl leads to environmental issues. Developing the lands outside will lead you towards compromising not only the top agricultural lands but also the wildlife.
5	Lower house tax rates: City centres involve more taxation than outskirt areas. As the house taxes increase inside the city due to the provision of services by the authority, people tend to move towards the side areas to avoid taxation.	Impact on social lives: People moving outside the city centres also witness implications on their social lives. Away from city centres, the social bonding is not as strong as it is in the city centres. That might not always be the case, but the feeling of social sense is still different.
6	The rise in population growth: A primary factor for urban sprawl is population growth. As the population density increases in the city centre, the congestion also increases, forcing people to go to the city outskirts.	Increased car use and manufacturing: The need and use of cars increases, which also increases car manufacturing. People consider cars as a faster and more reliable source of commuting.
7	Consumer Preferences: High-income people prefer homes with openness. This trend tends to make people move towards more open suburban areas, leading to urban sprawl.	Low-density areas: The land value in the suburbs is lower compared to the city centre: less population density and more spacious buildings.

B. METROPOLITAN AREAS OF PAKISTAN

Figure 1 presents the most populous city districts/ metropolitan areas of Pakistan. These 26 cities are home to about 35% of the population of Pakistan. It consists of the results based on Population and Housing Census 2017 [9]. All 26 cities mentioned in the list have a population of over 300,000. Quetta is the 10th largest city in Pakistan and the most populated city in Balochistan province. Other cities mentioned in the list are located in other parts of the country.

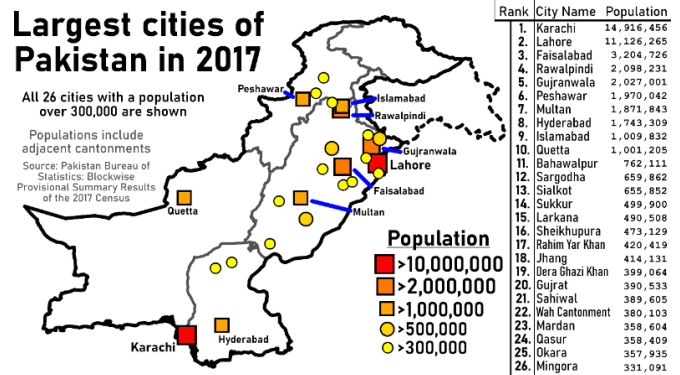


Figure 1. Metropolitan Areas of Pakistan in Census 2017 (Source: Urban Unit Pakistan)

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C. URBANIZATION OF QUETTA CITY

Balochistan is the largest province of Pakistan, having Quetta as its capital, making it the province's largest city. The present-day Quetta was founded in the 19th century as a British Garrison Town [20]. This city accommodates thirty times more inhabitants than its original capacity [21]. The study conducted by Gazdar et al. shows that for developing countries, urban challenges are common because the urban network of the cities, villages, and towns is probable to include the aspects of the environment shaping the economy and social and societal interactions [22]. Like other parts of the country, the trend of urbanization in Balochistan is also high, and Quetta indicates a steady growth pattern. Quetta city lacks operative planning and implementation that has increased housing stock significantly. Literature shows that limited studies were conducted in the past [20], [23]. Implementing the existing policies in Quetta city has resulted in congestion and traffic problems in the downtown area [24]. In the last 50 years, many significant changes have been seen in the makeup of Quetta city. This city was initially planned to accommodate 50,000 people. It has also been estimated that almost half of the population of Quetta city lives in Kachi Abadi's. The new housing schemes in the city are developing, compromising the prime agricultural land [11].



Figure 2. The integrated trend of Urbanization in Quetta (Source: Balochistan Today, 2018)

Figure 2 shows the urbanization trend in Quetta. According to a study, around 800,000 residents of Quetta city whined that they live without the proper sanitation and drainage facilities [25]. Quetta's various areas, and Katchi Abadies accommodates the low-income population. Urban poverty in Quetta exceeds 52% of the overall household. Having no proper drinking water and the weak coverage of the upsetting elements is responsible for delaying urban services in this city [26].

III. METHODOLOGY

There are different ways to measure urban sprawl, depending on the available resources and experts. The first is to identify the density, planning, infrastructure, diversity, and proximity of approximately three to four urban neighbourhoods by creating a grid over its master plan. This methodology used for this study is presented below:

- First, one-mile gird was marked on the urban master plan, and it gave us a scientific demarcation over the urban area.

- Then all the infrastructure facilities like education, health, security, resources, road network etc., were determined.
- Further, the pressure and burden on this infrastructure received were calculated through the urban density in that one-mile grid. Those results gave us the idea of urban sprawl happening in Quetta city.

In this study, a field survey, questionnaire, physical observations, and semi-structured interviews were the research tools adopted to analyse urban sprawl, inequality of resources and access to urban services. The findings from these analyses are depicted in the next section.

The central focus of this research study was to develop and determine the urbanization pattern in terms of sprawl happening in the downtown of Quetta city (Figure 3), which is the original limit of the town. Since this area is being neglected for proper urban planning and design, especially to meet its future requirements. The increased flux that has been witnessed in the last few years is unaidable, so it must be taken into proper consideration. This defines the phenomena of urban sprawl but gives rise to the inequality of urban resources and the need for access to urban resources. The study was carried out in the City Center, Double Road, Nawa Killi, partial areas of Airport Road, Sariab Road, and Mariabad.



Figure 3. Downtown Quetta city

A. ADMINISTRATION OF QUESTIONNAIRE

Although several research tools have been established to evaluate urban sprawl, inequality of resources needs to access urban services and related issues. For the systematic study, employing well-validated and reliable measures are essential. Since this was an exclusive study regarding the urban sprawl of Quetta city with a particular focus on inequality of resources and needed to access urban services, the questionnaire is divided into five sections. The description of the questionnaire is given in Table 2.

Table 2. Summary of Questioners

Section	Description	Question Numbers
1	Location & Planning	1-2
2	Infrastructure Facilities	3-7
3	Condition of Facilities	8-11

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4	Sociological Information	12-18
5	Environmental Aspects	19-25
Total		25

The challenge to the researchers is that they must incorporate all indicators of urban sprawl in Quetta city. Based on international and national architecture document analysis, field research observation, and literature review of urban sprawl, various stakeholders were identified in field survey and interviews. Seven zoning, water management, public transportation, educational facilities, health facilities, solid waste management and recreational areas were converted into 25 measurement questions. Two interviews were conducted with government officials. About 61 residents (heads of households) and 35 shopkeepers were also interviewed. All participants were highly stimulated, cooperative, and open to answering all survey queries. Interviews were conducted with stakeholders to triangulate the qualitative data by document analysis.

B. FIELD RESEARCH AND DATA ANALYSIS

To determine the urban sprawl, inequality of resources and the need to access the urban services of Quetta. The field survey was only conducted in the downtown Quetta district, keeping in mind the scope of work for the said research. As discussed in the literature review, there are specific parameters through which this activity can be determined. Seven parameters were selected for this study, a) Zoning, b) Water Management, c) Public Transportation, d) Educational Facilities, e) Health Facilities, f) Solid Waste Management, and g) Recreational Facilities.

The field survey was focused on these urban parameters, and the analysis strategy was determined.

C. FIELD SURVEY QUESTIONNAIRES

The first segment deals with the survey result from house representatives and users of urban services. The research question and objectives point toward findings in succeeding extents, location and planning, infrastructure planning, condition of facilities, sociological information, and environmental aspects. Enumerators filled out one hundred and seventeen questionnaires at Quetta city. The descriptive statistics of the participants are presented in Table 3.

Table 3. Statistics of the participants

Category		Frequency	Percentage
Respondent Age	18-26	47	40.0
	27-37	42	36.0
	>37	28	24.0
	Total	117	100
Qualification	Illiterate	19	16.0
	Middle	43	37.0
	Metric & above	55	47.0
	Total	117	100
Areas	Bazar and other Downtown Areas	41	34.2
	Sariab Road	08	7.0
	Airport Road & Schemes	26	22.8
	Killis	03	2.6
	Jinnah Town	12	10.5
	Deba	02	0.9

Arbab Karam Khan Road	03	2.6
Chaman Phatak	02	1.8
Nawa Kili	06	5.3
Hazara Town	03	2.6
Marri Abad	04	3.5
Cantt	07	6.1
Total	117	100

IV. RESULTS & DISCUSSIONS

The results of this study are presented stepwise, as mentioned in methodology section III-B.

a). ZONING

The primary purpose of zoning is to provide stability for the land market by predicting future land uses, fostering economic development, protecting aesthetic and environmental resources, providing efficient provision of public services, and protecting community character [27].

In Quetta BDA-Balochistan Development Authority, QDA-Quetta Development Authority and Local Government are responsible for the city's zoning character. Semi-structured interviews were conducted with the officials of these organizations, and a field survey was conducted based on parameters like bylaws violations, visual barriers, residential aspects, traffic flow, parking, and drainage issues. We set a grid on the city's master plan and divided it into zones according to our understanding. Figure 4 presents this division of various areas of Quetta.

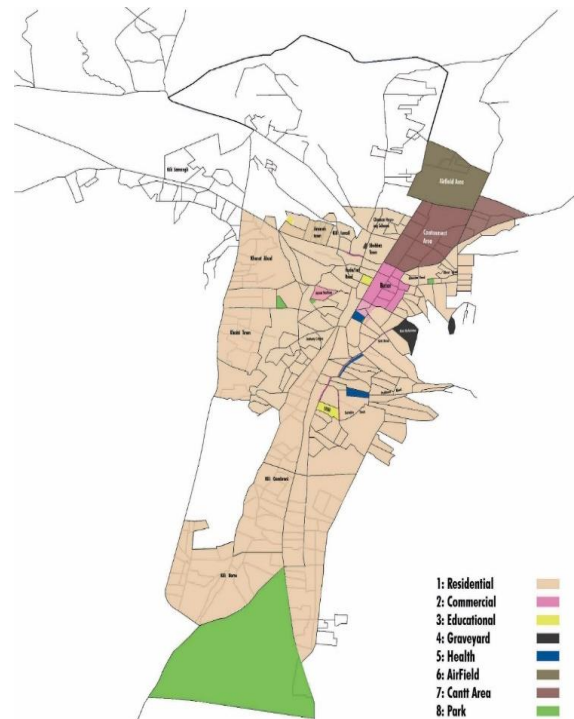


Figure 4. The Division of Grid on the Quetta Masterplan to understand the zoning pattern.

Determining the intervention of one activity over the other was not a simple task. Through the master plan, it was hard to distinguish the limits of each activity and where the services overlapped. For example, downtown, in many spots, the

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residential areas are intervened by commercial activities, and the recreational places or the open spaces are compromised for parking etc. A secondary strategy was used to determine the flux and load on the zones of downtown Quetta and the parameters of bylaws violations, visual barriers, residential aspects, traffic flow, parking, and drainage issues.

BYLAWS VIOLATIONS

After the earthquake of 1935, the British government suggested some bylaws regarding the design of buildings and structures in and around Quetta to ensure the security and safety of the town and its inhabitants. Some of the main rules of the Bylaws of 1937 being violated are mentioned in Table 4.

Table 4. Bylaws Violations

S.No	Reference Number	Description
1	Rule. No. Z 211(37) MUN/2889, A, dated 20-8-40	No plans, computations or other data shall be submitted without first being signed by an Architect, Engineer or Designer.
2	Rule No. Z, 211(37) MUN/8289, dated 20-8-40	Open verandahs are included in the 40 per cent free area space in respect of residential buildings.
3	Rule No: 4211 (37), MUN/8389, A, dated 20-8-40	In the case of shops, 20 per cent free air space should be maintainable, but in the ease of property, the length of frontage, which does not exceed 20 feet and the depth of which does not exceed 20 per cent of the plot, may be built over.
4	Rule No: Z/ 211(37) MUN/ 82894. dated 20-8-40	The height of buildings of this class must not exceed 30 feet from the ground floor to the top of the roof in the case of buildings having a fiat reinforced concrete roof or 28 feet from the ground floor to eaves in the case of a structure having a pent roof. The maximum dimensions of any room shall not exceed 50 feet except in the case of public buildings which are dealt with under rule 22. Smaller sizes are, however, preferable.

b). WATER MANAGEMENT

For Quetta city, the primary water source is underground water, except some areas get water from the water reservoirs of Hanna and Urak lakes. Still, the dependency of downtown is mainly on underground water, which is primarily provided through tankers. Table 5 presents the growth of tube wells over the years in Quetta, and Table 6 shows the demand and availability of water in Quetta.

Table 5. Number of tube wells in Quetta (Source: B-WASA)

S.No	Year	No. of tube wells
01	2002-2003	100
02	2003-2004	151
03	2004-2005	176
04	2005-2006	185
05	2006-2007	185
06	2007-2008	185
07	2008-2009	233
08	2009-2010	314
09	2010-2011	314
10	2011-2012	317

11	2012-2013	317
12	2019-2020	317

Table 6. Water availability in Quetta (Source: B-WASA)

Availability of water in July 2000	08 MGD
Availability of water in July 2004	16 MGD
Availability of water in July 2006	19 MGD
Availability of water in July 2008	22 MGD
Availability of water in May 2012	29 MGD
Present Availability of Water	35 MGD
Present Demand	61 MGD
*MGD	Million Gallons per Day

During the past several years, Balochistan Water and Sanitation Authority (B-WASA) explored new water sources, including installing new tube wells and water storage basins to cater to the growing need and demand for domestic water. The urban population of Quetta is increasing, and new tube wells are added in the valley. Therefore, the availability of water is increasing while the water table is decreasing

c). PUBLIC TRANSPORTATION

In Quetta city, one of the biggest problems with transportation apparatus is having an inadequate infrastructure that is short of meeting the rising demands of the rapid increase in the traffic flux on the urban road network. Every year, many new automobiles are pushed to the already exploited network without adding extra volume to adjust the influx. Getting a driving license is an easy activity mostly done through the references of influential people. Such ill-trained drivers are accountable for making deadly mistakes and putting danger to their own lives and the lives of other innocent citizens sharing the common route. Also, the careless attitude is witnessed in the general public, who only speed while crossing the road from any point they find feasible.

Table 7. Urban Transport Routes in Quetta

Route 1	The route starts from the National Highway near BUITEMS Quetta and follows the following path. Chasma Road - Airport Road – Almas – Almo Chowk - Chaman Housing - Nawa Killi Road - Askari Check Post Cantt - Koila Phatak - Shahbaz Town - Zarghoon Road - Taxi Stand
Route 2	This route starts from Nawa Killi last stop and follows the following way: Nawa Killi (First Stop) - FC Hospital (Askari Park) - Almo Chowk - Almas - Airport Chorangi - N-54 Bypass - Khaizi Chowk - Hazarganji
Route 3	This route starts from the Agha Siraj complex near Jinnah Road and follows the following path: Liaquat Park - Double Road - Saryab Road - Gahi Khan Chowk - Musa Colony - Bibi Ziarat - Green Town - Satellite Town



Figure 5. Main Nodes of Traffic flux on Jinnah Road and Taxi Stand area

There are three major routes for public transportation in Quetta, which are mentioned in Table 7. Jinnah Road is the main boulevard of Quetta city and the major junction of traffic as well as urban transportation flux (Figure 5). It is connected to the taxi stand, and this area is the hub of public transportation in the city.

Jinnah Road acts as the main artery where the traffic flux is maximum (Figure 6), and the main distribution of the flux takes place from here.

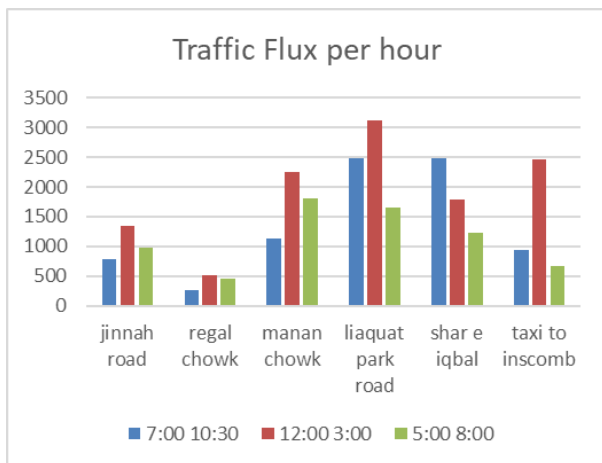


Figure 6. Traffic Flux at Jinnah Road per hour



Figure 7. The old public transportation buses in Quetta (Source: Field survey)

The city of Quetta is divided into two circles: the city circle and the Sariab circle. The common transportation problem in Quetta city is due to the ever-increasing population, administrative failure of policies, poor traffic and road management, Encroachments, lack of parking facilities in commercial areas, violation of traffic rules, and an increasing number of auto rickshaws.

The Balochistan Environmental Protection Agency (BEPA) and Regional Transport Authority (RTA) have been concerned about the complaint about public transport, where they are pointing out the rundown condition of local buses. The state of local buses is not up to the transport standards, and these buses are also not environmentally friendly. Quetta Mass Transit and Metro Bus Services have been announced recently; however, the project is yet to be initiated. It was noticed that some of the buses are even more than fifty years old (Figure 7), yet still running on Quetta's roads and provide the primary source of public transportation in the city. However, due to urban sprawl and the pressure on existing infrastructure, people are unwilling yet pushed to use these urban transportation modes.

d). EDUCATIONAL FACILITIES

There are many education-related challenges in Quetta in terms of both access and quality. It is observed that the district choices get very thin for the quality as most of it is related to the supply of institutions and at the provincial level. However, the sector plan highlights the district's need for maximum involvement and a proactive approach. Table 8 presents the total number of public sector schools for boys and girls in the Quetta district.

Table 8. Total number of public sector schools

	Public sector schools			
	Urban		Rural	
	Boys	Girls	Boys	Girls
Primary	61	18	188	91
Middle	9	11	27	42
High	29	30	8	10
Higher Secondary	1	4	-	-
Total	100	63	223	143

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FACILITIES IN THE EDUCATIONAL INSTITUTES OF QUETTA

Due to increasing urban sprawl, the absence and bad conditions of fundamentally required amenities like water and restrooms affect enrolment and retention. The table below shows the state of facilities obtainable in schools in downtown Quetta city.

Here 21% of the primary schools for girls have no boundary wall, 86% lack water, 41% have no toilets, and 70% have no electricity. The situation at the boy’s schools is also not very standard, even in schools above the primary sections.

Just in the neighbouring Quetta downtown, there is a disintegrating house, roofless and putrefying, without any boundary wall, but for those poor and the marginalized children, this small four-room abode is passable enough to be called their school.



Figure 8. Overcrowded classroom of Girl Primary School Nawa Kilii Quetta (Source: Field Survey)

Overcrowding happens when the number of students enrolled in a school is higher than the number of students the school was designed to accommodate. Overcrowding may also contribute to the deterioration of schools. Figure 8 shows overcrowding in a school classroom of a girl’s school in Quetta. Information is also provided about schools' uses of various scheduling and space practices that are sometimes used to reduce overcrowding within the school.

e). HEALTH FACILITIES

The Health Department, Government of Balochistan, aims to efficiently deliver essential health services to the province's people through its network of hospitals in each district headquarters. There are five hospitals in Quetta city: Civil Hospital (Figure 9), Bolan Medical College (BMC), Helper’s Eyes Hospital, Sheikh Khalifah Bin Zayed Hospital and Fatima Jinnah Chest & General Hospital. The infrastructure for health care facilities is highly inadequate for the users. Around 55% of people ranked the health care system as extremely poor, while 26% rated it as average.

The health sector in Quetta has specialists but lacks equipment and medicine. Due to that, many patients regularly visit private hospitals in Karachi and Punjab for necessary tests and diagnoses. The service delivery standard of BMC and Civil hospitals is also below national and international health standards. The existing MRI machines in BMC hospital have been non-functional for more than five years. The number of

patients being attended by the public sector health facilities is huge. That affects the doctor-to-patient standard ratio, which compromises the quality of health facilities. The hospitals in Quetta are under the heavy influx of Afghan patients coming from the nearest cities of Afghanistan, such as Kandahar, for necessary medical treatment due to the lack of health and medical infrastructure in their own country. On the other hand, profit orientation drives the private sector hospitals and repeatedly violates the spirit of social welfare. According to the standard, there should be a dispensary in each school/ factory, a basic health unit (BHU) for a population of 5000, and at least five hospital beds per one thousand [28].



Figure 9. OPD at Civil Hospital Quetta (Source: Field Survey)

f). SOLID WASTE MANAGEMENT

Untreated waste in Quetta creates an environmental hazard, and the citizens bear an economic cost of it. Growing pollution leading to environmental changes and financial costs associated with garbage in terms of health hazards and adverse effects on public services have changed how authorities view it. The condition of the solid waste management plan in Quetta is listed in Table 9. There are 59 dumpers, out of which 19 are in workable condition.

Table 9. Solid Waste Management in Quetta

Population of Metropolitan Quetta	Approx. 2 million 20,000
Generation of waste according to population	1000MT/year
Total no of workers	615
Per person waste generation	0.5kg/day
Solid waste plant	Eastern bypass
Dumping site total area	53 acres
Daily waste disposal	300 tone/day
There are a total of 59 dumpers, out of which 19 are in use	

If we identify the composition of solid waste, the main component is wrappers, around 30%, polyethene, 25%, while vegetable and fruit peelings, around 23%. In Quetta city, the lifting of solid waste is done by the metropolitan corporation, which lifts 350MT to 400MT solid waste daily while the daily production is 1000MT to 1250MT, leaving behind 600MT to 850MT daily. The present waste collection facilities are only working on their specified routes with limited staff and equipment. They are not equipped to deal with increasing urban areas where lots of waste is produced and dumped in streets and

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open spaces [23]. This is affecting the overall solid waste management structure of the city. Consequently, it can be concluded that modern international marketing is the main factor that has given rise to solid waste.

g). RECREATIONAL AREAS

Quetta needs parks, playgrounds, and recreational facilities. Besides Quetta Cantonment, which has Musa Stadium and some other parks for the public, the city does not have any major facilities. Askari Park (Figure 10), Benazir Bhutto Park and Liaquat Park are now reduced to only barren land or merely gathering spots for families. Balochistan's annual budget of around Rs.17 Billion lapsed in May 2017, and it was returned to the federal government. The provincial government could have at least repaired or constructed parks with that money in Quetta and all-district and divisional headquarters, but it did not. Parks should be built by the city government, and they should have walking tracks besides play areas for kids and cafeterias.

When the survey was conducted for this research, 85% of the people in Quetta had no direct access to recreational facilities. In urban areas, recreational facilities and services are not a matter of choice but rather an important factor for healthy living. Recreation facilities have a positive impact on health and well-being. A healthy and active lifestyle is important to lower the risks of cardiovascular diseases. Schools mostly do not have playgrounds of their own, and there is a bit recreational facility for children in our poor urban setup. As a result, developing their skills, including creative thinking, intellectual and cognitive abilities, and problem-solving, has been severely hampered due to a lack of outdoor physical and outdoor activities at an early age.

Furthermore, due to neglect, the playground equipment is rusting away. The shrubs and grass are growing without proper cutting and maintenance. The bushes are so tall and unkempt that animals can live in them. It is also a good hiding place for thieves eyeing the nearby housing area or the people who visit the parks. Rubbish is strewn all over the paths, playground, and exercise areas. Garbage bins can hardly be found, and in some places where they are available, some have been removed and used as goalposts or boundary markers. The existing recreational areas are either compromised or in the worst condition. Several plots reserved for parks, playgrounds and recreational spaces were converted into residential or commercial, which created a lack of recreational spaces and activities.



Figure 10. The abundant condition of Askari Park Quetta
(Source: Field Survey)

Not much is known regarding the street food and fast-food culture and consumption in Quetta, even though this is a large sector of the urban economy (Figure 11). Every day many people purchase street foods and fast foods from the major restaurants or cuisine sale points in Quetta. It also employs many people. The consumption of meat, junk food and soft drinks can be associated with obesity and non-infectious diseases. This also occurs since people do not find enough parks, playgrounds and recreational facilities. So they spend most of their time hanging out and dining out.



Figure 11. Street foods in Quetta
(Source: Field Survey)

V. CONCLUSIONS & RECOMMENDATIONS

Based on the findings of this study, it is evident that the unplanned urban sprawl of Quetta city has given rise to the inequality of resources and the need to access urban services. Further studies are needed to focus on an in-depth analysis of urban issues and problems of Quetta. Identification of the diversity of urban neighbourhoods and its effects on the overall urban planning of the city is causing a burden on the overall

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infrastructure. The burden on the existing urban infrastructure and its impact on the functional ability, like gas shortage in winter and the water shortage throughout the year, are constant phenomena witnessed by the residents of this city. Therefore, we should focus on the strategies to overcome these problems by adopting the proper planning tools.

The effects of unplanned urban areas on the local communities of Quetta city in terms of utilization of urban resources, and the use of urban services is a common phenomenon. The gap between urban and rural areas in Quetta has shortened so that the rural-polis trend is commonly observed here, having no actual boundaries to be seen for urban administration.

Based on the study, the following recommendations are made to control the urban sprawl and provide residents with better health and living facilities.

- The master plan of Quetta must be revised, and future expansions must be controlled and limited to specific areas.
- There is a need for land zoning for residential, commercial, industrial etc., use.
- The basic facilities and amenities must be provided considering the distance and population size.
- Parks, playgrounds and recreational facilities should be provided in all neighbourhood/ residential areas.
- Water supply and waste management should be upgraded to cater for the needs of the existing and future populations.
- There is an urgent need to start an integrated public transport system which connects the urban peripheries to the downtown of Quetta city.

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