

PROBLEM IDENTIFICATION: EXAMINING THE FACTORS THAT
RESULTED IN ISLAMABAD'S UNSUSTAINABLE DEVELOPMENT

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RESULTED IN ISLAMABAD'S UNSUSTAINABLE DEVELOPMENT**

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ABSTRACT

PROBLEM IDENTIFICATION: EXAMINING THE FACTORS THAT RESULTED IN ISLAMABAD'S UNSUSTAINABLE DEVELOPMENT

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**M.S., Urban Policy Planning and Local Governments, Department of Urban Policy
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This thesis aims to study how policies, planning institutions, or unforeseen circumstances have factored in the creation of an unsustainable city, with a predominant focus on environmental unsustainability owing to urban sprawl. While keeping in mind globalization, rapid urbanization, (environmental) sustainability, and the characteristics of a dynamic city, this study aims to thoroughly examine the following two hypotheses, namely, unprecedented challenges and organizational and administrative problems within the planning and administrative institutions, and conclude by selecting one factor which I found to be the most substantial constraint in the city's proper, sustainable growth.

Although there are numerous political, social, economic, institutional, and various other dimensions and wider facets that play a substantial role in Islamabad's urban development, this thesis only studies at length and takes into consideration the

managerial, institutional, and technical dimensions. Through 20 in-depth semi-structured interviews with experts in the field, I was able to conclude that urban sprawl in Islamabad and its consequential unsustainable developments are a result of poor urban planning and a poor understanding of the underlying logic behind Doxiadis' original master plan, on the Capital Development Authority's part. A poor understanding of the true spirit of the original master plan signifies the Capital Development Authority's inability to fully apprehend and appreciate Doxiadis' vision and planning ideologies in the Islamabad Metropolitan Framework, thereby resulting in the development of a city that is at odds with Doxiadis' City of the Future.

Keywords: Islamabad, Regional Planning, Sustainable development, Urban Sprawl, Capital Development Authority

ÖZ

PROBLEMI TANIMLAMA: İSLAMABAD'IN SÜRDÜRÜLEMEZ GELİŞİMİYLE SONUÇLANAN FAKTÖRLERİN İNCELENMESİ

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Bu tez, kentsel yayılmaya dayalı çevresel sürdürülemezliğe odaklanarak, siyasaların, planlama kurumlarının ve öngörülemez koşulların, sürdürülemez bir kentin oluşumunu nasıl etkilediğini çalışmaktadır. Küreselleşme, hızlı kentleşme, (çevresel) sürdürülebilirlik ve dinamik bir kentin özellikleri göz önünde bulundurulmakla birlikte, bu çalışma, iki hipotezi detaylı bir biçimde analiz etmekte ve kentin uygun, sürdürülebilir büyümesi önündeki en önemli kısıtlama olduğunu düşündüğüm faktörü belirlemekle sonuçlanmaktadır. Bahsi geçen hipotezler, eşi görülmemiş problemler ve planlama ve yönetim kurumlarındaki organizasyonel ve yönetsel problemlerden oluşmaktadır.

İslamabad'ın kentsel gelişiminde çok sayıda siyasi, sosyal, ekonomik, kurumsal ve çeşitli boyutlar önemli rol oynamasına rağmen, bu tez sadece yönetsel, kurumsal ve teknik boyutları dikkate alır. Alandaki uzmanlarla yapılmış olan 20 yarı-yapılandırılmış derinlemesine görüşme aracılığıyla, İslamabad'daki kentsel yayılma ve bunun

sonucunda ortaya çıkan sürdürülemez gelişmenin, zayıf kentsel planlama ve Doxiadis'in özgün ana nazım planının arkasındaki mantığın, CDA tarafından, yeterince anlaşılmasından kaynaklandığı sonucuna ulaştım. Özgün ana nazım planının gerçek ruhunun yeterince anlaşılabilmesi, CDA memurlarının, Doxiadis'in İslamabad Metropolü çerçevesindeki vizyon ve planlama ideolojisini tamamen kavramak ve takdir etmekteki yetersizliğini göstermektedir. Bu durum, Doxiadis'in Geleceğin Şehri kavrayışı ile çelişen bir kentin gelişmesiyle sonuçlanmıştır.

Anahtar Kelimeler: İslamabad, Bölgesel Planlama, Sürdürülebilir Kalkınma, Kentsel Yayılma, Başkent Kalkınma Otoritesi.

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TABLE OF CONTENTS

PLAGIARISM	iii
ABSTRACT	iv
ÖZ.....	vi
ACKNOWLEDGEMENTS	viii
TABLE OF CONTENTS.....	ix
LIST OF TABLES	xii
LIST OF FIGURES.....	xiii
CHAPTERS	
1. INTRODUCTION	1
1.1. Research Gap, Scope & Aim of the Study	3
1.2. Methodology.....	6
1.3. Theoretical Framework and Literature Review on Urban Sprawl & Environmental Unsustainability in Islamabad	8
1.4. Structure of the research.....	27
2. ISLAMABAD – A New Capital	29
2.1. The Need for a New Capital	29
2.2. Selection of a Suitable Site	30
2.3. The City of Islam & Ayub Khan.....	32
2.4. Doxiadis’ Islamabad: A City of the Future.....	34
2.4.1. World-City of Tomorrow & the Global Garden	38
2.4.2. Transportation, Rawalpindi and the Science of Ekistics	40
2.4.3. Compartments	47
2.4.4. Sectors and the Urban Design.....	50
2.5. Institutional Framework	54
2.5.1. Evolution of the Local Governance System in Islamabad.....	55
2.5.2. The Capital Development Authority	61

2.5.3. Zones	63
3. ISLAMABAD – The Unprecedented Challenges	67
3.1. Unprecedented challenges which could not have been avoided	68
3.1.1. Population increases due regional instability, border disputes, lack of regional development.....	69
3.1.2. Political instability, resource constraints, and the ever-changing socioeconomic realities and norms.....	71
3.2. Unprecedented challenges which could have been avoided.....	73
3.2.1. Abandonment of the City of Futures’ dynamic characteristic.....	73
3.2.2. Consequences of Climate Change.....	75
3.2.3. Spatial planning techniques	76
3.2.4. Lack of land acquisition	79
3.2.5. Lack of timely revision of the master plan.....	83
4. ISLAMABAD – Managerial and Organizational Problems.....	88
4.1. Administrative hindrances resulting in the abandonment of Doxiadis’ Metropolitan Plan in a Regional Framework.....	91
4.2. Role of the Federal government and a lack of public participation.....	94
4.2.1. The absence of public participation	94
4.2.2. Consequences of a lack of political will within the federal government on urban planning.....	96
4.3. City Governance and the Capital Development Authority	97
4.3.1. Poor implementation and development of the master plan	100
4.3.2. Poor management and governance.....	103
4.3.3. Poor Urban Planning	113
5. SOLUTIONS AND POLICY RECOMMENDATIONS	125
5.1. Recommendations for problems associated with urban sprawl.....	126
5.2. Recommendations for problems associated with the CDA	131
5.3. Recommendations for problems associated with the Federal Government	133
6. CONCLUSION	137
BIBLIOGRAPHY	143
APPENDICES	
A. APPROVAL FROM THE METU HUMAN SUBJECTS ETHICS COMMITTEE	149

B.	SAMPLE INTERVIEW	150
C.	TURKISH SUMMARY / TÜRKÇE ÖZET	160
D.	THESIS PERMISSION FORM / TEZ İZİN FORMU	170

LIST OF TABLES

Table 1 Characteristics of Urban Sprawl.....	18
Table 2 Capital Shifts in Newly Independent States.....	33
Table 3 CDA Functions and Duties	62

LIST OF FIGURES

Figure 1 Master Plan for Islamabad Metropolitan Region	8
Figure 2 Population Growth Rate.....	20
Figure 3 Area of Woodland Cover & NDVI.....	23
Figure 4 Slum Growth in Islamabad	24
Figure 5 Alternative Locations for the New Capital	31
Figure 6 Master Plan.....	36
Figure 7 Effective Environments	37
Figure 8 Ecumenopolis	38
Figure 9 Integration of Natural Environment	39
Figure 10 First Central Axis.....	41
Figure 11 Second Central Axis	41
Figure 12 Concept of ‘City of the Future’	42
Figure 13 Concept of a Dynamic Metropolis.....	42
Figure 14 Growth in Dynamic Metropolis.....	44
Figure 15 Road Network.....	46
Figure 16 Communication Center	47
Figure 17 Residential Sector Design and Layout.....	51
Figure 18 Sector G.6 Islamabad.....	52
Figure 19 Zones in Islamabad.....	63
Figure 20 Islamabad Zone 1.....	64
Figure 21 Islamabad Zone 2.....	64
Figure 22 Islamabad Zone 3.....	65
Figure 23 Islamabad Zone 4.....	66
Figure 24 Islamabad Zone 5.....	66
Figure 25 Population Increase & Increase in Urban Area	68
Figure 26 Mehrabadi Sector G-12.....	82

“If it (Pakistan) eventually collapses, it will be not Islamist extremism but climate change- an especially grim threat in the whole of South Asia- that finishes it off”

Anatol Lieven
Pakistan: A Hard Country, 2011

CHAPTER 1

INTRODUCTION

Until 2018, the total percentage of the world's population that resided in urban regions was 55%. By 2050, this number is expected to rise to 68%. With rural to urban migrations happening at an unprecedented rate, local, provincial, and/or federal governments struggle to provide services and infrastructure equally and equitably. This inability creates a gap, as a result of which, despite all the advances of the contemporary modern world, a duality of living standards continues to persist in the form of slums and shanty towns which co-exist with metropolitan cities. My hometown Islamabad is no stranger to this concept. The frightfully and immensely abysmal living conditions that 38% of the inhabitants of this capital city have to survive in, only to benefit from the employment, infrastructure, urban facilities and services, is not only unfair and unethical, but is also against their rights to equality and equity in health, education, employment and living standards.

Ramifications of rapid urban growth include phenomena such as urban flooding, social issues and inequalities, instability and pollution, to name a few, but abandonment of the spirit of the city's master plan, or unprecedented challenges, or most importantly, the inability of governments and decision makers to formulate timely decisions and respond well to such circumstances, exacerbates these issues and turns our *engines of growth* into *anchors to growth*. Thus, researching each of these problems is of great significance for better decision making processes, more efficient and timely policies, and an effective institutional framework.

We know that rapid urban growth is a major problem- one that we will continue to face in the coming decades. We know the consequences of rapid urban growth and its effects

on the environmental sustainability of the urban landscape. So how can these issues be resolved? What policies can be formulated in order to resolve, or attempt to resolve these major and long term problems? The first step in policy formulation is problem identification. Problem identification allows policy makers to thoroughly understand the problems they face and pinpoint the reasons they stem from. Therefore, over the discourse of this thesis, I have attempted to identify a certain number of problems, and bring to light one primary cause and defect in Islamabad's development from its inception until the present day which has had the greatest impact on Islamabad's evolution in terms of its sustainability, with a predominant focus on environmental sustainability. This thesis shall be investigating two such problems which are commonly addressed in literature or have been discussed by the respondents of the interviews conducted for this study. These problems are:

1. Unprecedented challenges which the city faced over the course of its existence
2. Managerial and organizational problems within the planning and administrative institutions of the city.

In light of this objective, this thesis revolves around the following research question:
“Which foremost factor critically hindered Islamabad's sustainable development?”

Planned and implemented by one of the most eminent architects and planners in the world, C.A. Doxiadis, on the basis of his “Science of human settlements”, Islamabad was designed to be the “City of the Future” (Frantzeskakis, 2009). Like Brasilia, Islamabad is a ‘created capital’, and like the created capitals of the past, both these cities have invariably been deemed by planning authorities as being “relatively small in size”, “uni-functional in nature”, and “administrative cities rather than large cosmopolitan centers capable of becoming primate cities or major regional cores”, all of which they aren't today: over 60 years later, Islamabad is Pakistan's 3rd largest metropolitan area and, where in 1960, Islamabad's population was 45,400, in 2022, this number has risen to 1,198,035 (Shah et al., 2021) (Stephenson, 1970). Today, it has become a capital where 379,620 inhabitants reside in underserved/ slum regions or squatter settlements, and where, unlike the rest of the country, the population of its rural areas has increased gradually as compared to its urban region due to the massive, unrestricted and uncontrollable urban sprawl which the city has experienced over time (UNICEF, 2020)

(Butt, 2017). So why did this “scenic cum modern capital” turn into a “city for the rich”? (Hafeez, 2016) (Mohsin, 2020). What factors resulted in Islamabad’s environmentally unsustainable development (the elements for which have been discussed below)? Did certain unprecedented challenges put Islamabad in this predicament? How vulnerable is the city to climate change and its dire consequences on water scarcity? Which factor contributed towards Islamabad’s improper, and (predominantly environmental) unsustainable development? Why are, even over 60 years later, Islamabad’s planning and implementation institutions weak? What role do the planning institutions play in Islamabad’s poor development? Most importantly, what can be done to save this developing country’s capital city?

1.1. Research Gap, Scope & Aim of the Study

Doxiadis desired to design Islamabad as a ‘City of the Future’, a city that was dynamic in nature, that could withstand the pressures of rapid urbanization and increased development and growth, and which would, concomitantly, maintain the ecological balance. For Doxiadis, urban growth, and the growth of green spaces were not mutually exclusive- they were interlinked and were meant to enhance in conjunction. Examining such a ‘City of the Future’ becomes more relevant today as challenges in understanding sustainability and operationalizing sustainable development in urban regions have been fuelling interests in the preservation and enhancement of urban landscapes in context of rapid metropolitan growth and globalization (Mahsud, 2011).

Existing literature has indicated that the advent of globalization brought with it substantial changes within the modes of capital accumulation: where space and time were previously perceived as being linear, and social and economic factors external and unimportant in determining the growth of urban areas, city and regional planning, within the past few decades, has not only experienced some of the most fundamental changes in its understanding of the implications of socioeconomic aspects and the plurality of time and space in urban landscapes, but the realization of the dynamic characteristic of urban regions has also resulted in paradigm shifts in planning practices. Literature has also pointed out some of the consequences and struggles that our cities have faced as a result of this shift: rapid urbanization, increased rural to urban migration, loss of green cover, and climate change.

Climate change, the notion of sustainability, and environmental degradation as a consequence of urban development came into the picture in the 1970s after the widespread debates regarding how city planning practices and strategies were leading to environmental and societal crises; how, in the name of development and growth, we let our societies and natural environments suffer. It was during the Stockholm Conference in 1972 that the conflicts between environment and development and its link to rapid urbanization and rapid population increase was acknowledged on an international forum. The proceedings of this conference, the Brundtland Report (1987), for the first time defined and coined the term sustainability.

Over time, there have been numerous conferences, discussions, debates that have criticized this definition on the basis of its environmental, ethical, or economic grounds (Jepson & Edwards, 2010). For planners, however, the greatest problem with sustainability, or sustainable development, is how to translate its definition into practice. Certain academics even suggest that sustainability is an empty signifier, one that should be considered as an aim or agenda by planners. However, in my opinion, how we deploy sustainability, or how sustainable development is operationalized on ground, would be a better indicator of whether or not this term has any explanatory value. Hence, since planners can directly intervene in urban space, they can operationalize and study urban sustainability in terms of city planning and design. Research has put forth several methods and approaches through which sustainable development can be deployed within the spatial characteristics and densities of a city, such as the Compact City, Smart Growth, Smart City, New Urbanism and the Ecological City (Jepson & Edwards, 2010). Each of these approaches use various land use control strategies or policy mechanisms to protect biodiversity, decrease pollution, curtail the spread of urban sprawl, mitigate climate change, while improving social and economic conditions. Several cities around the world have also utilized these approaches, either in isolation or in conjunction, to ameliorate their urban regions.

Islamabad has been struggling immensely to cope with globalization, climate change, rapid population increases, sustainable development, or a lack thereof, and their consequences. One consequence that is manifested widely in the city, which will be examined in length in the following chapters, is urban sprawl. Urban sprawl is a threat

to urban sustainability because it diminishes valuable natural land and resources, increases traveling distances, and reduces the carrying capacity of a city. There are several factors which have been proposed in past literature, or have been hypothesized by experts and academics, as being the reasons behind Islamabad's unsustainable development, with regards to urban sprawl. For some, a lack of proper implementation and development of the original master plan, particularly owing to the improper or inadequate understanding of the essence of Doxiadis' master plan, created instances for environmental unsustainability as the city matured. For others, it were the certain unexpected challenges that the city faced, the various social, political, economic dimensions that are at play in the urban planning process in the city, or technical issues within the planning institutions capacity (such as their planning policies and techniques) that resulted in the development of an unsustainable city. Some hypotheses suggest that, due to the loss of capacity within the Capital Development Authority (hereafter referred to as 'CDA') around the early 2000s, land development, particularly the development of residential sectors, could not keep up the rapid increase in Islamabad's population. Consequently, the city began sprawling towards the cheaper periphery and the price of land in the existing residential sectors in zones 1 and 2 also increased simultaneously. Other hypotheses state that, as a result of court leniency, during the early 1990s, when Dr. Abdul Qadeer Khan was allowed to construct his house in the Rawal Dam area, this decision made other people feel emboldened to take similar steps. And since that region was a catchment area for the Rawal Lake, the developments led towards an ecological disaster and the once protected area became a risk zone. Likewise, there have been opinions that the CDA did not accept, until it was too late, that the private sector developers are an integral part of the growth of the city. Due to this lack of realization, regulations and proper laws were not put into place at an early stage and, in the absence of such an institutional framework and strict measures, it became easy for private land developers to acquire land and develop on it, leading towards urban sprawl. However, these are all hypotheses or assumptions which need to be verified and studied in length so that we may pinpoint where the problem actually lies. There are some points, however, that most academics, experts, and planning practitioners agree on:

1. The regulatory system in Islamabad has always been 20 steps behind the actual on-ground realities. For example, after almost 30 years of unregulated

developments and sprawl in the Rawal Lake catchment area, the court took a suo moto action only recently and urged the CDA to take necessary steps.

2. The sprawl within the rural parts of Islamabad, such as that in Bara Kahu or Bani Gala, has created an ecological disaster resulting in urban unsustainability.
3. Relocation of the inhabitants of those areas would be a tremendously difficult task particularly because the majority of the residents living there are socio-economically weak.
4. There is no concept of social housing in the country and, as a result of its absence, people squat.

While keeping in mind globalization, rapid urbanization, (environmental) sustainability, and the characteristics of a dynamic city, this study aims to thoroughly examine the two factors pointed out previously (unprecedented challenges and organizational and administrative problems within the planning and administrative institutions), and to conclude this thesis by selecting one factor which I found to be the most substantial constraint in the city's proper, sustainable growth.

As mentioned previously, problem identification is the first and foremost step towards policy formulation. It is only after we bring to surface the issues within, that we will be able to prepare effective policies and agendas and construct sustainable cities without. Since Islamabad is one of the few "created capitals" in the developing world, investigating urban problems will enable us to understand how economic, financial, administrative, political and military aspects shape our cities and societies. And after we are able to identify these factors, we can then work towards improving the loopholes found in our systems and construct a contemporary resilient, sustainable and inclusive city in our developing countries.

1.2. Methodology

In order to fill in the research gaps and to determine the answer to my research question, a **qualitative research approach** was used in which data was gathered through both primary and secondary research methods. By using both primary and secondary data, I was able to fill in the gaps created through the use of only one kind of data collection method. Primary data has been collected in the form of semi-structured interviews

whereas secondary data has been collected from official online databases such as the CDA (Capital Development Authority) webpage or from journal articles and research papers published online. 20 such interviews have been conducted through the snowball sampling technique with experts such as professors, government officials, officials from the CDA, architects, city planners, urban planners, environmentalists, and bureaucrats.

The interviews were conducted online, on a platform of the interviewees' choosing, or in person, depending upon the preference of the participant. Each interview was approximately 50 minutes in length, and included, on average, 8 questions. All the interviews were analyzed through the use of **Thematic Analysis**. This is because this form of data analysis is widely and commonly used by social scientists to identify ideas, topics, patterns or concepts that seem to appear systematically in communication

Participation in this study was voluntary. The individual was provided with all details and information regarding the study in order for them to make an informed decision of their participation. Each participant also had the right to not participate at any time, whether prior to or during the interview. Participants were given the opportunity to decide whether they would allow the researcher to record their interview and use their name in the study, or if they would prefer anonymity. All identifying information of the latter participants were separated from any written notes that were kept. Notes on all interviews were stored securely and computer data was password protected. Participants were given the opportunity to decide whether they agree to have published any information gained from the meeting. If they agreed, they were also asked regarding how they wished to be described as the source of the information (e.g. if you are happy to be referred to as an 'Education Department employee').

A list of the participants of the interview, along with one interview transcription, as a sample, has been presented at the end of this thesis in a separate appendix. Interviews quoted henceforth have been cited in the following format: *I/interview number.last name of interviewee* (e.g. I/13.Kapadia). Interviewees who wished to maintain their anonymity have been referred to as *I/interview number.anonymous* (e.g. I/3.Anonymous).

1.3. Theoretical Framework and Literature Review on Urban Sprawl & Environmental Unsustainability in Islamabad

Islamabad, shown in Figure 1 below (retrieved from: Liu et al., 2020), was conceived during the age of exponential growth rates, modernization and rapid urbanization- a context still widely prevalent and relevant today as most developing countries, particularly those found in the South Asian region, continue to experience explosive growth rates and urbanization in contrast with nations in the European and North American continents. These conditions led Doxiadis to propose a master plan that envisages a modernizing dynapolis, (dynamic metropolis), a City of the Future, composed of four parts - the capital city Islamabad (intended for a population for 300,000), Rawalpindi, the National Park and the surrounding hinterland - for a total population of 3 million inhabitants by the year 2000 (Mahsud, 2011).

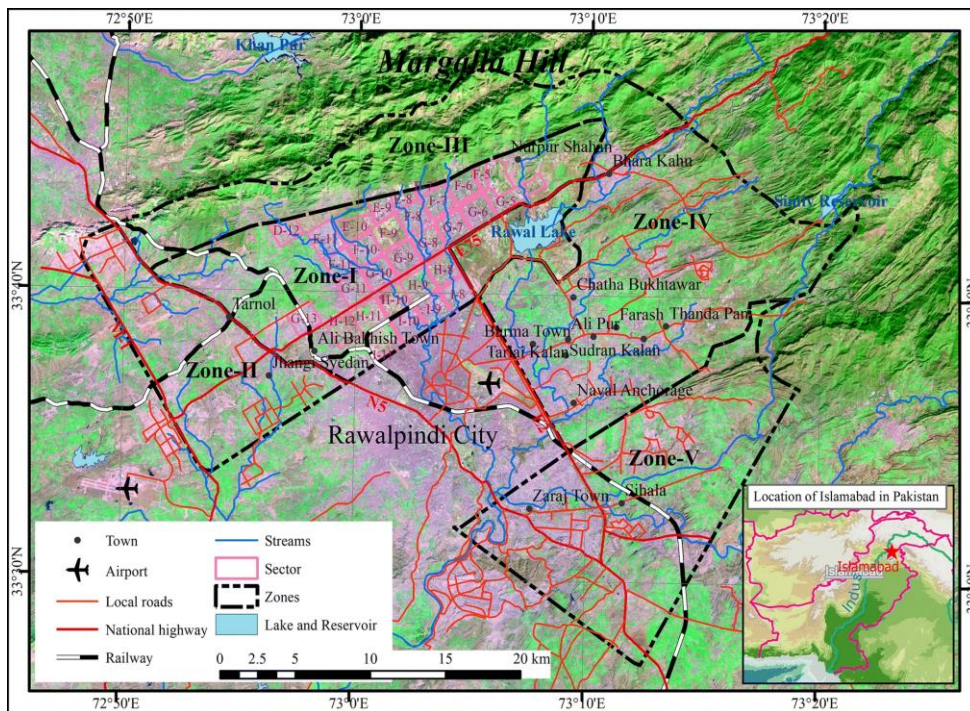


Figure 1 Master Plan for Islamabad Metropolitan Region

There is an intensifying awareness of sustainability issues which are manifesting themselves in innumerable ways, on various fronts, in our cities and societies. Set into motion with the broadcast of the Brundtland Report in 1987, certain phenomena that occurred over the past 4 decades, such as the climatic instabilities, holes within our ozone layer, melting polar ice caps, rising sea levels, Chernobyl, and the alarming rate of urbanization have magnified the issues of sustainability and the urgency of the situation (Mahsud, 2011).

The advent of globalization, the contemporary global mode of capital accumulation and its consequential socioeconomic changes, brought with it dramatic modifications to how cities were perceived. Urban regions not only became the grounds upon which these changes materialized, but they also became the spaces that faced the most dramatic side effects. Some of these side effects include rapid urbanization, increasing rural to urban migrations, loss of green cover, and climate change. It is due to this reason that dynamic growth is a major characteristic of the modern city and hence, institutions and organizations that govern these cities must also be dynamic in nature in order to ensure that they do not become obsolete and that they remain relevant in adapting and responding to the dynamics of the contemporary era.

One of the most fundamental changes with regards to the socioeconomic restructuring and the advancements in technology observed in the fields of city and regional planning is in the conception of time and space. Before the contemporary phenomenon of globalization and climate change, time and space were seen as external processes and as a result of this, city planning was dependent upon the rational deductive and the cause and effect framework. Space was seen as Euclidean, and time, linear. But, the introduction of non-Euclidean geometry changed the way planners dealt with space and time and this opened up the plurality of spaces: cities could be present in the physical space, while also being affected by the processes of, and being present in, regional, national and global spaces. Space and time were now both the cause and the effect of human experience, and were no longer deemed as passive external conditions (Graham & Healey, 2007) (Taylor, 2011).

This means two things for our cities: firstly, our cities today have become spaces where people, goods, services and information are always flowing and space has, therefore, become a form of simultaneous practices that does not rely on geographic proximity anymore: the temporal-spatiality of our cities now exists beyond their physical places. Secondly, our planning processes and institutions need to develop cities which are prepared to respond to constantly changing realities, the plurality of space and time, and to the global mode of capital accumulation, while simultaneously searching for, adapting to, and mitigating the effects of climate change and prompting sustainable urban development, expansion and growth.

One of the most well-known and commonly cited definitions of sustainability- ‘development that meets the needs of the present generation without compromising the ability of future generations to meet their needs’- conceived in the Brundtland Report, views the term as an amalgamation of three essential aspects: society, economics, and the environment (**of which I shall predominantly be scrutinizing urban sprawl in relation to *environmental* sustainability within this thesis**) (World Commission on Environment and Development, 1987, p.8). Over time, this definition has been widely debated, contested and “criticized on a variety of environmental, economic and ethical grounds (Jepson & Edwards, 2010). However, since no alternative has emerged during the terms’ evolution period, these debates and discussions continue (Jepson & Edwards, 2010). Despite this fact, there is considerable agreement regarding the conceptual understanding of environmental sustainability: it is the “stable relationship between human activities and the natural world, which does not diminish the prospects for future generations to enjoy a quality of life” (Mahsud, 2011).

For the planning community, however, the transference of this understanding of sustainability, or sustainable development, its “practical counterpart” on ground and in practice is a substantial obstacle and also a substantial requirement. That is because, one of the most pressing challenges that the planning community has identified in the 21st century are the unsustainable patterns of urbanization: the interrelation between the consumption of resources (material, energy, etc.), the “concentration of urban area”, and the sustainable provision of water, transportation facilities and waste collection and management within our urban entities “intimately ties the question of sustainability” to

urban space, form and design (Mahsud, 2011) (Naison, 2009). Urban sprawl exacerbates these challenges by diminishing and utilizing these natural and land resources in an unsustainable and often unequal manner, increasing traveling distances, and putting further strain on our already lacking transportation systems, thereby reducing the carrying capacity of a city, amongst other consequences. These environmental, social, and economic repercussions of urban sprawl are fundamental issues that need to be addressed in order to approach a more sustainable urban form (Bueno-Suarez & Coq-Huelva, 2020).

Over time, various sustainable planning and design approaches have been advocated that allow planners to directly intervene on space and operationalize sustainable development such as the following:

1. Urban policies: these would comprise of certain urban policies such as, for example, within the transportation sector, those related to traffic reduction and traffic management through the utilization of travel demand management instruments including, but not limited to the implementation of congestion charging or parking charges, construction of bus only/tram only corridors, improving the public transit system, or pedestrianizing large areas of urban land.
2. Through deploying city models that are based on sustainable development such as Smart Cities, Smart Growth, New Urbanism, Eco-city, etc. While there is a difference of opinion regarding the instruments, principles and components of each of these approaches, broadly speaking, where Smart City generally employs information and communications technology in various urban functions for the efficient distribution of provision of municipal services, Smart Growth is usually utilized to curb urban sprawl “through a variety of land-use control and other regional and local policy mechanisms” (Jepson & Edwards, 2010). On the other hand, New Urbanism is “strongly design oriented” and focuses more on the “physical appearance and neighborhood layout to improve quality of life” (Jepson & Edwards, 2010). It advocates mixed use development, housing diversity and an abundance of common open spaces (Jepson & Edwards, 2010). And finally, the Ecological City, or Eco-City, approach aims at developing urban regions

which do not exceed the carrying capacity, i.e. the city's "limits of nature to sustain them" (Jepson & Edwards, 2010).

3. Policies which emphasize the use of energy efficient materials and technologies in order to reduce consumption of resources, increase efficiency and decrease the production of greenhouse gasses to mitigate and adapt to climate change. Aspects such as building heights, materials used in the construction of the building, building density or how various buildings come together on site may either result in the efficient and sustainable utilization of urban resources, or in a wasteful consumption of resources. Studies have also suggested that, rather than having green areas in patches across your urban area, it is more beneficial to have connected green spaces. Connectivity through the use of green corridors, river corridors, green roofs/balconies, street trees, etc., is an important method of improving the overall ecological health & biodiversity of the urban area, reducing temperatures and managing the microclimate and storm water in a better way, reducing noise & air pollution, and production of food along with various other economic, social, and psychological benefits. The Barcelona Green Infrastructure and Biodiversity Plan 2020 is an excellent example for this.
4. Adoption of the compact city approach, or creation of compact nodes within existing cities or transit corridors in case the city has sprawled.

It is important to understand, however, that the above mentioned four methods are not mutually exclusive, but instead each of these strategies are interrelated and impact one another in multiple ways.

In this part of the thesis, we will be looking into the sustainability context for Islamabad. As mentioned previously, this thesis will predominantly focus on environmental sustainability, and hence, this section will only review the literature related to it. Furthermore, since there are various indicators used for measuring the level of environmental sustainability in cities, such as, but not limited to, greenhouse gas emissions (air quality), land use & land cover (which includes green cover/areas; urban sprawl; deforestation), water sustainability (management of water resources; disposal, recycling and reuse of water; optimization of urban water usage; access to potable water and sanitation), waste management (waste collection; access to this municipal service;

policies on recycling, reuse and reduction of waste), transportation (walkability; commuting distances; modes of transportation available; access to transportation) and environmental governance (environmental policies; political mindset; level of public awareness), however, for the purpose of this thesis, I will only be delving into the literature which sheds light upon and justifies environmental unsustainability in Islamabad caused as a result of urban sprawl

It is widely argued in literature that urban sprawl in today's globalized and industrialized city is a consequence of the massive urban transformations which aimed at altering the urban form to better suit the use of motorized vehicles. Rapid population growth and the ever increasing need for housing and the provision of public amenities is one fundamental factor behind various land use land cover changes, such as urban sprawl, and the expansion of urbanized land. These aspects have resulted in the growth of unplanned, sporadic and inefficient urban regions (Ebrahimpour-Masoumi, 2012) (Viana et al., 2019).

Urban growth, urban sprawl and urban extension are often mistakenly used synonymously, though each of these concepts result in different forms of land transformations and are used to describe different phenomena. Urban growth is simply the increase in the total area of urbanized land and has been categorized into the following three types: urban extension, infill, and outlying urban growth. Viana et al., (2019) specified that the distance from an existing development to the more recent development is an important factor in determining which type of urban growth has occurred.

Unlike urban growth, which is a desired phenomenon, urban sprawl has negative connotations associated with it and is often used to describe the unplanned, spontaneous, sporadic urbanization and/or the "intensification of urban problems" in an area (Viana et al., 2019). Coined in 1937 by Earle Draper who defined urban sprawl in its contemporary understanding, this phenomenon is a wide ranging concept that can be studied and understood from various perspectives, through countless lenses and realities due to its multidimensional nature and multifarious impacts. Literature suggests that urban sprawl is not only a phenomenon that only physically affects an urban entity, such as through

building and population densities, but instead is a concept that encompasses various disciplines such as city and urban planning, environmental assessment and analysis, geography, economics, sociology and public administration (Rubiera-Morollon & Garrido-Yserte, 2020). Thus, this concept can easily lead to “ambiguity and confusion” (Arribas-Bel et al., 2010).

However, despite the continuing research on understanding urban sprawl and its multidimensionality and complexity, various definitions are currently being used in order to study, analyze the concept and devise solutions for curbing it. These definitions, it is often postulated, have a western approach of understanding and identifying urban sprawl. One of the most common features of urban sprawl mentioned in North American and Western European literature is low density. Some of the most important specifications of urban sprawl within these countries are low building and population densities, found initially in the periphery of the city, and then as planned urban areas, with lower employment opportunities and construction rates as compared to those found in downtowns and the core of the city. Furthermore, in sprawled areas in western countries, not only is there a lack of diversity of housing options, but there is also a lack of adequate transportation choices, both of which decrease the accessibility of urban spaces and encourage the use of personal automobiles. Ebrahimpour-Masoumi (2012) highlights the reciprocal relationship between personal automobiles and urban sprawl and asserts that urban sprawl encourages the need for personal cars whereas the presence of personal automobiles in itself also simultaneously stimulates the development of sprawled areas. Moreover, scattered or leapfrog developments and commercial strip developments are a common development pattern and urban layout of sprawled regions within the North American and Western European countries. Despite the various similarities between urban sprawl in North American and Western European nations, there are also numerous differences amongst them. For example, where in North American countries residents prefer relocating to the suburbs in order to escape the city center and experience the benefits of both urban and rural areas, urban sprawl in Western European cities, particularly after WWII, goes hand in hand with deindustrialization, the deterioration and decay of the city core, and the consequential outward expansion of the city. In these Western European cities, urban sprawl is also used to define the peri-urban villages or

towns found between the urban area and its rural hinterland. These peri-urban settlements are fragmented, discontinuous clusters that often expand over agricultural lands and are usually a result of uncontrolled growth and the absence of adequate containment and control policies. This particular characteristic of Western European sprawling is similar to the sprawl found in Islamabad. As discussed in the following paragraphs, sprawl within Islamabad is either found in the form of slums, squatter settlements, or semi urban area within the planned urban region (zones 1 and 2), in the form of planned or unplanned settlements found in zones 3, 4 or 5 (designated in the original master plan as the Islamabad rural area for agricultural purposes and as an environmental protection zone), in and between the urban region and the hinterland of the city, and alongside major inter- and intra-city roads and arteries.

Unlike the developed world where low density and single use urban areas, the key features of urban sprawl specifically in North American and Western Europeans cities, are caused due to zoning laws and regulations, Ebrahimpour-Masoumi (2012) finds that the absence of mixed use areas in Iranian cities is not due to zoning regulations, but instead are a result of rapid urbanization, fast population increases, a lack of strict control measures, proper facilities and services and due to the fact that the government is not looking into developing new districts along existing cities. In this regard, the sprawl found in Islamabad is comparable to that found in Iranian cities. This is manifested through the various constructions found alongside major and intercity roads, both in Islamabad and Iranian cities. Since these developments are unforeseen and unplanned, their development patterns and urban layouts are considerably different from the urban forms of the cities they surround. Not only this but, although sprawled regions are often called suburban developments in western literature, Ebrahimpour-Masoumi (2012) asserts that the sprawled peri-urban territories can “hardly be called ‘suburban’ or ‘development’”. With regards to this particular characteristic, sprawl in Islamabad is both similar and different from the sprawl found in Iranian cities. That is because sprawl in Islamabad is both planned and unplanned, developed and underdeveloped. Certain sprawled regions, particularly those that are inhabited by low income groups are haphazard, have inadequate facilities, unplanned, and have a fragmented and disconnected street network. However, certain sprawled areas around Islamabad,

whether authorized or unauthorized, have been established by private land developers. These housing societies are well-planned, connected, and organized, are well-facilitated and managed, and, through the private sector, are also sufficiently provided with municipal services. Furthermore, the article discussed the urban transformation of Iranian urban centers from historical cities to more contemporary cities since World War II. Where historical Iranian cities were more compact in their urban layouts, and had higher densities, modern extensions of these cities were based on the gridiron structures with a more car-oriented development pattern and planning approach in order to facilitate the use of automobiles. Therefore, although accessibility is generally low in western sprawled regions due to inadequate or absent public transit facilities as compared to those in city centers, accessibility is higher in the Iranian sprawled areas as compared to the historical core. Lastly, where commercial strip developments are a common type of urban sprawl pattern in developed territories, these types of urban layouts are nonexistent in “Iran and similar countries and cultures”, such as Islamabad (Ebrahimpour-Masoumi, 2012).

Likewise, Sinha (2018) found various characteristics of urban sprawl in Noida city, Uttar Pradesh, India, that were “significantly different” from those in western countries. Unlike the western countries where population densities are higher within the city and lower in the periphery or sprawled regions, in Noida, the original core of the city has lower population density whereas the developments later, specifically after 2005, are characterized by higher population densities. This feature is also comparable to Islamabad where the rate of population growth is gradually getting higher than that in the urban core of the city. Moreover, although the use of personal modes of transportation is common within Noida city and in its sprawled regions, it is due to the absence of a widely accessible and efficient public transportation system and not as a result of urban sprawl or low density development. Lastly, Noida city generally has mixed use spaces, though there aren't any zoning laws and regulations which would encourage single use developments, as exhibited in developed countries.

In a similar manner to the previous research papers, Adaku (2014) compared the characteristics, causes and impacts of urban sprawl in Ghana with that in the United

States and found that although there are certain similarities in the causes and impacts of urban sprawl, the patterns of development in Ghana differs significantly from those in the United States primarily due to the differences in the cultural norms and socio-economic realities of the two regions. For example, even though population and urban growth not only induce but also shape the dynamics of urban sprawl in both developing and developed countries, in Ghana, population growth is increasingly high due to rural to urban migrations whereas in the US, particularly after the WWII, urban population increase is due to immigration. Furthermore, in the US, where certain regulations are perceived to have caused the cities to sprawl, in Ghana, a lack of enforcement of urban laws and control mechanisms promote sprawling- similar to that in Islamabad. The pattern of development and the urban layout in Ghana is also ribbon in nature as populations and developments are mostly concentrated around major highways and intercity roads, with a decline in populations and developments as the distance from the urban center increases. Since only a few cities in Ghana and in Islamabad are well developed and have adequate facilities and services, city cores thus become attractive centers for the rural populations. However, the government's inability to provide space for these new inhabitants within or around the city forces them to squat (in the form of slums) on vacant plots of land, thereby indirectly forcing new developments particularly towards the periphery of the city instead of the urban core (Adaku, 2014).

In Pakistan's 7th largest city, Gujranwala, Mehmood et al. (2017) found that rapid population increase and urban growth within the city directly resulted in urban sprawl which was found largely alongside major highways and intercity roads such as the Grand Trunk Road. Industrialization of the city, a rise in employment opportunities and the government's inability to provide living spaces, forced these new inhabitants to settle in the cheaper periphery, thereby promoting urban sprawl in Gujranwala. As evident above, developments that cause sprawling alongside major roads, along with a lack of enforcement of bylaws, policies and regulations which cause the increase of urbanized/built up area over agricultural land is a phenomena common to developing countries.

The table below (produced by the author) summarizes the various differences found in the characteristics of urban sprawl between developed and developing countries, and their relationship with Islamabad:

Table 1 Characteristics of Urban Sprawl

CHARACTERISTICS OF URBAN SPRAWL		DEVELOPED COUNTRIES		DEVELOPING COUNTRIES			ISLAMABAD
		North America	Western Europe	Iranian cities	Noida, India	Ghanaian cities	Gujranwala, Pakistan
Population density	High				✓		✓
	Low	✓	✓				
Building density	High				✓		✓
	Low	✓	✓				✓
Development pattern	commercial	✓	✓				
	Leapfrog	✓	✓				✓
	Ribbon					✓	✓
Cheaper periphery		✓	✓				✓
Lack of public transportation		✓	✓		✓		✓
Lack of accessibility		✓	✓				
Peri urban villages or towns between urban areas and hinterland are considered urban sprawl			✓				✓
Land Use	Single	✓		✓			
	Mixed use				✓		
Suburban Development		✓	✓				Yes and No
Sprawling due to	Laws and regulations	✓					
	Lack of enforcement of laws			✓	✓	✓	✓
	Lack of regional development			✓	✓		✓

These various conceptions of urban sprawl imply that this phenomenon is not only context dependent and its features vary from region to region, but that the processes and methods used for containing the sprawl must also be based upon local understandings and forms of sprawl. In this regard, it is therefore important to understand the type and form of sprawl, the reasons behind the sprawl, and consequences and impacts of sprawl from Islamabad's perspective so that we may formulate frameworks and containment policies which are pragmatic, effective, efficient and operationalizable within the region under consideration.

As mentioned earlier, one of the most paramount side effects of globalization is rapid urbanization, urban growth, and rural to urban migrations, which often manifest

themselves in the form of urban sprawl and loss of green cover. Pakistani cities are no stranger to these repercussions especially since the rate of increase of urbanization in Pakistan is 3% annually, “the highest in South Asia” (Shah et al., 2021). According to the 2017 census, 34.6% of Pakistan's total population resides in urban regions, whereas the remaining 63.6% lives in rural areas. The percentage of urban population is expected to increase to 50% by 2025. For Islamabad, however, in 1960, at the time of the city’s inception, the total population was only 45,400 persons- most of whom were government employees and their families (Shah et al., 2021). This population increased to 70,000 a decade later in 1970, and to 189,300 in 1980. After 1980, Islamabad faced a sharp increase in its total number of residents from 342,900 in 1990, to 568,700 in 2000, 804,000 in 2010 and finally, 1.100 million in 2020 (Shah et al., 2021). In the last decade, Islamabad has been experiencing a population growth rate of 3.7%, and with the population of rural Islamabad (0.90 million) added to the equation, the total population of Islamabad Capital Territory (ICT), excluding Rawalpindi, equates to 2 million (Shah et al., 2021). In fact, as mentioned previously, one unique feature of population growth in Islamabad is that, unlike the rest of the country where the urban population is gradually increasing as compared to rural regions, in Islamabad, however, the rural population has a higher rate of increase as compared to the urban population. Figure 2 below not only represents a change in demographics in Islamabad from 1992 to 2012 but also shows how, unlike the rest of the country, the rural population of the city is increasing at an alarming rate as compared to the urban population growth rate (retrieved from Hassan et al., 2016).

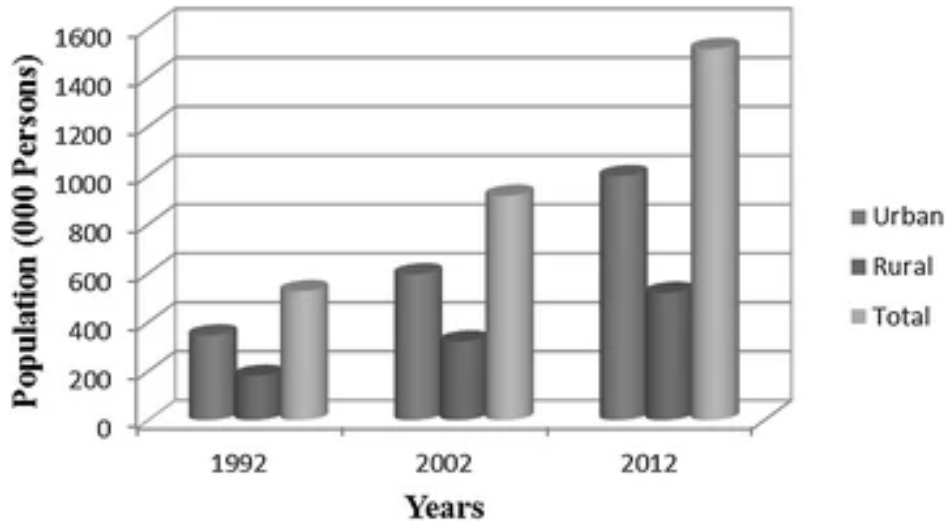


Figure 2 Population Growth Rate

Rapid urban growth, when left unchecked and unresponded to, leads to a plethora of problems in major cities. It is due to this reason that analyzing the spatio-temporal urban sprawl (“spontaneous or unplanned urban development”) and studying the land use and land cover changes (the diminution of non-urban areas within a territory) is of paramount importance today as these investigations will enable us to respond better to our dynamic surroundings, plan better urban regions and manage and prevent similar situations in the future in a more efficient and effective manner (Viana et al., 2019).

Where industrial and economic growth, and consequential increase in foreign investments, foreign remittances, along with improved transportation systems, decreased price of lands in suburban regions, and developments in real estate led Pakistan towards urbanization, Shah et al. (2021) suggests that Islamabad experienced urbanization, and hence, urban sprawl, as a result of an increase in population either due to displacement of communities of certain terrorism-struck regions in Pakistan, or investment in real estate, and development of new housing schemes. This urban sprawl, in turn, has degraded Islamabad’s environment by worsening its air quality due to increased traffic congestion, has led to several other land use land cover changes such as loss of green cover and barren lands, lowered the city’s groundwater resources, thereby creating water shortage issues in the city, and has also resulted in several societal issues manifested through housing shortages and an inequality in the provision of municipal services.

In this regard, Liu et al. (2020) assessed the sustainability of urban growth in Islamabad over four periods, between 1990 and 2018, using the object-based backdating change detection method. It is important to note that, for the purpose of this thesis, urban growth has been defined as **the planned development or expansion of the city which took place in accordance with the original master plan**- hence, planned developments in zones 1 and 2 of Islamabad will be considered as urban growth. On the other hand, **all planned and unplanned, mixed or single land use, high density or low density, developments that took place outside of Doxiadis' original master plan for Islamabad** will be identified as urban sprawl- therefore, the unplanned developments within zones 1 or 2 (such as slums or squatter settlements) and the planned or unplanned developments in zones 3, 4, 5, in the city's hinterland, or around major inter-or-intra city roads, will be considered as urban sprawl. Keeping in view these definitions, it can be postulated that all developments in Islamabad that took place in compliance with Doxiadis' original master plan are sustainable as master plans are formulated after taking into consideration the social, environmental, economic and market forces that integrate the urban, rural, and hinterland of an urban region. Likewise, all expansions, whether planned or unplanned, that do not conform with the master plan are unsustainable for the overall urban entity as these developments are fragmented, disorderly, and detached and different in terms of urban form and layout from the spatial, social, environmental, and economic forces that thrive within a planned region.

Since only zones 1 and 2, located in the west of Islamabad, were supposed to have the gridiron structure (referred to as the *urban areas* of the city), whereas the remaining 3 zones would have been the rural parts, or the city's *food basket*, hence it is often misunderstood that Doxiadis' master plan and gridiron structure was only restricted to, zones 1 and 2. On the contrary, limiting the original master plan to what is now commonly known as Islamabad's urban area (developed sectors in zones 1 and 2) and abandoning Doxiadis' metropolitan framework for the city by casting aside Rawalpindi (within which the gridiron pattern was supposed to continue), the National Park (protected area in zone 3) the rural areas (now known as zones 4 and 5), the city hinterland, and the surrounding tehsils nearby, and leaving them to their own dynamics is one of the "many failures" of the planning authorities which have created several

sustainability issues in the city today (Mahsud, 2019). However, even within the two ‘urban’ zones, large pieces of land remain undeveloped even today, particularly due to three, most commonly hypothesized, reasons: firstly, due to water scarcity issues, the CDA did not develop more land as they would be unable to provide water to these new sectors. Secondly, as a result of economic constraints. Lastly, “the capacity of the city was insufficient” due to which sector development was uneven and irregular (Liu et al., 2020). Consequently, new settlers were forced to depend upon the private land developers, the private sector, and housing societies to fulfill their housing needs and for the provision of municipal services. Not only this but large tracts of government owned vacant land also become breeding grounds for slums.

I, however, believe that although the three issues stated above might have created barriers in the development of newer sectors in zones 1 and 2, poor planning (which, for the purpose of this thesis, has been defined as, the formulation of defective strategies for the development and growth of the metropolitan region, ineffective and untimely response to unprecedented challenges, and the use of reactive planning practices) on the CDAs part was the greatest impediment in Islamabad’s environmentally sustainable development. Reasons for which will be explored and discussed in detail in the following sections.

Although Liu et al (2020) used slum development and growth in Islamabad as an indicator for assessing socio-economic sustainability and area of woodland cover & the normalized difference vegetation index (NDVI) for assessing environmental sustainability, we can utilize both these indicators for identifying urban sprawl within the city as a result of land use land cover changes. The figures 3 and 4 below produced by Liu et al. (2020) shows the land cover maps of Islamabad over four time periods (1990, 1998, 2009, and 2018) and the growth and development of slums, respectively:

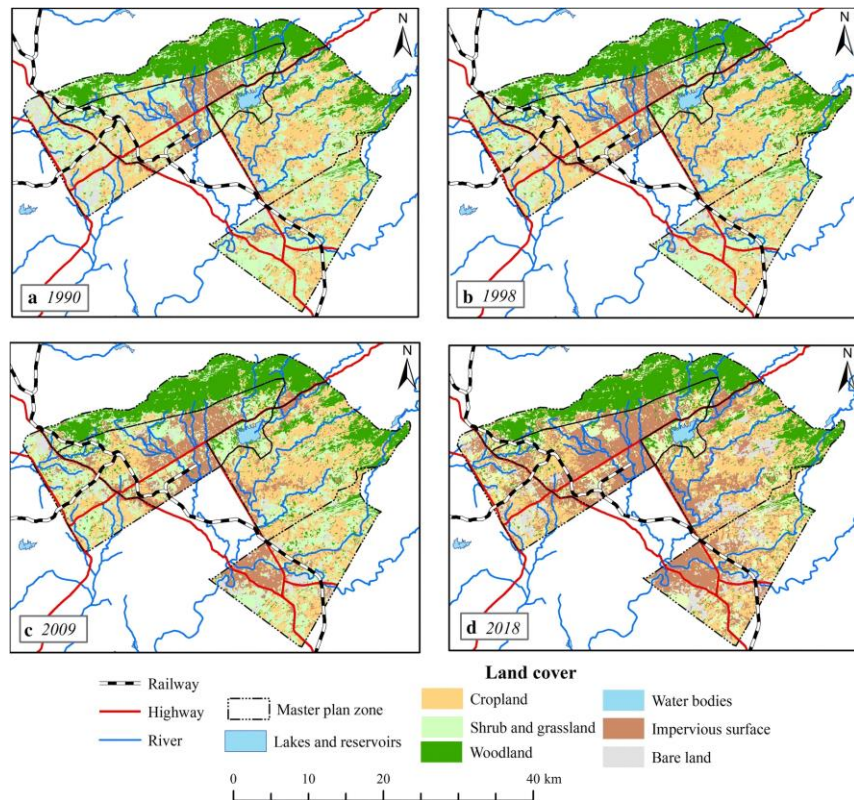


Figure 3 Area of Woodland Cover & NDVI

It can be observed from the figure above that the cropland area (shown in orange) decreased gradually from the year 1998 onwards. Concomitantly, there was a threefold increase in impervious surfaces (land covered with buildings, roads, parking lots, etc) from 1990 until 2018. This manifests that the urbanized area in Islamabad has been increasing steadily with an increase in population and a simultaneous decrease in agricultural land.

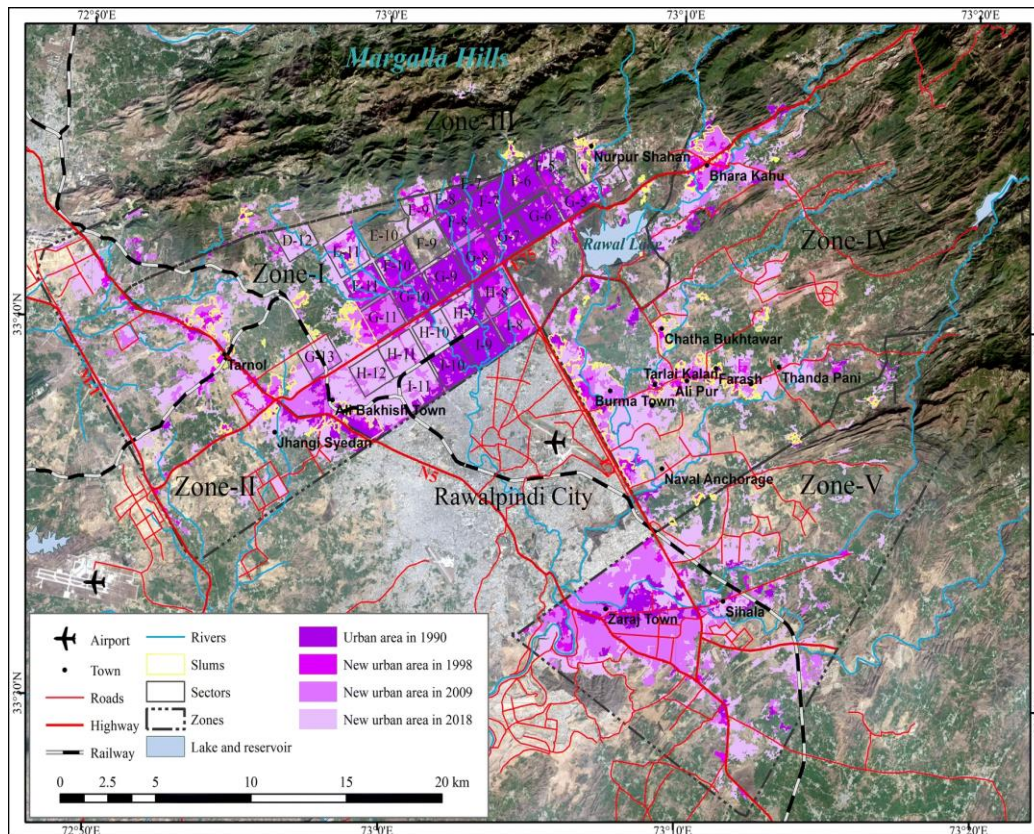


Figure 4 Slum Growth in Islamabad

The figure above, also produced by Liu et al (2020), shows the growth of urbanized land in Islamabad. It can be seen that the majority of the developments, from 1990 to 1998, were in zones 1 and 2, with the remaining in the Bara Kahu region (zone 3). Although it is unclear whether or not the developments in zones 1 and 2 were planned or unplanned, however, Liu et al (2020) did point out that developments were mainly found along the sides of the highway N5, which suggests sprawling. Despite this fact, the developments in Bara Kahu in zone 3, since they were unplanned, can easily be categorized as urban sprawl. From 1998 to 2009, although urbanized area within zones 1 and 2 increased, several housing societies (planned urban sprawl)- such as the Ali Bakhsh Town near the junction of zones 1 and 2, Ghori Town and Gulberg Greens in zone 4, Defense Housing Society and Bahria Town in zone 5 alongside the highways N5 and E2- also sprung up. Lastly, from 2009 to 2018, similar to the previous time frames, urban areas continued to expand in zones 1 and 2- though it is unclear to what extent these were planned expansion. However, Liu et al (2020) identified developments in Zone 2 alongside the

N5 highway as sprawl, and the growth of slums and squatter settlements between Ghori Town and Farash Town in zone 4 across Rawalpindi's eastern border as fringe sprawl. Finally, Liu et al. (2020) indicated various types of sprawling patterns in the Islamabad metropolitan area: "village sprawl and leapfrog", "fringe sprawl and infilling, and merge".

In a similar manner, Shah et al. (2021) examined Islamabad's Land use Land Cover changes by using GIS & RS (Geographical Information System and Remote Sensing) techniques of 4 time periods from the years 1979 to 2019 in order to identify its contribution to and its impact on urban sprawl in the city. From 1970 until 2009, they found that not only did the territorial limits of the city expand by 87.31 sq. km, but Islamabad's forest area and natural habitats also decreased simultaneously- indicating an increase in urbanized land. Between the years 1999 and 2008, in a sharp and abrupt manner, Shah et al. (2021) found that the total built up area increased by 8 times as compared to the base year (1979). This rapid increase in urbanized area can be attributed to several fundamental causes: firstly, increase in population due to internal migrations from other parts of the country, particularly those where the Pakistan Army was involved in fighting a war against terrorism. Secondly, due to the large scale development of private housing schemes due to the incentives provided by the government which decreased the price of land in the suburban parts of Islamabad. As a result of this, private developers made large investments on housing schemes in the authorized and unauthorized parts of the city. Thirdly, as a consequence of the unregulated leapfrog developments in the rural and hinterland of the city. Lastly, "poor urban planning of the city by the regulators, particularly the Capital Development Authority (CDA)" (Shah et al., (2021). This LULC change, which increased the total quantity of impervious surfaces in the city and reduced the recharging of groundwater resources, has directly impacted and decreased Islamabad's groundwater resources, thereby resulting in a water shortage issue in most parts of the city.

Shah et al. (2021) asserts that "the urban development in Islamabad has been unsustainable in many ways", as it does not lay emphasis on constructing a city that is resilient to environmental and manmade disasters, nor does it incorporate a green transportation system or support the sustainable expansion of the economic and industrial

sectors (Latif & Yu, 2020). This unplanned population and urban growth has forced the city administrators and planners to modify the master plan and “compromise over the quality of life and environment” (Shah et al., 2021). This compromise, coupled with a “lack of monitoring of the land use, poor adherence to the land use policies and lack of real time data” has resulted in the current curious case of this planned and unplanned, developed and underdeveloped, high density and low density, urban sprawl and has also created challenges for the city administration to provide basic amenities and municipal services to these new settlements (Shah et al., 2021). He concluded by reasserting the “highly unsustainable development” in the city due to an increase in new housing schemes, unauthorized settlements, and a “substantial decrease” of forest areas and water resources which has forced city authorities and administrators to regularize certain previously unauthorized constructions and developments- this has further exacerbated the environmental sustainability of the city and “jeopardized the ecosystem” of Islamabad and its metropolitan area.

As there is insufficient literature that specifically studies and sufficiently discusses the characteristics and features of urban sprawl within the Islamabad Metropolitan region, through the use of primary data, and my own observations, I have found that urban sprawl in Islamabad can be broadly categorized into the two following urban typologies:

1. The planned and privileged urban sprawl: All housing societies and regions within the Islamabad Metropolitan area which were developed by private land developers, in authorized or unauthorized areas, are examples of planned and privileged urban sprawl. This type of sprawl is mostly low in density, is well developed, and serviced by the private sector. It is found in zones 3, 4 and 5, or in the hinterland of the city and generally caters to the middle and upper income levels.
2. The unplanned and underprivileged urban sprawl: Unplanned urban sprawl, exists in all the five zones, alongside major highways, in the city’s hinterland and/or periphery, and is found either in the form of slums, squatter settlements, or semi-urban areas. These are generally high density in nature, and cater to low to middle income levels. The residents of these areas have to depend upon private sources for municipal services.

Inhabitants of the sprawled areas and those residing in the CDA developed sectors are largely dependent upon private automobiles not as a result of urban sprawl, but instead, due to the insufficient, ineffective, fragmented, unaffordable, and inaccessible (only 12% of Islamabad's residents have access to the Bus Rapid Transit System (BRT) within a 15 minutes walking distance as opposed to Rawalpindi where 56% of its residents have access (Adeel et al., 2017)) public transit system of the city. Furthermore, although existing literature describes the development patterns of sprawl in Islamabad as leapfrog, it can be propounded that the sprawl found alongside major highways in the city could be distinguished as ribbon developments.

1.4. Structure of the research

This thesis has been divided into 7 chapters:

The **current introductory chapter** aims at highlighting the importance and objective of the study, along with the methodology adopted to carry out this research. This chapter shall also review existing literature.

The primary objective of **chapter 2**, *Islamabad: A New Capital*, is to expound Islamabad's birth and creation- the need for a new capital, the selection of the site, and a description of Doxiadis' original master plan. Data for this section was gathered primarily through secondary sources gathered from the CDA's official webpage or documents, research papers and articles obtained from resources and journals available online.

The following section, **chapter 3**, *Islamabad: The Unprecedented Challenges* probes into the various unforeseen challenges Islamabad faced which impeded the kind of development that Doxiadis had originally planned, further exacerbating the sustainability issue. It will analyze, mainly through the use of primary data, the impact these unprecedented challenges had on creating the issue of urban sprawl, and its consequential environmentally unsustainable development.

In **chapter 4**, *Islamabad: Administrative and Organizational Problems*, various obstacles found in the planning and administrative bodies or within the institutional framework which impede Islamabad's sustainable growth due to increasing urban sprawl shall be elucidated. This chapter will carefully analyze and bring to light the planning institutions strategies and policies for planning urban regions and responding to the contemporary challenges of urban entities, along with their approaches on proper governance and effective management techniques. It is vital to study the role planning institutions and decision making bodies have played in Islamabad's development since its inception because these institutional and planning frameworks not only affected Islamabad's present and will influence its future but the way these bodies responded to various unprecedented challenges also significantly affected Islamabad's present development. Data for this section was gathered mainly through primary sources in the form of interviews with experts in the fields.

Before concluding the research in **chapter 6**, in the second last section of this thesis, **chapter 5**, planning recommendations and policy alternatives shall be suggested. The aim of this chapter is to suggest feasible urban policy planning recommendations which would enable us to improve our institutional and planning frameworks and formulate policies for ensuring the sustainable development of our dynamic City of the Future.

CHAPTER 2

ISLAMABAD - A NEW CAPITAL

2.1. The Need for a New Capital

Conceived and designed by a well-known international planner and architect, Doxiadis, through the years 1959 to 1963, Islamabad entered its implementation phase in the year 1961. Pakistan at the time had two wings- East Pakistan (now known as Bangladesh), and West Pakistan (now known as Pakistan) and it was under the dictatorship of General Ayub Khan.

When Pakistan came into existence in 1947, it was facing a myriad of challenges, one of which was the absence of a “suitable city which could play the role of the National Capital and serve as a symbol of the new state” (Botka, 1995). Several newly independent nations of the time were lacking a national capital either because their pre-independent capitals now lay beyond their new post-independent borders, or because of the absence of a major city within their new borders which encompassed the urban facilities and administrative and technological entities necessary within a suitable location. Under such circumstances, new states “must create an entirely new capital city to house their central functions” (Doxiadis, 1965, pg.3). For Pakistan, which, at the time, constituted both East and West Pakistan, the question was whether the city Karachi, located in the South in West Pakistan, was a suitable choice to act as the national capital for this new country, or whether Pakistan should look elsewhere. In situations like these, Doxiadis (1965, pg.3) suggests thoroughly examining why a new capital would be a better option and why the existing acting capital is insufficient and unsatisfactory. Moreover, economic, social,

technological, cultural and various other aspects also need to be taken into consideration when debating the need and requirement of creating a new capital.

For Pakistan, the choice was simple: Karachi, Pakistan's first capital, had several problems such as its difficult climate, high cost of land, and insufficient infrastructure, to name a few (Botka, 1995). Economically speaking, since Karachi already suffered from a congested urban space, as it was the only urban region with an existing seaport in West Pakistan, constructing new governmental buildings, institutions, residential areas and facilities of a certain size and capacity would mean that the total "expenditure per square foot of administrative building would be doubled" (Doxiadis, 1965, pg.5). Secondly, ideally speaking, inhabitants of capital cities should belong to various social, ethnic, economic groups in order to ensure that the capital city is a good representation of the state. And since existing cities rarely represent a country's diversity well, unless they previously served as capital cities for considerable periods of time, it can be concluded that the construction of a new capital city is imperative from the social point of view as well. Furthermore, when technological and cultural aspects are taken into consideration, existing cities often represent the past which, if it is of any cultural significance, should be preserved, and planners should refrain from disfiguring the urban form of the historical city through the construction of new buildings and functions. However, if an existing city cannot incorporate "great values of the past, it is better to open the road for the values of the future" (Doxiadis, 1965, pgs.4-6).

2.2 . Selection of a Suitable Site

The selection for the site of the new capital sparked nationwide debates for a number of years and several commissions were set up in order to evaluate the various alternatives. Ayub Khan played a critical role and took a strong interest in the decisions for the national capital as he considered the creation of Islamabad to be one of his major contributions towards the strengthening and consolidation of the new nation (Botka, 1995). The last stages of the search for an appropriate location coincided with the appointment of the consultancy firm responsible for designing the capital, Doxiadis Associates.

Although never published publicly, a report was presented to Ayub Khan that suggested two possible areas for the location of the new capital: the first was outside Karachi, and the second was situated in the North of Rawalpindi (Abbasi, 2019). On June 12th, 1959, in a public announcement, Ayub Khan chose the latter (present site) asserting that his decision was based on the recommendations and reports put forth by the committee and the advisor. Abbasi (2019) quotes Yakas' book 'Islamabad, the Birth of a Capital', who revealed that the subcommittees to the FCC also proposed various other locations, as shown below in figure 5 (retrieved from (Abbasi, 2019)), to be taken into consideration:

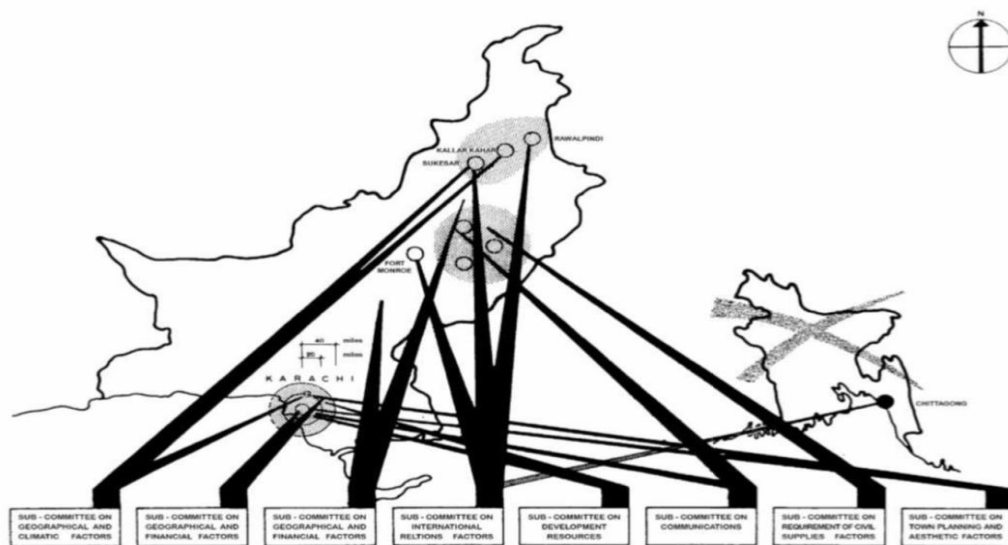


Figure 5 Alternative Locations for the New Capital

However, based on the technical justifications provided by Doxiadis and the FCC, such as those including moderate climates and location of the Grand Trunk Road, the present site on the Potwar Plateau was chosen.

Rawalpindi was an important regional center due to the fact that it housed the Pakistani Army's headquarters and hence, this fact played a substantial part in determining the broad location of the capital. The third largest metropolitan area in the country, and one of the most urbanized cities of Pakistan, Rawalpindi's urban layout is largely organic due to its village-turned-to-city history which is manifested through the architectural remains "found throughout the city from different eras including houses from the British and Mughal era in the main Raja Bazaar" (Rehan, 2019). In fact, two of Rawalpindi's major roads - the Grand Trunk Road and Murree Road - were originally developed by Sher

Shah Suri in the 16th century and were further enlarged during the British era in the mid-1800s. Even during the latter time period, Rawalpindi was an essential area as it was the British militia's preeminent garrison. This status remained with the city of Rawalpindi after Pakistan gained independence, as it was turned into the new states' Army General Headquarters (GHQ).

2.3 . The City of Islam & Ayub Khan

“Islamabad has been my dream always; and it is not a dream which is unrealistic or unwanted. The capital of a country is the focus and the center of the people’s ambitions and desires, and it is wrong to put them in an existing city. It must have a color of its own and character of its own. And that character is the sum total of the aspirations, the life and the ambitions of the people of the whole of Pakistan”

- Field Marshal Mohammad Ayub Khan, President of Pakistan
(ruled 1958-1969)

The conceptualization and inception and forethought and planning of the new capital city took place in a highly technocratic environment under the superintendence of the newly authoritarian regime of Ayub Khan (Mohr, 2009). Genesis in the absence of a democratically elected political government or public participation, the primary stakeholders in the Islamabad project were President Ayub Khan’s regime, its appointed Federal Capital Commission (FCC), a body of advisors, 14 committees (topography, climate, water, soil, transportation, health, education, administration, energy, housing, town planning, land use, building materials, economy, history, archaeology and architecture) responsible for conducting studies and surveys (Mahsud, 2011, p.40). Doxiadis Associates were first appointed as advisors to the FCC in February 1959, and then by September 1959, as chief consultants for the preparation and planning of the master plan. Behind the genesis of this new capital, as explained by I/13.Kapadia, was the “*rat race*” that Pakistan was participating in along with various other newly independent nations, such as India. Most of these nations, in an attempt to display their sovereignty and consolidate power, were under the process of relocating their national capitals. Therefore, Islamabad was built to be Pakistan’s face of economic strength, industrial and technical capacity and as a part of the then political regimes’

“modernization and nation building agenda” (Mahsud, 2011). Schatz (2003) argues that in 1997 when Kazakhstan moved its capital to Astana, this shift was “unique in the post-Soviet region, but not as uncommon in other postcolonial cases” as “capital relocation is one of the more innovative tools for building states and national identification.... (and to construct) a symbolic apparatus to propagate ideas of a leader’s political legitimacy, cultural rectitude, and effectiveness in governance”. Retrieved from Schatz’s (2003) paper, the table below lists various capital shifts which supports his arguments:

Table 2 Capital Shifts in Newly Independent States

Latter Twentieth-Century Capital Relocations¹⁵			
Case	Year	New Capital	Former Capital
Brazil	1956	Brasilia	Rio de Janeiro
Mauritania	1957	Nouakchott	Saint Louis (Senegal)
Pakistan	1959	Islamabad	Karachi
Botswana	1961	Gaberone	Mafeking
Libya	1963	Tripoli	Benghazi
Malawi	1965	Liliongwe	Zomba
Belize	1970	Belmopan	Belize City
Tanzania	1973	Dodoma	Dar es Salaam
Nigeria	1975	Abuja	Lagos
Ivory Coast	1983	Yamoussoukro	Abidjan
Germany	1990	Berlin	Bonn
Kazakhstan	1997	Astana	Almaty
Malaysia	2000	Putrajaya	Kuala Lumpur

Shortly after assuming office in 1958, Ayub Khan established the Federal Capital Commission for the purpose of recommending a location for the new capital, under the chairmanship of Major General A.M.Yahya Khan (Doxiadis, 1963). Doxiadis was named, in February 1959, an advisor to the FCC.

From the very beginning, the FCC had declared that the capital would be a city with a limited carrying capacity of 300,000 inhabitants, separated from the existing city of Rawalpindi with green belts and highways. The greater metropolitan region, consisting of Islamabad, Rawalpindi, the national park and the surrounding hinterland, would cater to a population of about 3,000,000, by the year 2000.

For the purpose of naming the new city, the FCC organized a public survey of a few thousand people. Restricted primarily to government employees, intellectuals, media persons, and other members of the civil society, the participants were asked to select one

of the following four names: ‘Islamabad’, ‘Muslimabad’, ‘Jinnahpur’, and ‘Ayubabad’. On February 24th, 1960, the federal cabinet publicly announced the results of the survey in favor of the name ‘Islamabad’, the *City of Islam* (Mahsud, 2011).

2.4 . Doxiadis’ Islamabad: A City of the Future

Over 60 years ago, Doxiadis’ master plan for the new capital was being laid out. In the past 60 years, this dynametropolis (dynamic metropolis), true to its name, has been anything but static- it grew constantly, evolved persistently, its urban form altered and stretched, its architecture modified and refashioned, and its demography and geography re-moulding its character with the changing currents of time and space. This is a remarkable achievement of Doxiadis’ plan: it provided a malleable and flexible urban plan and structure which would allow it to gradually evolve into a “metropolis of the future”. This flexible framework, which not only enables the expansion and evolution of the urban entity, but also rests upon the notion that cities cannot be confined to a fixed size and scale, became an ideal illustration for Doxiadis’ City of the Future and (Mahsud, 2011).

The post-World War II and decolonization era of the 1950s-1960s is characterized by the explosive growths and urbanization, all around the world. This meant that planning experts had to wholly rethink and reimagine the magnitude, scale, layout, form, and hierarchies of settlements that could cope with contemporary challenges of exponential growth rates and urbanization, at a social, environmental, economic, spatial and technological level. Hence, the City of the Future was one that allowed for an “optimum settlement of the future” of 3 million inhabitants, accompanied with the actual planning and designing of a city, in this case Islamabad, that would be adept at addressing the “challenges of growth in a dynamic and flexible way (a spatial framework), where high urban environmental quality is assured, human scale preserved, and where citizens sense of wellbeing is enhanced” (Mahsud, 2019). Thus, Doxiadis’ original master plan for Islamabad as the ideal city of the future was both a synthesis of various planning paradigms and models of the time, such as the garden city approach or the linear city model, and a rejection of other planning approaches, such as the “(modernist) notion of the ‘city of towers’” in order to concoct a dynamic urban form (Mahsud, 2019).

The product of such a vision resulted in the unique urban structure of the Islamabad Metropolitan Area (shown below in figure 6, retrieved from (Mahsud, 2019)) - the largest planned capital of the previous century.

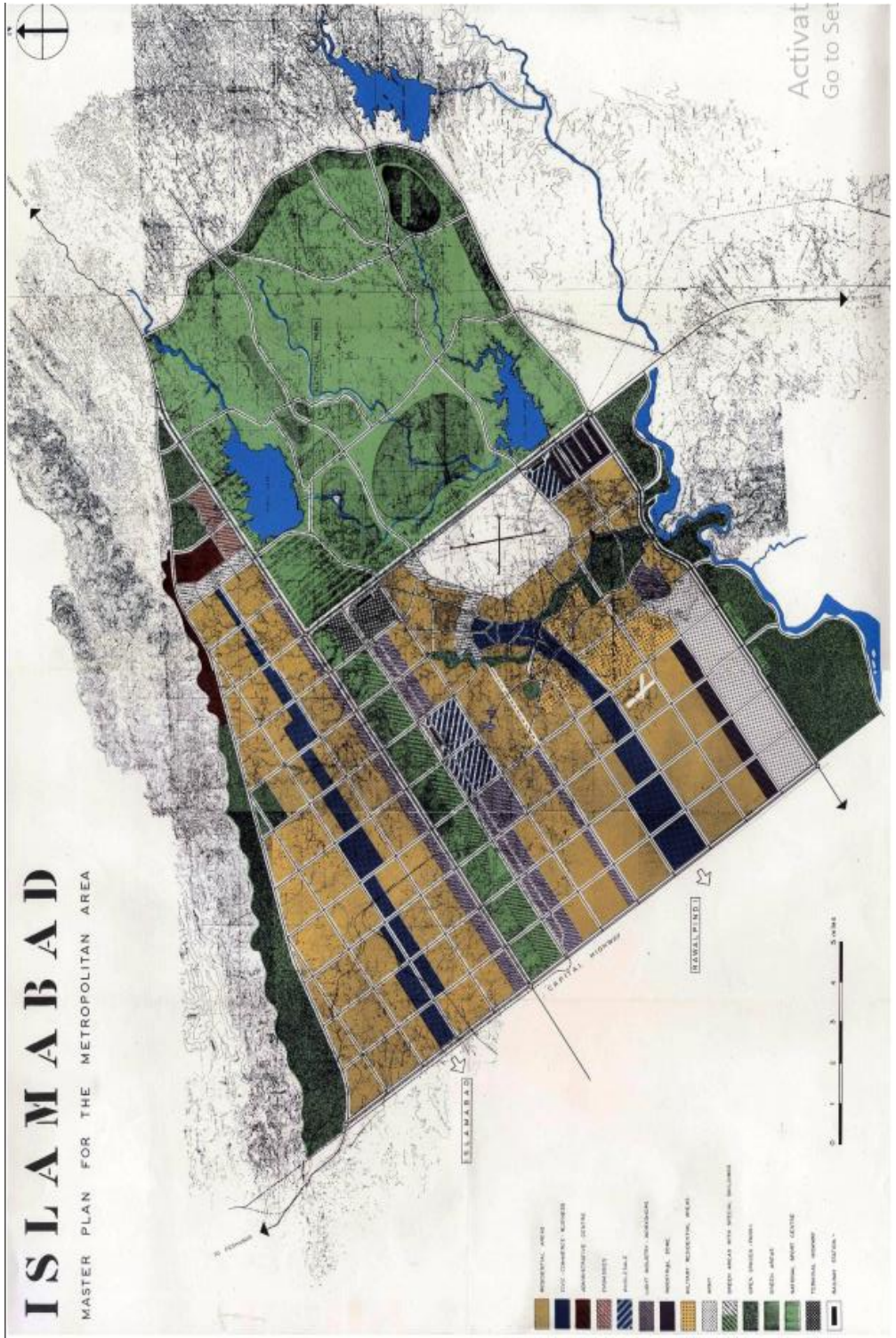


Figure 6 Master Plan

Spread over 1165km², the master plan for the Metropolitan Area included the following four constituents: Islamabad Urban Area (220km²), Rawalpindi (259km²), National Park (220km²), and the Islamabad Rural Area (466km²). This spatial framework was devised while keeping into consideration the expansion of and coordination between the greater region of a specified area of 3626km² (shown in figure 7 below, retrieved from (Mahsud, 2019)), encompassing Rawalpindi, Islamabad, and comprising of the tehsils of Taxila and Murree and, to some parts, the tehsils of Abbottabad, Haripur, and Kahuta. This regional dimension ensured that the then ongoing large scale development projects, such as the construction of the Mangla and Tarbela dams, were integrated in the planning and design process of the master plan of the Metropolitan Area through the effective flow of materials, water and energy.

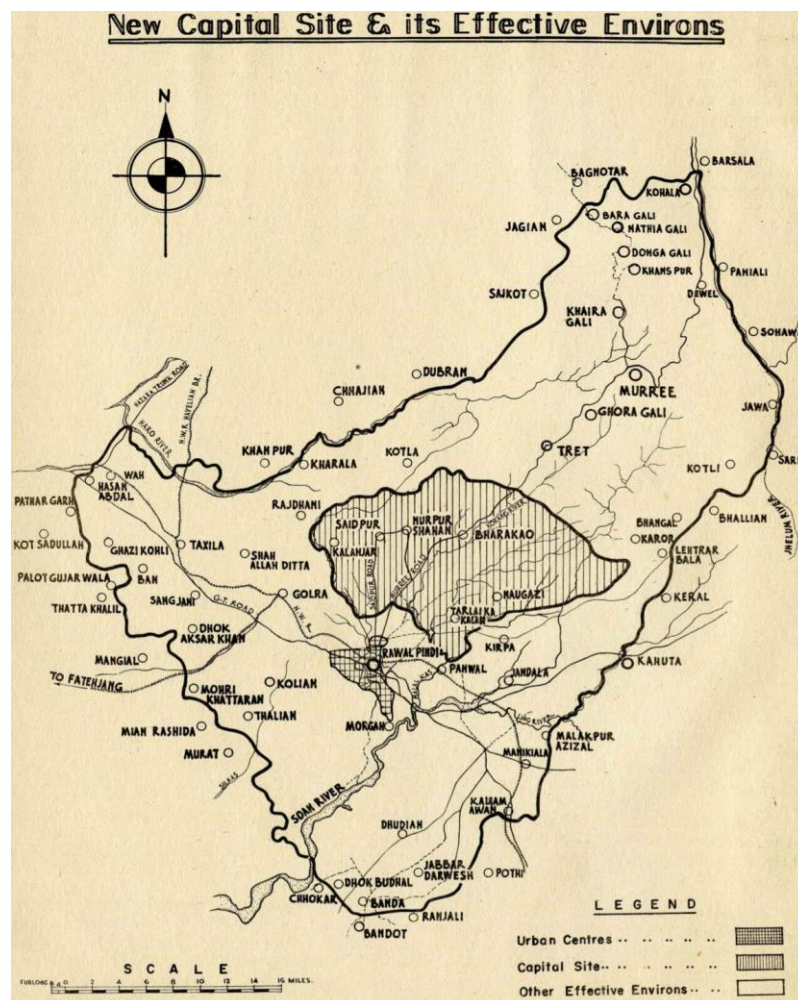


Figure 7 Effective Environments

2.4.1. World-City of Tomorrow & the Global Garden

“Nature provides the foundation upon which the settlements are created, and the frame within which they function” - C.A. Doxiadis

Doxiadis’ dynamic Islamabad, the city of the future, goes hand in hand with his harmoniously co-existing concepts of *Ecumenopolis* (see figure 8 below, retrieved from (Abbasi, 2019)) - the world-city of tomorrow- and *Ecumenokepos*- the global garden as a natural environment within this interconnected urban network (Doxiadis, 1969). For Doxiadis, the concomitant growth and development of the urban landscape and the enhancement of the microclimate of the region were a true indicator of success for the city of the future. And in this regard, Doxiadis (1965) claims Islamabad to be the best illustration of these notions.

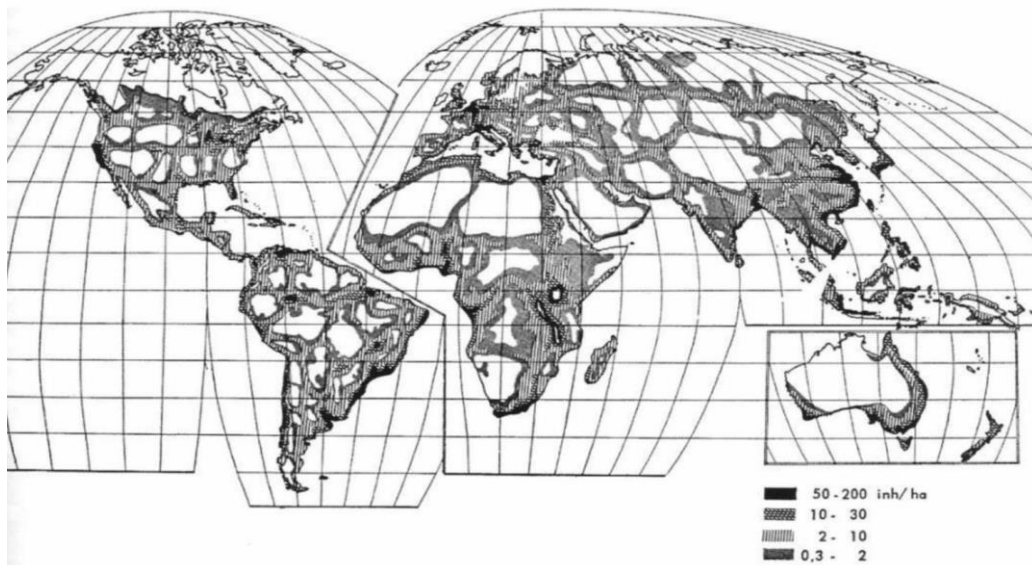


Figure 8 *Ecumenopolis*

For me, however, Doxiadis’ ability to transcend traditional conceptions of nature in the city, which have been examined in the following paragraphs- for example, through the use of gardens, parks or green belts- and instead allowing for the true penetration of nature into the city on various levels, as shown in figure 9 below (retrieved from (Mahsud, 2019)), and manifesting that contemporary phenomena such as explosive

population growths and rapid urbanization can materialize concurrently with the amelioration and protection of the environment was a commendable achievement on his part:



Figure 9 Integration of Natural Environment

Mahsud (2019) highlights some of the strategies through which this multi-scalar integration of the environment and the urban form was implemented (please note that this is not an exhaustive list):

- The overlapping of the gridiron structure over the natural ecological grid by ensuring that, within each sector, the natural streams are preserved and allowed to organically flow across the urban area and into the Soan River in the South.
- Allocating almost half of the total metropolitan area to green spaces or agriculture to ensure that the urban region does not disturb the ecological balance and is able to take advantage of the “wide range of ecosystemic benefits encompassing regulating, support, and cultural ecosystem services”
- Use of green zones that would surround each sector to “buffer noise and pollution from the ‘utilidors’ (the main transportation arteries surrounding the sector...)”.
- Urban landscape strategies of various scales, for example, the “large plantation buffer of up to 2 km width along the southern bank of the Soan River....(the) formation of landscape plantation over Margalla hills....landscape strategies from Community Class IV to the Community Class I centers and streets for creating ample shade and evapotranspiration based cooling, and so on”.

2.4.2. Transportation, Rawalpindi and the Science of Ekistics

As the planning went underway, several points of contention rose up between the FCC and Doxiadis. For example, where Doxiadis appeared to be empathetic towards the cultural characteristics manifested by the existing villages (which housed almost 6000 families) and their architectural persona, the FCC considered these to be invaluable. Likewise, Rawalpindi’s historic urban character was unorganized, unsystematic, and chaotic for Doxiadis.

For the formulation of the external boundaries and two central axes, as shown in the figure 10 below (retrieved from (Mahsud, 2011)), Doxiadis drew up the first central axis (South-East to North-West), the Islamabad Highway (14 miles long), from the centuries old Grand Trunk Road, and embellished its tip with the majestic Faisal Mosque. The second central axis ran from South-West to North-East, with the capital complex at its end. As an adamant believer of adjusting the urban landscape to the natural landscape of a region, Doxiadis selected the foot of the Margalla Hills in the north, Murree hills in the northeast, and the Ling and Soan Rivers in the south-east as external boundaries. The south-western boundary, keeping in line with his dynamic ‘City of the Future’, was chosen to accommodate expansions and growth in the future. These central axes and

external boundaries formed the urban skeleton of the metropolitan region (see figure 11 below - retrieved from (Mahsud, 2011)).

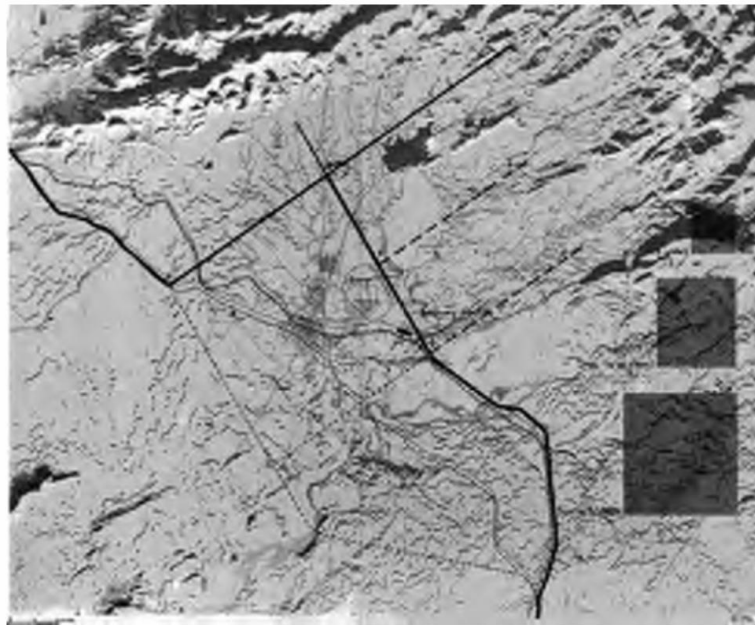


Figure 10 First Central Axis

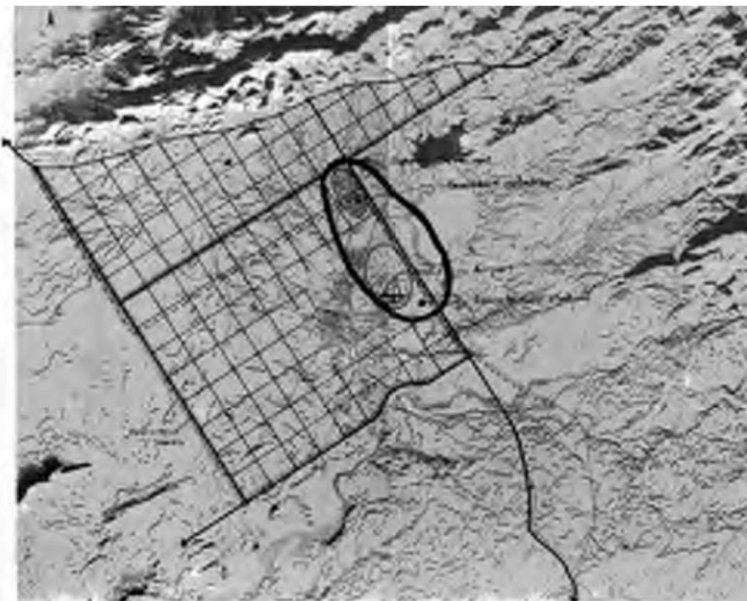


Figure 11 Second Central Axis

Based on Doxiadis' Science of Ekistics, Islamabad was a city created for the future (see figure 12 below- retrieved from (Jafri, 1967)). This characteristic was Islamabad's most

defining feature and the basis of its principle of Dynapolis. This dynametropolis, or dynamic metropolis (see figure 13 - retrieved from (Frantzeskakis, 2009)), is a “mobile arrangement which grows in scale and size smoothly and coherently with all the functions of city life at all stages of development, the city center moving proportionately with the movement of the residential sector” (Jafri, 1967).

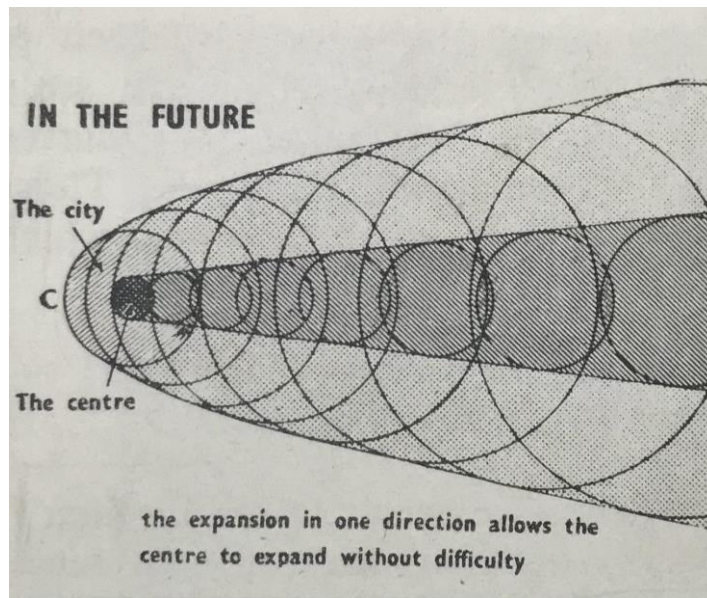


Figure 12 Concept of 'City of the Future'

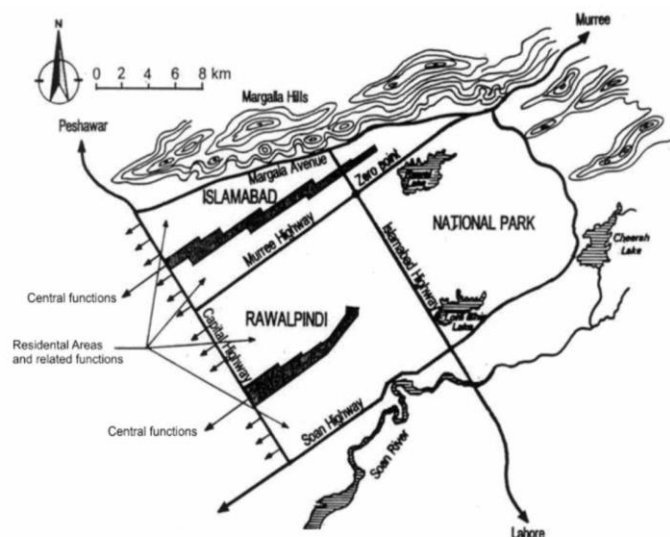


Figure 13 Concept of a Dynamic Metropolis

Built as a low-rise, (initially low-density but with the ability to turn into a) high-density, linear, compartmentalized city with a grid-iron structure, Islamabad was to act as the

administrative center whereas Rawalpindi would not only play the role of a commercial and industrial center, but would also initially function as the Capital's source of labor force and would cater to their residential, social, economic, and physical needs. There is a popular belief that Rawalpindi was supposed to cater to the housing and labor needs for Islamabad, as I/15.Ahmed stated that, "*Rawalpindi was always part of the Master Plan of Islamabad- housing was supposed to be in Pindi whereas administrative functions were supposed to be conducted in Islamabad*". Since the master plan only provided space for the clerical staff or the low paid government employees, and not sufficiently enough for the remaining low-income groups, which is a fundamental fault found within the master plan, it is often believed that these groups were supposed to be catered to by Rawalpindi. However, this is a common misconception and it is therefore, important to elucidate that Rawalpindi was supposed to act as the mother city only in Islamabad's initial years. These faults within the master plan, in my opinion, should have been detected by the Development Authority, and amends should have been made accordingly. As the new city would grow, progress and develop its own systems and spatial layout, the two cities would act as twin cities, benefitting mutually from one another, with an integrated society, labor force, economy, and environment. Both the cities were interdependent, "*intertwined*", and "*were planned to grow as a dynapolis*" (I/19/anonymous) (I/20.Pasha). Hence, since Doxiadis was very much aware of the importance of *regional* planning and the role regional factors play in the development of a city, his original master plan, which was technically only supposed to be for the capital, was called the "Master Plan for the Metropolitan Area", and the planning principles for Islamabad were also arranged to be incorporated into the urban area of Rawalpindi, thereby, allowing both Islamabad and Rawalpindi to be able to expand dynamically towards the south-west, as shown in the figure below (retrieved from (Frantzeskakis, 2009)) (Maria, 2006). In his article, 'Islamabad, Creation of a New Capital' (1965), Doxiadis postulated that Islamabad could easily be distinguished from other linear cities of its time because it is designed in a manner that it is dynamic in nature since it does not fit to fix a specific size and is flexible enough to be modified in accordance to the needs, requirements and on-ground realities of any given time (Maria, 2006).

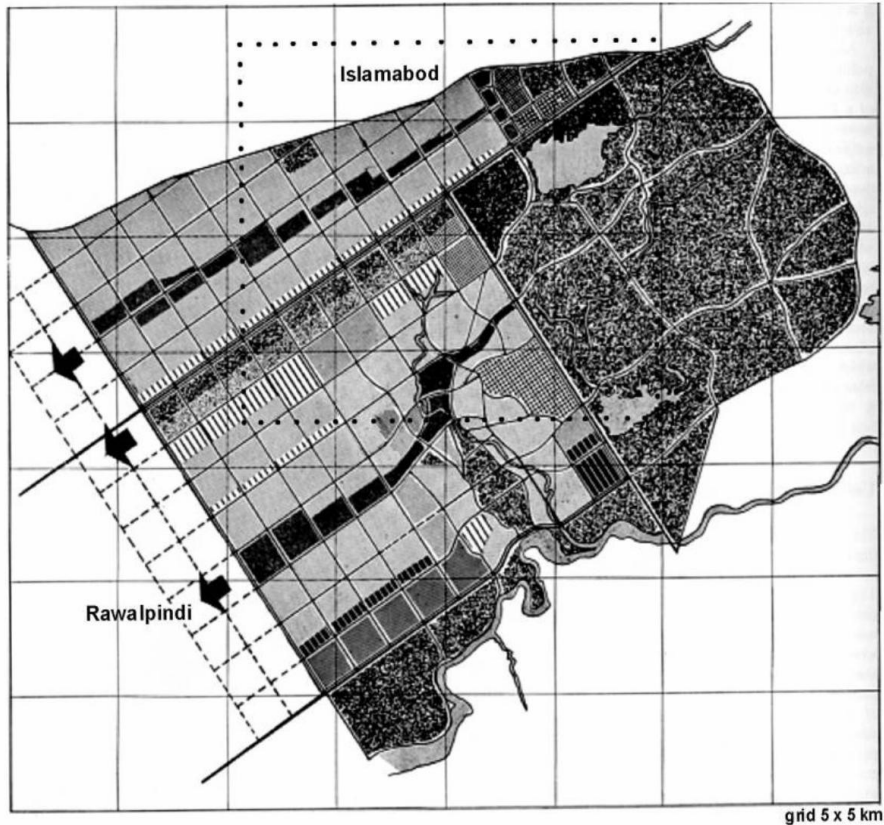


Figure 14 Growth in Dynamic Metropolis

I/5.Ahmed explained that Doxiadis had conducted empirical studies and planned Islamabad in a particular manner after careful consideration. For example, the reason why Islamabad would be built around Doxiadis' concept on Science of Human Settlements, called Ekistics, was because,

When Doxiadis was young, his father would often take him to visit refugee camps after which he realized the importance of having adequate housing in the city. Therefore, in Islamabad, the development of residential areas was important and so, it was planned that after every 2 years, city and urban planners working in the CDA would go to Greece and receive training in Ekistics.

Likewise, I/5.Ahmed continued, that the reason why Islamabad was planned as a low-rise, grid-iron structure established on the principles of dynametropolis was because,

(Doxiadis) saw that in most cities around the world, such as in the old walled city in Lahore and in the outskirts of Lahore, the city centers usually swell up with time causing traffic congestion, and/or the city grows, or urban sprawl takes place to such an extent

that satellite towns near the city end up becoming a part of the original city. Therefore, Doxiadis planned the Blue Area in Islamabad as a city center which would grow linearly. Secondly, Doxiadis planned the city in the form of a gridiron pattern. This gridiron pattern would be in Islamabad and in Rawalpindi...Because cars were supposed to be a big part of the new 20th century, quality roads were an urgent need of that time and it was planned that Rawalpindi would be bounded with big roads in the form of a grid, in order to control its swelling... Doxiadis tried to ensure that traffic congestion would not be an issue. For example, he did not allow the construction of large monuments in the city center and said that they should be located outside the city so that the city does not choke. A lot of his fellow planners advised him that he should increase density in the city and allow for the construction of high rise buildings. But Doxiadis did not permit that either because wanted the city to be free of monuments that would cause the city to choke. Islamabad was his best project.

Mahsud (2011) explains in his paper that by allowing the contemporary (Islamabad) and the historical (Rawalpindi) parts of the city to coexist by obliterating isolated high-rise buildings or monuments, Doxiadis attempted to protect and conserve human scale and “recover the intimacy of life in a sprawling metropolis”.

Furthermore, since Islamabad would be dependent upon Rawalpindi and the Master Plan’s planning principles would also be incorporated into the urban area of Rawalpindi, therefore, it was crucial that all components of the Metropolitan region would be well connected with one another “as to ensure smooth and swift circulation” (Jafri, 1967). Therefore, a road network consisting of various hierarchies and functions was integrated into the master plan, as indicated in the figure 15 below (retrieved from (Minagi, 2021)). This hierarchy incorporated “highways, principal and major roads, vehicular and effer roads, pedestrian streets, footpaths, and green walkways' ' (Jafri, 1967). The three regions Islamabad, Rawalpindi, and the National Park, along with all surrounding rural and urban areas were to be connected with four major *Highways* (intra-urban lines): Murree Highway, Srinagar Highway (previously known as Kashmir Highway), Islamabad Expressway and Capital Highway, with a width of 1200 ft. each. The sectors were planned to be linked with their adjacent sector through *Principal Roads* of a width of 600 ft. each. Where *Principal Roads* divided sectors from one another, *Major Roads* divided sub-sectors from one another. “Moreover, the *pedestrian streets* were so well-designed that they did not interfere with the smooth continuations of the roadways" (Minagi, 2021). Not only this but, “the plan also provided some flexibility within each of the largest sectors...depending upon the population density and the accompanying ridership of transportation” (Minagi, 2021). Doxiadis also established a communication center at

the intersection of 2 highways- the Islamabad Highway and Murree Highway. This Communication Center, shown in figure 16, was to act as a “communal platform for primary means of transportation (and) its functions (would include) parking for taxis and private cars, railway station, and bus terminal, whose buses connected sites both intramurally and extramurally” (Minagi, 2021).

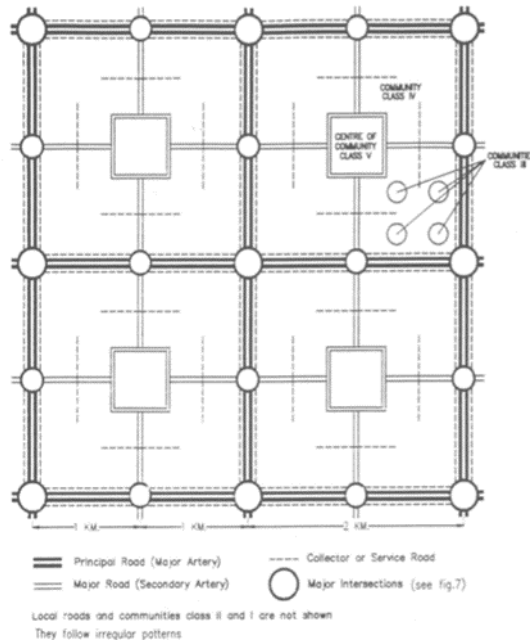


Figure 15 Road Network

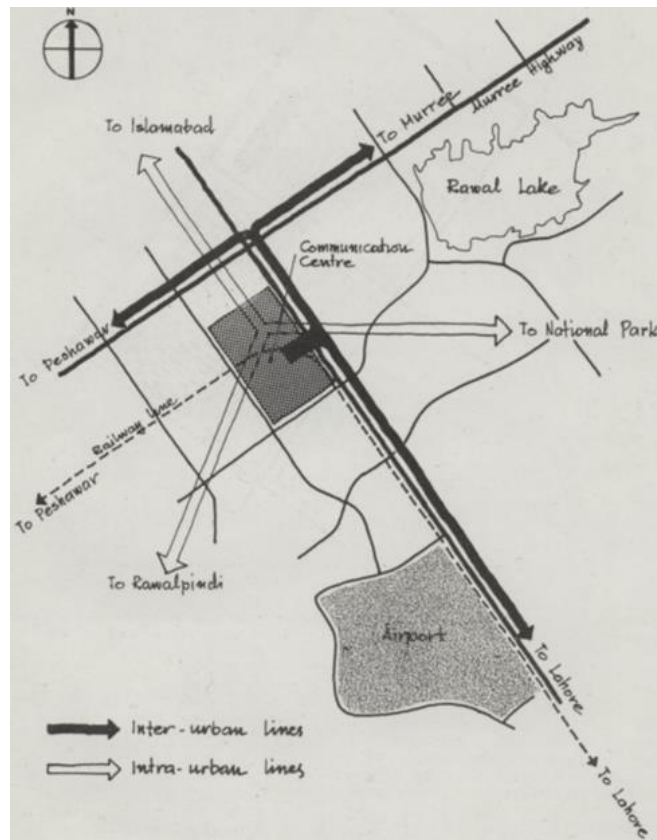


Figure 16 Communication Center

2.4.3. Compartments

Doxiadis' Islamabad was broadly divided into the 9 functional compartments discussed below (Jafri, 1967). Areas within each compartments were designed to meet distinct land use requirements such as residential, commercial, educational, and administrative: this aspect is often misconstrued and used to criticize Doxiadis' master plan as being at odds with and opposing mixed use developments. However, these distinct land uses were only for Islamabad's initial periods, and keeping in mind the dynamic characteristic of the city of the future, with time, these compartments were supposed to "develop specific identities and place qualities as they evolved making diversity of places (mix use) in the metropolitan area" (Mahsud, 2019). Unfortunately, the Capital Development Authority was unable to bring Doxiadis' vision to life and hence the city today is largely homogenous in its land use.

1. The Capitol:

Also known as the Administrative Sector, the Capitol, contains the primary functions of government. This area lies in the north-east of the Islamabad Capital Territory and it has been further subdivided into 3 areas: Upper Zone, which contains the Central Ministries and Departments, Lower Zone, which holds the cultural buildings including, but not limited to, the National Library and the National Museum, and finally the Central Zone, which houses the President's Estate, the Assembly Building, the Supreme Court, the Central Square and the Monuments.

2. Diplomatic Enclave

Situated near Rawal Lake, the Diplomatic Enclave borders the Administrative Sector and contains the “embassy buildings and residences of the diplomatic corps” (Doxiadis, 1965).

3. Residential Sectors:

The residential area has been divided into 2km by 2km sectors and the plots within each sector vary from 111 to 3000 square yards. The residing population within each sector varies according to the number and size of plots, however, generally speaking, each residential sector would initially house 10,000 to 40,000 persons (Jafri, 1967).

For identification purposes, each sector was assigned an alphabet and a number- for example, G-10, F-10, E-10, G-9, F-9, E-9, G-8, F-8, and E-8. These sectors were then divided into 5 sub-sectors with 4 residential areas and 1 commercial area- for example, sector G-10 has the sub-sectors G-10/1, G-10/2, G-10/3, & G-10/4, and has a G-10 *markaz*. Similarly, sector F-8 has the sub-sectors F-8/1, F-8/2, F-8/3, F-8/4 and the F-8 *markaz*.

4. Special Institutions:

This area acts as a section that divides the cities of Islamabad and Rawalpindi. It includes institutions such as the Central Institute of Islamic Research, Pakistan Council, Inter University Board, amongst others.

5. Industrial Zones:

Industries in Islamabad are limited to small and medium sized. Associated with daily requirements of the residents, these industries mainly include food, furniture, construction, printing, etc. The master plan incorporated two industrial areas within the territory: situated in the south was the Manufacturing Industry Zone whereas the Light Service Industries and Handicrafts industry was situated along the southern edge of the residential areas.

The agricultural areas, located in the periphery of the planned urban regions, are mainly associated with poultry and vegetable production (Liu et al., 2021).

6. Commercial Zones:

Designed to grow linearly, the Blue Area, located in between the residential sectors, is Islamabad's main civic, commercial and business district (CBD). The Blue Area supplements the commercial areas within each residential sector and also includes various offices, banks, companies, etc.

7. Forest Belt:

Devised to moderate the micro-climate, this forest belt was planned along the Soan River in the South and the slopes of the Margalla Hills in the North.

8. National Park Area:

Situated in the south and south-east of Islamabad and earmarked for academic and recreational purposes, this area constitutes centers of national importance.

9. Specified Areas & areas reserved for unforeseen circumstances

The master plan also reserved certain areas for future demands and unforeseen circumstances. In addition to this, a hinterland of an area of about 1000 sq. miles

was also designated as the Specified Areas “in order to coordinate the economic planning and development of the region for the betterment of the region as well as the urban area” (Jafri, 1967).

2.4.4. Sectors and the Urban Design

One of Doxiadis’ most innovative and pioneering contributions to Islamabad’s master plan is the concept and underlying ideology behind the size, layout and structure of the sector within the gridiron (now found only in zones 1 and 2). The 2x2 km sized sectors form the basic building block of the Metropolitan Area as shown in figure 17 below (retrieved from (Mahsud, 2019)). Several hundreds of historical cities around the world in the pre-industrial revolution era were scrutinized to unravel the scale, dimensions, layout, qualities, magnitude, “and process underlying their evolution and development” (Mahsud, 2019). The size of most of these historic cities was found to be of an average of 2 kilometers in diameter: an area that can be traversed by foot from the center to the periphery in 15 minutes time; where human scale could be protected and conserved and therefore, propinquity and vitality “could be fostered as a human community” (Mahsud, 2019). Thus, Doxiadis’ master plan mimicked the size, scale, structure, and qualities of the historic city in a carefully arranged and categorized spatial form of public facilities and spaces, in order to emulate the preservation of the human scale and human community of the historic city in the city of the future.

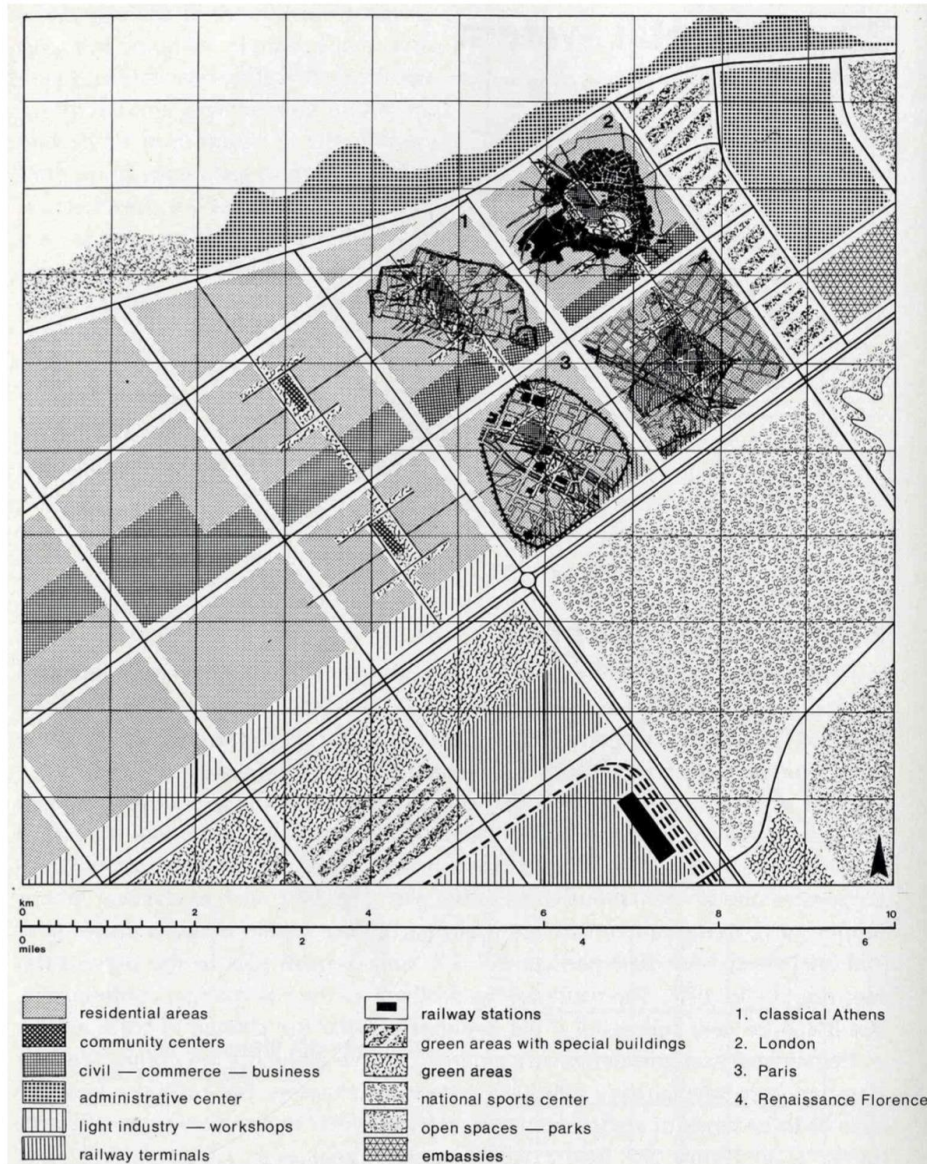


Figure 17 Residential Sector Design and Layout

The master plan strived to create self-sufficient residential sectors by grouping various areas into related communities (Jafri, 1967): Community class 1, the basic unit, consisted of a row of 10 to 25 houses which shared a small lane. Where three to five such communities, including a small playground, formed community class 2, a couple of class 2 communities formed community class 3. Class 3 communities were self-contained neighborhoods as they also included a minor market, an elementary school, a square and a mosque. Four such class 3 communities formed a bigger unit known as the community class 4. This larger group has its own community center, with a bigger array of shops, secondary schools and other amenities” (Jafri, 1967). The *markaz* discussed above forms

community class 5- this is the main civic center in each sector and it is connected to the main city center known as the Blue Area. Each sectors' *markaz* contains higher educational institutions, a mosque, post office, hospital, police station, whole scale and large retail shops and offices for local administrative services. This pattern of subsectors and community classes is repeated in every residential sector in Islamabad. The figure below depicts this structure for sector G6 (the first sector to be materialized under Doxiadis):

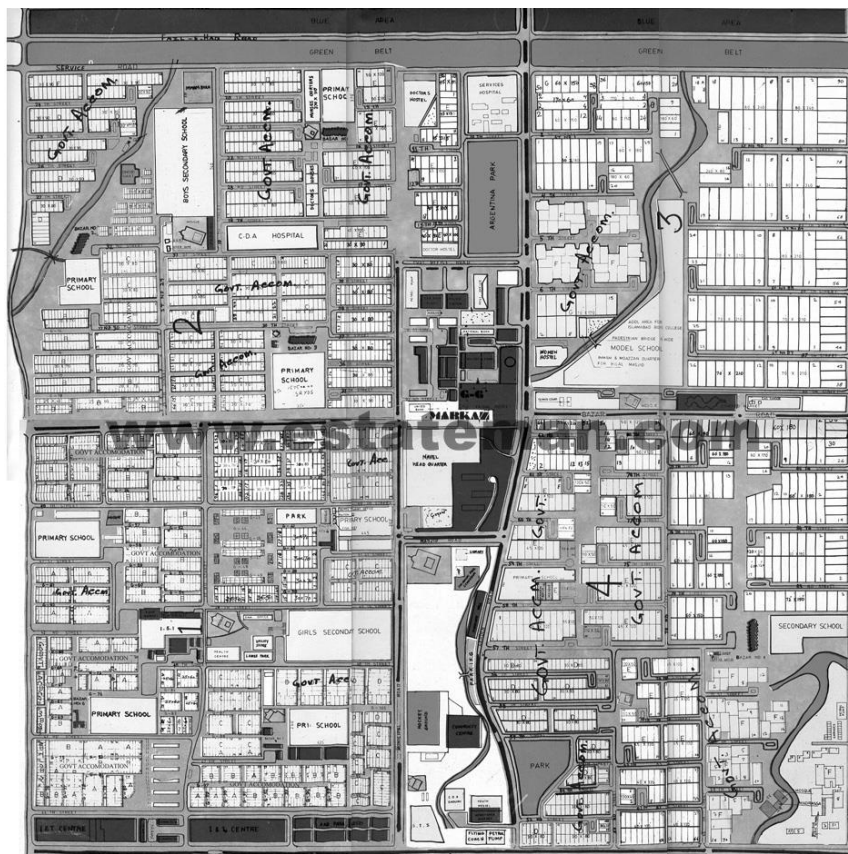


Figure 18 Sector G.6 Islamabad

Moreover, there was also an implied linkage and a coherent integration of public spaces and markets of Community Class 1 and 2 of all sectors to Islamabad's CBD, the Blue Area with a series, and a strict separation, of vehicular and pedestrian arteries.

One of the most important aspects of development of the sector was the dynamic trait embedded into its skeleton: as the city of the future grows and enlarges over time, the need to densify and rejuvenate would obviously arise. Hence, the original capacity (which was mostly single to double-storey) could be densified, without compromising

the quality of the surrounding green and public spaces. In the initial first phase development of the sector, the population could be of about 15,000 inhabitants. With time, through a process of regeneration, modernization, densification and rejuvenation, over the next 100 years, each sector would have the capacity to hold up to 80,000 inhabitants. This trait is another aspect that is often misconceived primarily because the Capital Development Authority failed to materialize this dynamic characteristic. However, this, in my opinion, is a commendable achievement on Doxiadis' part as by determining the size and form of the gridiron structure, he ensured coherence between the Metropolitan Area, and by enabling the sector to evolve as required, he provided a diversity of urban spaces in the City of Future.

Furthermore, there was also a “feedback mechanism” embedded in the development of the sector, which implied two things:

1. By observing and carefully considering what worked and what did not work in an existing sector, through a series of detailed studies and analyses, new guidelines could be developed for the design of a new sector, or for the regeneration of existing ones, and,
2. Building codes had to be reexamined, reassessed and modified in accordance with the current urban vision and urban needs, so that each sector may become, to whatever extent possible, “a compact and self-contained human community with diversity (mixed-use), intensity (high-density), and vitality of urban public spaces” (Mahsud, 2019).

In these regards, it can easily be argued that Doxiadis was farsighted and prudent. Conventional concepts of space and place, as discussed above, and the traditional planning paradigms and frameworks, which shall be discussed in detail in the chapter below, perceived time, space, as external processes in the overall growth and evolution of a city, and town planning was interpreted as a design activity that did not need to take into consideration social and economic aspects of an urban entity. For example, Le Corbusier's modernist city approach, and Howard's garden city approach both view time and space in a traditional and conventional sense. Doxiadis' planning theories and practices, and more specifically, his notion of the *city of the future*, however, transcended these conventional concepts of his time. For example, within Doxiadis' city of the future

framework, it was deeply embedded that magnitude and dimensions of a city cannot be controlled nor fixed. On the contrary, this size, scale and magnitude is dependent upon the trajectory of growth, evolution and change and must be analyzed in relation to the surrounding environment and landscape. It is important to clarify here that such a farsighted understanding of the dynamic city did not exist initially, rather it advanced and evolved during the process of the making of the Islamabad Metropolitan Framework.

2.5. Institutional Framework

Established in June of 1960, the Capital Development Authority was commissioned to organize necessary arrangements for the implementation of Doxiadis' master plan, and for the future development and construction of the city, in accordance with the master plan. The CDAs responsibilities were, however, not limited to the implementation and development of the master plan, but it included various other functions as well such as municipal administration of the urban area of Islamabad, development of resources, facilities and the hinterland, regional planning of the metropolitan region, and most importantly, enforcement, management and control, and ensuring strict adherence to the master plan and its building codes, bylaws and regulations. Additionally, the CDA was also given the task to acquire land from the inhabitants of the pre-existing villages and ensure the rehabilitation of these 6000 expropriated families. For maintaining law and order, the CDA had to work through the local administration. Furthermore, the CDA facilitates and coordinates projects financed by other bodies and agencies. Basically, the CDA's functions and responsibilities involve having to coordinate and be in close communication with the central government and its agencies, the provincial and local government and their agencies, along with various private institutions (Jafri, 1967).

With regards to the governance of the city and the institutional framework, I/5.Ahmed explained during his interview that,

Doxiadis feared that the city plan would not work, nor would the city grow as designed, if the city did not have a strong development authority backing it. He discussed his concerns with the then Dictator of Pakistan, General Ayub Khan, and Ayub Khan assured that CDA would do the job.

Likewise, I/11.Anwar elaborated on this point and explained that,

The institutional framework gave some basic guidelines but if you do not update these guidelines according to your needs/time/current trends, then you will obviously face issues. The original Master Plan was good in the sense that it provided your planning institute with an institutional framework and with guidelines but it is our job now to dovetail it with current and successful urban planning trends.

However, one important thing to note is that Doxiadis had determined that the Master Plan would be reviewed once every 2 decades in order to maintain its relevance in accordance with the on-ground realities and needs.

2.5.1. Evolution of the Local Governance System in Islamabad

The pivotal role of a comprehensive and well-devised local governance system in strengthening the overall quality of management, standard of governance and level of control is greatly acknowledged internationally. A robust local governance system not only aids in enhancing the efficiency and effectiveness in the delivery of services, but it also helps attain “goals of equity and egalitarianism in society through a restructuring of the state in favor of the weaker classes” (Murtaza & Rid, 2016). Islamabad’s local government system can be divided into two eras: pre-2015 and post-2015.

PRE-2015 ERA

Before the partition of the Indian Subcontinent, local government systems were called *Panchayat* in the province of Punjab, *Faislo* in Sindh, and in the Pushtun belt, *Jirga*. During the British era, the colonial regime introduced the “*Patwari* and the magistrate system” which was supposed to take over most of the functions of local governance that were traditionally in the hands of the indigenous bodies (Murtaza & Rid, 2016). The majority of the local government members during the British era were selected by the British bureaucracy, while only a few were elected by the local communities. Not only this but, the Deputy Commissioner, the unelected bureaucratic head of the region, was given authority over all the local functions of the region including, but not limited to, the administration of the districts, collection of revenue, and the criminal justice system. However, as a result of the increase in local pressures, the number of elected members of the local government system also kept increasing, though the British ensured the monitoring and control of these members by keeping a number of non-elected members as well. “In a nutshell, the British left behind a weak, non-representative and highly centralized local government structure” (Murtaza & Rid, 2016).

It is most commonly perceived that Ayub Khan's Basic Democracies Ordinance, 1959, and the Municipal Administration Ordinance, 1960, was Pakistan's first post-partition attempt to construct and incorporate a local government system in the country. Inspired somewhat by the British local governance structure, Ayub Khan's Basic Democracies system was four-tiered: the Union Council consisted of five or more villages with a total population of 10,000 - 15,000. Each Union Council was considered as one constituency where direct, party-less elections were held. These elected members of the Union Council then elected a Chairperson to head the Union Council. The Chairperson also was a member of the Tehsil Council, the next higher level. Sub-divisional officers, known as the *tehsildars*, "were made the administrative head of the tehsil and half of the members of the Tehsil Councils came as ex-officio members from Union Councils and half were local bureaucrats and nominated members" (Murtaza & Rid, 2016). This structure was replicated in the upper level tiers of District Council (headed by the Deputy Commissioner) and Divisional Council (headed by the Commissioner). Half of the members of these two upper level bodies were chairpersons of the Union Councils and the remaining half were *official members* selected from the local bureaucracy. This structure shows that there was minimal administrative and political decentralization as the bureaucracy still had a strong presence over the elected bodies within the Union Councils.

Later, during General Zia ul Haq's regime (1978-1988), Islamabad saw its first actual local government system (LG system). This LG system only covered 130 villages mainly in zones 4 and 5 while the urban areas of zones 1 and 2 remained out of the LG boundary. In 1981, the management of the rural areas was transferred from the CDA to the ICTA (Islamabad Capital Territory Administration), but unlike the CDA, which was always allocated large sums of funds for providing civic amenities to its regions, the ICTA suffered heavily from a lack of funding which greatly hindered its ability to provide even the most basic facilities in most parts under its jurisdiction. In 1983, 1987, and 1992, three local government elections were held respectively in Islamabad. However, only 12 Union Councils were established and given legal form with no provisions for the Tehsil or District Councils. Not only this but, it was only stated that the total number of members within each Union Council will be determined on the basis of the Union Councils' population, and no exact numbers were given. Likewise, although seats were reserved

for women, peasants, workers and minorities, the exact number of seats was not specified.

The Union Councils, under Zia ul Haq's LG structure, were granted powers to perform the majority of the development functions and to provide most of the municipal services, but all at the discretion of the federal government. Therefore, the local government did not enjoy full autonomy in their decisions and actions and were only allowed to act if the federal government deemed it appropriate. The legislation itself had a specific chapter within it which defined in length the powers of the federal government to monitor, control and inspect the capitals' local government at least once a fiscal year. Not only was the local government structure highly centralized with strong administrative tutelage, but it also was fiscally dependent on the federal government: "A 'local fund' was created for all Union Councils where all proceeds from tolls, taxes, fines and sales were pooled along with the loans and grants from the federal government. However, even from the taxes mentioned in the ordinance, Union Councils could only levy those taxes which were allowed by the federal government individually" (Murtaza & Rid, 2016).

After the local governments were dissolved in the late 1990s, no local elections were held in Islamabad, even when Musharraf issued the Islamabad Capital Territory Local Government Ordinance in 2002, until 2015 mainly due to the political instability, energy crisis, and the various security issues that had engulfed the country. Hence, the local government in Islamabad has been mostly inactive and/or absent since its establishment in 1963, and has been under the directive of the federal government.

POST-2015 ERA

In 2015, the Islamabad Capital Territory Local Government Act was established which, for the first time in Islamabad's existence, had full coverage of the entire city, included both urban and rural regions and provided local government elections under the Metropolitan Corporation of Islamabad (MCI) in the rural and urban areas of the city.

Politically speaking, unlike the 1979 local government structure within which the local government in Islamabad only existed at the Union Council level, under the 2015 Act, a two-tiered system was introduced within which the city consisted of a certain number of Union Councils (18 UC's in the urban areas and 32 in the rural) and a unified Islamabad

District. The power to determine the number of Union Councils was granted to the federal government. This authority has been abused by the two federal governments which have been in power since the formulation of this Act. For example, when in the 2015 local elections, the party Pakistan Muslim League- Nawaz (PML-N) won the chairperson position in 21 Union Councils (mostly rural) and the opposition party Pakistan Tehreek-e-Insaaf (PTI) won in only 13 Union Councils, PTI accused the PML-N government of gerrymandering by reducing the number of Union Councils in the urban areas of Islamabad where it claimed to have more support.

The Union Councils are headed by a Chairperson and Vice Chairperson who are directly elected and the council consists of six general members, two women, one peasant (if in rural area) or worker (if in urban area), one member from the youth and one member from the minorities of the region.

At the highest forum of the city's local government system is the Metropolitan Corporation of Islamabad (MCI). The MCI is headed by the Mayor and three deputy Mayors. Murtaza & Zid (2016) describes the complicated composition of the MCI and the Electoral College for the Mayoral elections in Islamabad:

All the chairpersons of the fifty UCs become ex-officio members of MCI and the Electoral College for the election of reserved seats in MCI. According to the ICTLGA 2015 article 12(2), the reserved seats for “women should not be less than 33 per cent, peasants/workers not less than 5 per cent, non-Muslims not less than 5 percent, youth not less 5 percent each and technocrat not less than 2 per cent”. For the November 2015 elections, the Election Commission of Pakistan (ECP) computed seventeen reserved seats for women, three reserved seats each for peasants/workers, youth, and non-Muslims, and one reserved seat for a technocrat (Afsar, 2016). This seventy seven-member MCI (currently) then elects the mayor and three deputy mayors of Islamabad on a joint ticket (Hussain, 2015). Following the lead from LG elections in the four provinces, in Islamabad as well, for the first time candidates of the political parties were allowed to contest the LG polls with their party symbols. Moreover, the term of office for LGs was also increased from four to five years.

Since this act was drafted unilaterally without achieving a consensus, it was largely disregarded once the PML-N was voted out in 2018. While speaking with I/3.anonymous regarding this act in October 2021, he explained that, “*I was actually involved in the formulation of this law. This law was originally meant for strengthening the MCI but now it is all up in the air*”.

Furthermore, with regards to the administrative devolution of powers under the 2015 Act, all authority, in principle, rests with the federal government, which can transfer some of its functions to the MCI, and in a similar manner, the MCI may further devolve certain functions to the Union Councils. The MCI can also perform its functions, “subject to the provision of the Capital Development Authority Ordinance 1960 and Islamabad Capital Territory Regulations 1992”, according to the article 73(1). Moreover, an unelected federal bureaucrat, the ‘Chief Officer’, will monitor and ensure that all laws, policies and frameworks are being adhered to by the MCI. Article 93 of the act states that the MCI is bound to follow all directives given by the Federal government, and if the the MCI fails to do so, and if “situation demands”, then the Federal Government can authorize any other officer to carry out that task without the consent of the MCI.

One major issue is the overlap of functions between the ICTA, CDA, and CADD. Previously, the CDA enjoyed supreme power, but now its powers have been divided between itself and the local government. However, to maintain the dominance of CDA over the local governments, the Islamabad Capital Territory Local Government Act 2015 article 3 clearly states, “no action by any authority, body or corporation shall be initiated in violation of the Capital Development Authority Ordinance, 1960”. Article 4 adds to this by stipulating that “wherever there is a clash between the existing law and provisions of this Act, the existing law (CDA) shall prevail unless clearly specified or repealed”. Despite these provisions establishing CDA’s supremacy, it took the federal interior ministry almost six months after the LG elections in November 2015 to issue the notification for the implementation of Islamabad Capital Territory Local Government Act because of the reluctance of CDA in transferring powers to LGs (Niaz, 2016). Then on June 23, 2016 an order was issued where twenty-three directorates of CDA were fully transferred (shown above in Table 4), while partial control over twenty-six others was also given to the MCI (Mohal, 2016b). Planning and development-related functions were kept with the CDA even though such functions normally come under LGs and the CADD was soon dissolved.

There are certain weaknesses or gaps in the political, administrative and financial distribution of authority within the 2015 act which have been pointed out by Murtaza and Rid (2016), which require the immediate attention of policy makers:

- Unlike the 90 days mandate for the re-election of provincial and national assemblies in case of dissolution, neither this act nor the constitution states that the local government must be immediately re-elected. This clearly manifests how inessential and redundant the Islamabad Local Government is considered to be by the governmental institutions and the development authority within the city.
- Since the Islamabad Local Government Act is not based upon a constitutional amendment and is only an act of the parliament, any future federal government has the authority to abolish it.
- Currently, the territory has been divided into Union Councils- 18 urban (one-third) and 32 rural (two-thirds)- though it is unclear whether these divisions were based on calculations of area or population since the rural areas of Islamabad are double the size than urban areas, but house almost half of the population of urban areas. Also, since the number of formed Union Councils is not mentioned in the act, political parties in power can unilaterally alter this number, and often do so in an attempt to gerrymander.
- Although this act reserves seats for peasants, workers, and other low-income workers, due to a lack of control and/or implementation, the majority of these seats are captured by affluent candidates. This means that even though there has been space provided, constitutionally, for public participation, in reality, this does not happen- thereby diminishing the efficiency of stakeholder engagement and participation
- Functions such as policing, education, transport and economic development which are generally performed by the local governments have been distributed across federal and other planning authorities, particularly the ICTA (Islamabad Capital Territory Administration), and the CDA (Capital Development Authority).
- A distribution of functions and division of powers between the Union Councils and the MCI were not clearly identified. This ambiguity results in operational inefficiency, ineffective governance, creates confusions especially during resource distribution, and is the primary cause of an inequitable delivery of services. For example, although residential sectors G and I, along with the numerous slums and squatter settlements, house the majority of the city's

population, these areas, however, enjoy relatively lower levels of municipal services and facilities and require a greater allocation of funds for a better quality of service provision.

- There is no principle for division of federal funds between the MCI and the Union Councils.
- An inadequate amount of fiscal autonomy has been granted to the Local Governments- this was manifested from the number of taxes (25 in total, minus education and health taxes), which was less than that under the 2001 Local Government system

2.5.2. The Capital Development Authority

The Capital Development Authority, formed in 1960 under the Capital Development Authority Ordinance was responsible for the development of the capital, and for the provision of municipal services as a ‘municipal committee’. Under Musharraf’s Local Government structure, the development authorities in all cities across the country, such as the Capital Development Authority in Islamabad or the Karachi Development Authority in Karachi, were to be merged, along with their staffs and assets, with their respective city governments and were directed to act as one body. However, since this act was not implemented in Islamabad, the CDA survived during Musharraf’s regime and continued to act under the 1960 Ordinance under the federal government (the federal government has the authority to appoint and dismiss the CDA chairperson, vice chairperson, financial advisor, and all other officials). The CDA Board is the authority’s highest governing body and it comprises the Chairperson, Member Administration, Member Planning and Design, Member Finance and Accounts, Member Engineering, Member Estate, Member Environment, Chief Commissioner Islamabad, and the Commissioner Rawalpindi.

Although the federal government can delegate any of the CDA’s functions (shown in the table below) to the local government, however, article 12(5) of the CDA Ordinance 1960 limits the federal government's power by stating that, “No planning or development scheme shall be prepared by any person or by any local body or agency except with the concurrence of the Authority (CDA)” (Murtaza & Rid, 2016). Simultaneously, however, under article 52(1) of the CDA Ordinance 1960, the federal government has the power

to dissolve the CDA under certain circumstances and can shift its responsibilities, assets and liabilities to any other institution.

Financially speaking, under the Ordinance, a Capital Development Authority Fund was set up through which the CDA meets its administrative, development and municipal functions. The funds are provided through grants and loans from the federal government and the revenue obtained through the sale of movable and immovable property in the city. The CDA is also eligible to receive foreign aid and loans from international donors, however only after an approval is granted to it by the federal government. The table below summarizes the functions and duties of the CDA according to the pre and post 2015 Act (retrieved from (Murtaza & Rid, 2016)):

Table 3 CDA Functions and Duties

STILL WITH CDA	TRANSFERRED TO LG IN 2016
Planning & Designing	District Health services
Urban Planning	Emergency Service, Cares Directorate
Building Planning	District Municipal Administration.
Regional Planning	Sports and culture
Housing Society	CDA Model School
Works Directorate	Coordination
Quantity Survey	Public relations
Program & Evaluation	Capital Hospital
Special Projects	Maintenance and Quality Control
Sector Development	Bulk Water Management
Program & Evaluation	Geological laboratory
Special Projects	Water and Sewerage (Dev)
Sector Development	Maintenance & Road Management Department
Parliament House/Aiwan-e-Sadr upkeep	Water Supply
Zoo & Wild Life Management	Sewerage Treatment Plant
One Window Operation	Machinery Pool Organization
Estate Management	Environment
One Window Operation	Sanitation
Land & Rehabilitation	

Overtime, the CDA has made several changes to the Doxiadis' original master plan- either in to its institutional or legal framework (such as the Islamabad Capital Territory (ICT) Zoning Regulations of 1992, discussed below), or within its urban form and design (which shall be delved into at length in the following chapters):

2.5.3. Zones

Over time, due to several reasons (including, but not limited to, a change of socio-economic realities in the Islamabad or in the country at large, or due to a lack of adequate understanding of Doxiadis' vision for the city and his original master plan), various changes were introduced within the master plan during the implementation or development phases. For example, in 1992, the CDA divided the Islamabad Capital Territory into 5 basic zones, as shown in the figure 19 below (all maps in this subsection have been retrieved from (Capital Development Authority, 2017)):

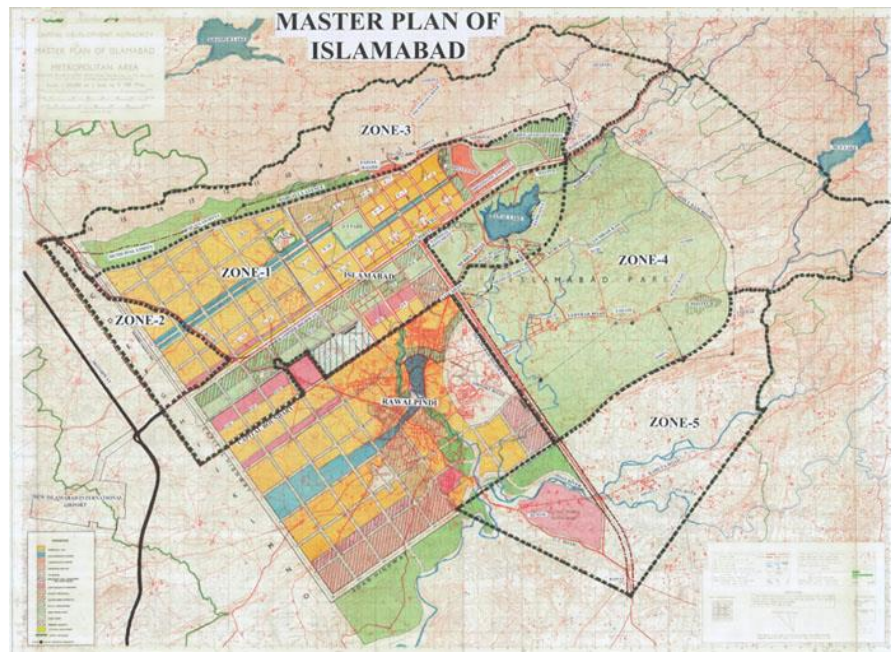


Figure 19 Zones in Islamabad

Zone 1 (shown in figure 20) includes all the residential sectors in central Islamabad and is the oldest, most organized, most developed areas in the city, and is also considered to be the most expensive region in Islamabad. As Islamabad was specifically developed to play the role of the seat of the government, it was no surprise when the majority of citizens consisted of bureaucrats, diplomats, ambassadors, politicians, and other government officials. Most of these high government officials and politicians resided in

sectors F-6 or F-7 in central Islamabad, whereas adjacent sectors G-6 and G-7 are mostly inhabited by low ranking government officials.

Doxiadis' master plan for Islamabad is now limited to zones 1 and 2 only. The sectors that form the gridiron structure have been named using alphabets, A to I, running from north to south and numerically, 1 to 18, from east to west. Some sectors are well developed, well facilitated and well managed, whereas other sectors are not (Liu et al., 2020).



Figure 20 Islamabad Zone 1

Like Zone 1, **Zone 2** (map shown below) was also left for residential purposes. However, Zone 2 was developed much more recently than Zone 1. Sectors found in zone 2, such as B-17 or D-17 are considered to be relatively cheaper in price than sectors G-10 or F-10, which were much older. These newer sectors make up zone 2 of Islamabad.

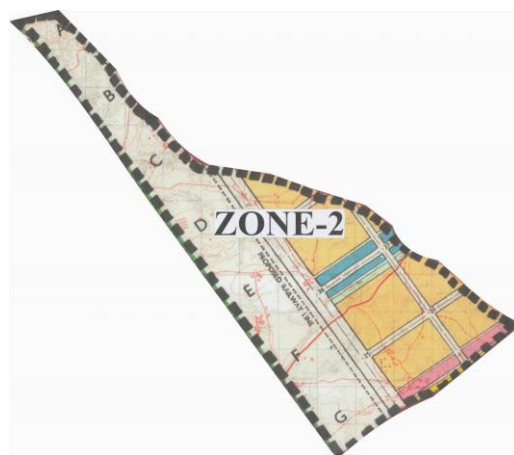


Figure 21 Islamabad Zone 2

Where Zones 1 and 2 (which was developed much more recently as compared to zone 1) were reserved for residential purposes, and is the designated ‘urban area’ under Doxiadis’ master plan, zones 3, 4 and 5 are the ‘rural areas’ of Islamabad.

Zone 3 (figure 22) is an environmentally protected area, as it consists of the Margalla Hills National Park, measuring 50,393 acres (as well as 17,000 acres of privately owned land). It consists of the Margalla Hills National Park, and is the most scenic zone of Islamabad (Abbasi, 2019). Areas within a 2km radius of Rawal Dam and Shah Allah Ditta, Lakhwal, Bani Gala, Saidpur, Kot Hathial and Sangjani are all part of Zone 3. According to the CDA’s zoning regulations, construction cannot take place in Zone 3. Characterized by piedmonts and thick forests, the master plan granted the zone 3 region with ecological protection (Jafri, 1967).

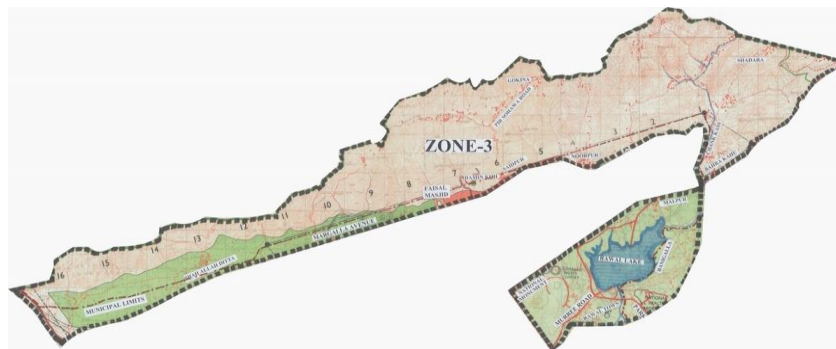


Figure 22 Islamabad Zone 3

Zone 4 is, by far, the largest in zone in terms of size (69,814 acres) in Islamabad. The two main water sources of Islamabad- Rawal Lake and Simly Dam- are located within zone 4. Originally, private houses and housing schemes were not permissible in this zone, however, since the 2014 amendments to the Islamabad Capital Territory’s Zoning Regulations, housing schemes and houses on private lands would be permissible in selected areas only (Capital Development Authority, 2014). Hence, some of Islamabad and Rawalpindi’s famous residential schemes such as Bahria Enclave, Shahzad Town are found in zone 4.

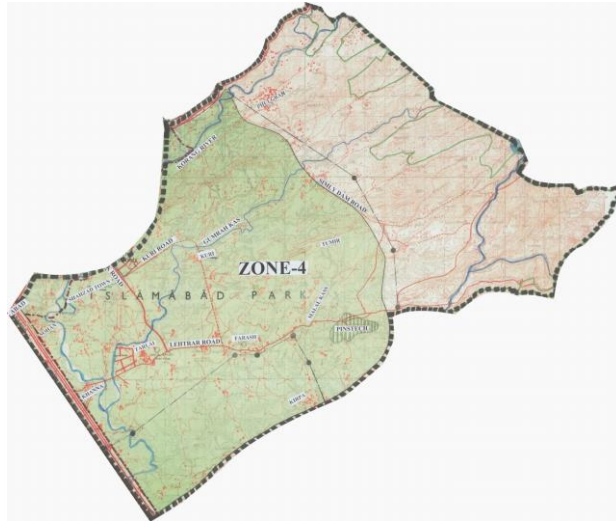


Figure 23 Islamabad Zone 4

The last zone, **zone 5** (39, 0290 acres), in the southwest of Islamabad, was developed right after the development of CDA's zone 1. This area quickly became populated due to its close proximity with Islamabad's old airport. Zone 5 also includes some famous housing schemes such as PWD, Naval Anchorage and Defense Housing Authority.

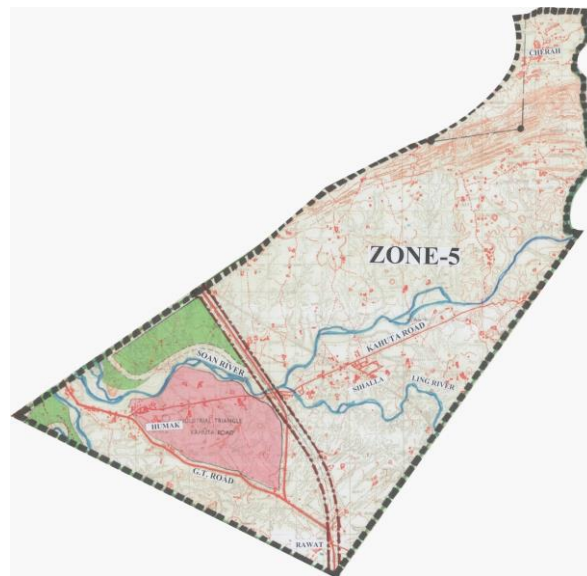


Figure 24 Islamabad Zone 5

CHAPTER 3

ISLAMABAD - THE UNPRECEDENTED CHALLENGES

Islamabad was Doxiadis' best project. It was also one of the first planned cities in the country, one that grew and developed, to quite an extent, in accordance with the Master Plan. But shortly after Doxiadis, Islamabad faced unprecedented issues in the implementation of the master plan, in the control and maintenance of the region, the rate of population growth and the rate at which development took place. These unprecedented challenges therefore created a hindrance in the kind of development that Doxiadis had originally envisioned for the Islamabad Metropolitan Region.

As mentioned previously, Islamabad was created for a certain number of people- it had a carrying capacity. According to Mahsud (2011), this capacity was "300,000" for Islamabad and 3 million, until the year 2000, for Islamabad, the National Park, Rawalpindi, and its surrounding hinterland. Today, Islamabad is the fastest growing city in the country with a population of over 1.5 million and the population of Rawalpindi crossing 2 million. The graph (figure 25) below shows the growth in population and its subsequent increase in urban area in the city (retrieved from Liu et al., 2020):

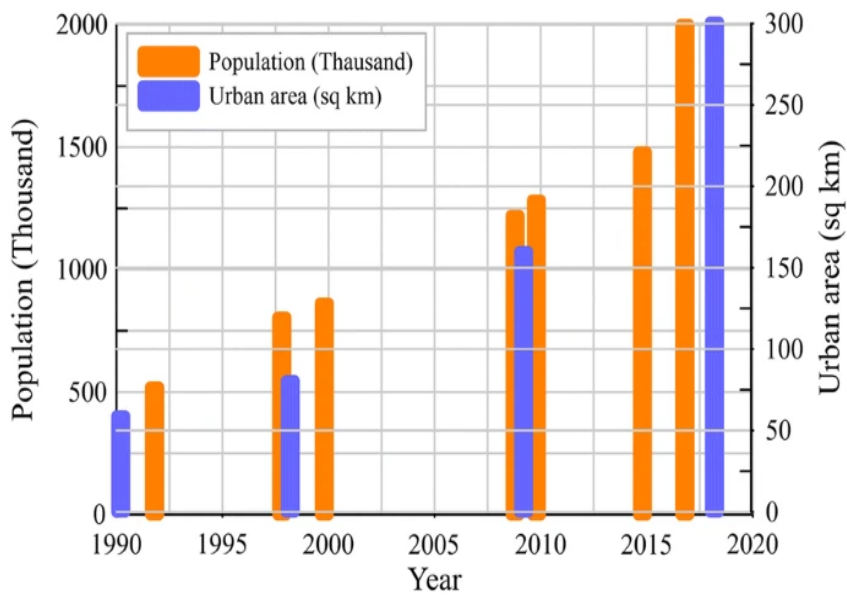


Figure 25 Population Increase & Increase in Urban Area

Over time, as the city developed and matured, it faced numerous challenges. Through the use of both primary and secondary data, many of these challenges have been highlighted below. However, it can be postulated that these challenges, although unforeseeable in nature, can be categorized into two subsections: challenges which could not have been avoided, and challenges which could have been avoided.

3.1. Unprecedented challenges which could not have been avoided

Islamabad, like most cities in the world, was affected by certain factors, aspects and/or situations which directly influenced the city's urban form, its growth of population and the subsequent sprawl: for example, the country experienced some circumstances such as the Cold War era Soviet-Afghan war and economic crises, political instabilities and dictatorships, border disputes and tensions in the tribal regions, all of which put further pressures on Islamabad mainly through migrations and a fast increasing population. In light of this, unprecedented challenges, for the purpose of this thesis, can be defined as those events or situations which hindered Islamabad's anticipated urban development, Doxiadis' envisioned urban form, and greatly altered the forecasted demographic changes and population growth.

3.1.1. Population increases due regional instability, border disputes, lack of regional development

Since its independence, Pakistan has faced a myriad of problems- other than its 3 wars with India over disputed territory in Kashmir and migrations and terrorism due to the Soviet-Afghan war, the country has dealt with political instability, long periods of military dictatorships, economic crises, to name a few- and all which fundamentally impacted the capital, Islamabad, particularly in the form of rapid population increases. Not only this but since proper development, the provision of municipal services and urban facilities is limited only to urban areas within Pakistan, as a result, a large number of residents of rural areas are drawn towards the opportunities, urban facilities and infrastructure that Islamabad could provide. The high level bureaucrat, I/9.anonymous explained that:

It was never envisioned that Islamabad would turn into such a large city and that the entire KPK province or a large number of people from the province of Punjab or from Sindh would migrate to the city and settle here. So, Islamabad has now become the fastest growing city in Pakistan, in fact in all of South Asia. There is so much in-migration that within 15 years, the city has thrice the population of its carrying capacity....Not only this but Islamabad is a beautiful city and people prefer to live here. People from KPK, north Punjab, all migrated here for better opportunities, better lifestyles. Then, after every 5 years you have a new government, so the ministers of each government want to live here as well. Retired bureaucrats shift here at a fast pace too.

Within Pakistan, a substantial share of rural to urban migrations can be associated with the fact that only a certain number of cities are well developed and have adequate infrastructure. These urban centers thus tend to attract large numbers of residents of rural areas. As a result of the increased urban density and the absence of available space, rural dwellers are forced to squat in vacant spaces, either within the urban core, or the periphery, causing the city to swell and its boundary to expand. In an unpublished research paper, through the use of primary data in the form of in-depth interviews, I found that, due to the lack of sufficient facilities, equipment, services and/or doctors in villages, rural settlements, towns, or peri-urban areas within Pakistan, critical patients, in emergencies, or for hospitalization purposes, are referred to the closed metropolitan city

such as Islamabad (for those living in the province Khyber Pakhtunkhwa, Gilgit Baltistan, or Azad Jammu and Kashmir), Lahore (for the populations of rural Punjab), Multan and Karachi (for those living in all of the province of Balochistan or from rural Sindh) (Khurram, 2021a). Medical centers within their own villages, towns or settlements are only adequate enough to provide basic first aid or immediate care. For the actual procedure or for further treatments, patients and their families must travel to the nearest urban center. Not only does this augment the pressure on the hospitals and other facilities within the capital and further increases the risk of urban sprawl, but a lack of adequate development and proper urban planning in towns, peri-urban areas or small cities within the country creates a heterogeneous, fragmented and disparate society and region and creates a sense of health insecurity and psychological despair within these people.

Although refugees from Afghanistan or internally displaced persons, such as those from the northern regions of Pakistan, did put a massive pressure on Islamabad, I/19.Ajam explained that a large number of people also settled in the city to benefit from its urban facilities:

15-16% of Islamabad's population is from KPK and a majority is from Punjab and there weren't any security concerns in Punjab as there were in KPK or Balochistan. People mostly migrated for jobs, better education, and medical facilities. So, yes, the population did increase due to migrations and also due to the natural birth rate.

Likewise, I/20.Pasha postulated that,

It (the 2001 security concerns) may have been a factor but generally speaking, there has always been a push from rural areas because there are inadequate jobs in those areas so people are forced to come to urban regions. In Islamabad, however, the rate of population growth is the highest in the entire country...there was rapid growth in the country as a whole which resulted in internal migrations and rural to urban migrations. People mostly came to Islamabad for employment purposes in hopes of finding a job and since there was inadequate housing, they began living in shanty settlements- this led to a decrease in green areas around the city.

It is true that circumstances such as these cannot be foreseen in advance and only through timely decision making processes and effective and efficient planning can these situations be dealt with sufficiently.

3.1.2. Political instability, resource constraints, and the ever-changing socioeconomic realities and norms

Political instability, resource constraints and the fast changing socio-economic realities and priorities of the succeeding federal governments were some other circumstances which neither Doxiadis, nor the planners after Doxiadis could have anticipated, and were hence unavoidable challenges.

As discussed previously, at the time of Islamabad's inception, the country was divided into two wings East and West Pakistan- with almost 3000 kilometers of hostile territory between it. The newly independent country also did not have a constitution, nor an elected government. I/20.Pasha shed light upon the fast changing realities in Pakistan during his interview and explained that,

When the planning process began for Islamabad's master plan during the late 1950s, this city was envisioned as the City of the Future. The important thing however is that the conditions during which the master plan was being designed and the conditions during which it began being implemented, during the 1960s, were very different. The original plan was quite comprehensive and was based on empirical findings while taking into consideration the mother city, Rawalpindi. Both cities were planned to grow as a dynapolis but due to the changing conditions, the original plan did not get fully implemented.

I/12.Noor had a similar explanation:

Pakistan did not even have a constitution at the time (of Islamabad's inception), nor an elected government- it had a military government run by Ayub Khan. So the dynamics and the situation on ground then were very different from the current situation...it is important to look at Islamabad from a social and political perspective as well- Pakistan in general faced a lot of security threats, political and social instability and sectarian violence over the years. These things obviously had a major impact on the capital, Islamabad.... Therefore, the social and political makeup of Pakistan is a very important factor in determining the urban development and urban makeup of any city. These security concerns greatly hindered the development of Islamabad; for example, Islamabad's International Airport was only recently built in the area where it was originally planned to be located.

Moreover, although the master plan was comprehensive, based on empirical findings, and was supposed to work in conjunction with Rawalpindi, a lack of implementation due

to financial crunches and political instability within the country also played a major role in constricting Islamabad's arteries: since Islamabad was initially planned to act as one of the two capitals for East and West Pakistan, with Dhaka being the second capital in East Pakistan, therefore, after the fall of Dhaka in 1971, and the Independence of Bangladesh, Islamabad became the sole capital of Pakistan. And, as explained by I/20.Pasha, this war between East and West Pakistan, and Bangladesh's independence, gave rise to two fundamental issues. Firstly, the war naturally created financial constraints for Islamabad's development: "*Not long after the 1965 war, a war broke out between East and West Pakistan in 1971 due to which Islamabad saw an extreme lack in funding (as a result of which) the original master plan was not fully implemented*". Secondly, the fall of Dhaka also gave rise to certain jurisdictional problems, the primary one being that Rawalpindi, Islamabad's twin city, would now be under the jurisdiction of the province Punjab and the funding both the twin cities received from the governmental bodies for developmental purposes would have stark differences between them, thereby further debilitating the implementation process:

After the provincial setups after the loss of East Pakistan in 1971, Islamabad became a federal capital. This led to some jurisdictional problems because Rawalpindi, unlike Islamabad, was in the province of Punjab and therefore, was under the jurisdiction of the Punjab government (I/20.Pasha).

However, Islamabad not only faced financial limitations within the government on a national level, but it also faced some unpredicted financial constraints on ministerial levels: Within the 2km by 2km residential sectors, Doxiadis allotted areas for educational purposes with the aim of having short traveling distances between schools and homes. However, the development of these plots was under the jurisdiction of the Federal Directorate of Education or the Ministry of Education, which did not have adequate funds to maintain and improve the quality of schools and the quality of education with time. As a result of this, a demand for private schools increased as private schools were able to fill in this gap and provide quality education and facilities to its students. And since the original Master Plan did not allocate space for private institutions to provide education within residential sectors, these private schools were only allotted land in the sector and could be constructed in the sector H (as later decided by the CDA), thereby creating a need for students to travel by road, increasing the pressure on Islamabad's road infrastructure and its environment. I/20.Pasha explained this phenomena and stated that,

In the master plan, Doxiadis had defined areas or zones, for institutions, and in addition to this, large tracts of land were allocated for education purposes within the residential sectors. However, these were allotted only to the federal directorate of education which, firstly, unfortunately, did not have enough funds to establish schools or maintain them, and secondly, they were unable to uphold the quality of education. Therefore, there was a great demand for private education, however, since land in the developed sectors was unavailable, CDA had to allot them land in the zones which were meant for other institutions. And simultaneously, there is no busing system either. In the original master plan, in the residential sectors, a child could easily walk to the school as it was designed to be close by. But now as it is at least at a distance of 5 to 10 kilometers or more, students rely on private transport, which is not a sustainable nor a desirable system.

The discussion above manifests that financial constraints due to regional and/or political instability, population increases due to border disputes, wars, or a lack of regional development, along with a change of norms, land values, and socioeconomic priorities of the country greatly hindered the Islamabad Master Plans' proper implementation and evolution. However, although unpreventable, these challenges could have been managed better if the development, planning and municipal institutions had responded in a timely manner, used effective and efficient urban planning techniques, proactive planning practices, and had better managed and governed the urban space.

3.2 Unprecedented challenges which could have been avoided

In spite of the fact that, over the course of its existence, Islamabad faced circumstances which were unforeseen and inescapable, there were certain challenges, which I believe the development authority, municipal corporations and the relevant bodies could have prevented through inculcating better urban planning techniques, utilizing proactive strategies, and simply understanding and implementing Doxiadis' true master plan.

3.2.1. Abandonment of the City of Futures' dynamic characteristic

Although popular opinion suggests that Islamabad was only built for one purpose, and that purpose was to cater to the administrative needs of the government, Mahsud (2011) argues that Doxiadis' Islamabad had a distinctive design feature as compared to other cities of its time, such as Brasilia, which followed the modernist approach to planning. This design feature which was instilled into the master plan, despite "the regime's insistence for an isolated capital", in order to materialize Islamabad's dynamic nature: it merged the "foundational" "regional", "administrative", and "cultural" functions, along

with “subsidiary functions” such as “housing, trade, industry, education” (Mahsud, 2011). However, with time, it can be postulated that Doxiadis’ vision got lost, and the nearsighted vision of the planning institutions left in charge after Doxiadis, prevailed. This new vision was oblivious, or chose to remain oblivious, to the dynamic character of an urban entity- the need of a city to grow with time economically, commercially, socially and culturally. It was expected that the city would primarily be populated by government officials or bureaucrats, and so, only they were catered for, however, it was not assumed that they would settle in the city after their services were over. For example, I/2. Chaudhry asserted that,

Islamabad was built for a certain number of people- every city in the world has a carrying capacity and Islamabad’s carrying capacity was exceeded when government officials, bureaucrats, traders, laborers, began settling in Islamabad for employment opportunities or after their retirementsthe planners underestimated, or did not foresee the large number of people that would accumulate with time and the resources they would require, the living space, the municipal services, etc.

Likewise, I/12. Noor stated that, “*Today Islamabad also faces electricity and gas shortages because no one ever expected.... to accommodate the enormous number of people living in Islamabad today*”.

Although it is true that little to no provisions were made for low income housing within the city - not only is this my observation but the current high price of land does not permit the urban poor to dwell within the urban core - however, it is of utmost importance to understand that Rawalpindi, the mother city within which the socio economic fabric already existed, was only **initially** supposed to help carry Islamabad’s weight. With time, as Islamabad and its metropolitan region would develop and enlarge, both these cities were supposed to act in conjunction, as an integrated whole. Unfortunately, the abandonment of the City of Future’s dynamic characteristics, casting aside Doxiadis’ metropolitan framework, and due to the war of politics over space whereby the province of Punjab won the jurisdiction of Rawalpindi in the early 1970s, not only resulted in a disintegrated region which impacted Rawalpindi and Islamabad Metropolitan regions’ microclimate and deteriorated its environment, but also resulted in various social disparities and inequalities such as a lack of adequate housing and public transit facilities.

3.2.2. Consequences of Climate Change

Climate change and its consequences are believed to be circumstances which planners could not have been foreseen nor avoided: 20th century cities are in contrast with 21st century cities in the sense that, where 20th century urban designs and cities were seen as tamed entities, “free of its history, ignorant of its geography”, more machine and vehicle centric, 21st century cities have inculcated the concept of sustainability, social justice, and strive to build untamed cities for humans and not machines keeping in mind that “while we are able to know more and more about the city in real time, we know less and less about the future metropolis” (Keith, 2019). These new urban designs often aim to purvey a “financially affordable, socially acceptable and environmentally sustainable” and inclusive urban area (Adeel, 2017). As I/12.Noor explained, “*Islamabad was built during a time when the primary aim of any city was modernizing it as opposed to sustainability. Therefore, the Master Plan does not take into consideration climate change or sustainability*”. The concept of sustainability, coined in the late 1980s in the Brundtland Report, and defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”, was conceived almost 3 decades after Islamabad’s inception (European Union, n.d.). Therefore, it is understandable why researchers often argue that climate change itself and its consequences were inevitable. However, in my opinion, although climate change in itself was an avoidable phenomena, its inevitable consequences, however, could have been avoided. It is true that Doxiadis’ master plan does not specifically take into consideration the **modern concept** and the **contemporary understanding** of the term sustainable development (which is not only concerned with environmental preservation but also strives to adopt a balanced model of development which preserves and protects the social and economic health of an urban entity as well). Despite this fact, as argued previously, Doxiadis was very much aware of maintaining the overall environmental and ecological balance of the urban region and ensuring that the natural ecosystem also grows in conjunction with the dynamic city. In this regard, I adamantly believe that Islamabad’s urban form, structure, and layout, in all probability, is praiseworthy and exemplary as

compared to the major cities in South East Asia which share Islamabad's climate and geography, and the Islamabad Metropolitan Framework is the best master plan that Pakistan has been able to offer since the 1960s. For Doxiadis, the success of an urban entity was defined by its ecological health, microclimate, and by ensuring that the environment is well preserved. Due to this reason, he strived to develop a framework whereby the townscape, landscape and agroecology expand and grow simultaneously. This concept is a pioneering ideology within the contemporary planning approaches used today in order to improve and enhance the overall quality of the city.

Therefore, I would argue that since environmental sustainability and the aim of maintaining the ecological balance of a city was always an important factor for Doxiadis, hence, it should have been relatively easier for city planners to avoid, even if to a certain extent only, the harsh consequences of climate change, inculcate mitigative and/adoptive measures into their planning techniques and overtime, improve upon Doxiadis' concept of *Ecumenopolis* and *Ecumenokepos* to turn Islamabad into a true City of the Future.

3.2.3. Spatial planning techniques

Another primary aspect are the spatial planning techniques which were commonly put into practice during the 1950s and 1960s. These urban planning techniques were considerably different in their ideologies, frameworks, and strategies as opposed to those planning practices which materialized later in the century with the emergence of globalization and the discussion on climate change.

Prior to the 1950s, in the early post-war era, city planning was seen to be derived from the field of architecture. Town planning was interpreted as a design activity and the 'architecture of cities' did not take into consideration the economic or social aspects of the urban entity. The overall aim of this city was to improve the physical environment of the community and ensure that public interest is achieved. Professional and technical knowledge was needed, but the options of the people were deemed unnecessary. This was the Design-Based Approach and one fundamental characteristic of this approach was that it revolved around the belief that if one can *design* a city, one can *control* all aspects within it as well, and hence, cities did not include space for unprecedented circumstances. Then, as cities began urbanizing and growing at a pace unimagined in the pre-world war

era, intellectuals and planners began recognizing the deficiencies within the design-based approach and the importance of incorporating other components within cities. Planning was hence defined by how it interacts with other aspects such as social and economic factors. This new paradigm was assumed by world renowned city planners, urban designers and eminent theorists such as Lisa Peattie, Donald Appleyard, Anthony Penfold, Kevin Lynch, Charles Abrahams, John Turner and William Porter. The realization of this new paradigm then gave birth to Instrumental Rationality and the Rational Comprehensive Planning strategies. Instrumental rationality was concerned more with outputs, as opposed to the process or the inputs. During this time period, the social sciences were also very much influenced by the natural sciences, and as a result of this, planning strategies relied on science and the positivist view, and its emphasis lay on determining single, optimal solutions. The role of the planner was to be objective, to utilize scientific approaches and methods and apprehend planning as a technical process whereby you identify problems and objectives, select instruments, and choose alternatives which would aid you in achieving your pre-defined goal. During this time period, the concept of regional planning emerged as this sort of planning was seen as a new technique for promoting and enhancing economic and social development. Unlike the Design-Based Approach, the Rational Comprehensive Planning approach understood that despite planning comprehensively and to the best of one's capacity, it is impossible to control the unpredictable nature of a city. This realization was manifested when cities, especially those in developing countries such as Pakistan were unable to focus and prioritize long term planning strategies as they often had to succumb to the urgencies and pressures of short-term matters. Not only this but resource, time and capacity constraints also hindered the prioritization of long term agendas. In response to this, comprehensive and adaptive planning styles were both taken into consideration while planning urban regions so that both short term and long term development plans could be materialized without compromising one or the other. Islamabad was designed in the midst of these two planning approaches and hence, it can be stated that the city is generally a product of these planning theories (Graham & Healey, 2007) (Taylor, 2011).

However, during the 1980s, after the penetration of postmodernist thinking and with globalization on the rise, our cities were being impacted to such an extent that the

traditional instruments for city planning and strategic spatial planning were deemed inadequate to cope with this contemporary, dynamic city with new spatio-temporalities. Therefore, in light of this new world and space-time order, a paradigm shift in city planning approaches was inevitable. It is of paramount importance to understand that these shifts were not incremental, but instead were radical because cities could no longer be scrutinized or studied using the traditional instruments and hence, there needed to be a reconstruction of the prior theory and knowledge. Therefore, the field of spatial planning changed: new actors other than civic bodies such as NGOs, environmental activists, social organizations, and lobbying and pressure groups emerged and new policy agendas including, but not limited to, economic, social, cultural, environmental, and technological aspects were incorporated. Various market-oriented strategies were adopted in order to increase foreign investments and tourism to allow for the penetration of the city into the global economy. Although, theoretically speaking, spatial strategic planning does not necessarily include or promote such competition within these *world-or-global cities*, as they are generally called (a term coined by John Friedmann), practically speaking, keeping in mind the new global and neoliberal world order, it has become a major constituent of the city planning aim. Another dominant factor that differentiates these contemporary planning practices from the traditional design based approach is that contemporary practices understand and incorporate, or aim to incorporate, a bottom up decision making process through the use of Communicative Rationality and Collaborative Planning approaches. Obviously, there were other intermediate approaches prior to the 1980's as which led up to the birth of these Communication and Collaborative Planning approaches, such as the Systems Approach, or the Planning by Projects Approach, or Advocacy or Incremental Planning, but nonetheless it were the Communication and Collaborative Planning approaches which were most influential in the planning arena. As a result, the focus in planning has now shifted towards a more consensual decision making process by involving stakeholders from various socio-economic backgrounds from an early stage (Stangl, 2008).

This evolution of the planning paradigm is the general Anglo-American framework, and is not specific to Pakistan. However, it can be used to scrutinize Pakistani planning policies since it was the Anglo-America framework which was the most influential

around the globe and hence, was, in most cases, utilized universally, obviously with certain changes made to them in accordance with the area under consideration. In several metropolitan cities around the globe, city planners not only recognize the significance of these contemporary planning practices but have now also begun incorporating them in order to enhance the quality of their cities. Islamabad, on the other hand, is still being governed and developed through the use of reactive, traditional planning approaches, with a top-down, highly bureaucratic, decision making process. This is manifested through the planning institutions' transport policies for the city. In order to manage Islamabad's worsening traffic congestion problem, planners have responded by using the conventional *Predict and Provide* approach whereby you estimate the increase in number of vehicles and the increase in demand for road space and provide by supplying and increasing road capacity through the construction of new flyovers, tunnels, roads and lanes, or through widening your existing road infrastructure. This response creates a short term relief in traffic, but in the long run, it increases traveling distances and increases the reliance on private vehicles. As a consequence, there is a rise in the number of new unexpected users and the demand for road infrastructure increases once again. This is a vicious cycle within which the problem that Islamabad's planning and development authority diagnosed is traffic congestion, and the solution that they recommend is to simply increase the supply of road infrastructure. However, in reality, due to poor planning, the formulation of inadequate, unsatisfactory and/or defective policies and strategies, ineffective responses to such challenges, and due to the planning institutions' reactive mindsets, the CDA is either unable to perceive, or is choosing to disregard that traffic congestion is an incorrect diagnosis. Traffic congestion is only a symptom: the actual issue is the ever increasing demand for road infrastructure and the solution is to abandon the *Predict and Provide* approach and instead adopt the contemporary *Predict and Prevent* approach.

3.2.4. Lack of land acquisition

It is often hypothesized as well that land development, particularly the development of residential sectors, by the CDA ceased around the early 2000's. In this regard, it can easily be argued that the CDAs lack of land development- at a time when Islamabad's demography was rapidly changing and the demand for developed land was increasing-

directly resulted in the increase of price of developed land within zones 1 and 2, thereby forcing newcomers to settle in the cheaper periphery. For example, city planner I/18.Tariq explained that, “*Urbanization of cities was happening smoothly but after the security concerns, people quickly migrated to Islamabad thereby increasing the land prices*”. I/9.anonymous had a similar stance: “*the city did not grow or develop according to this population increase*”. The lack of land development of the city in accordance with the rate of population increase is a fundamental issue behind the urban sprawl and its consequential environmental degradation. This is manifested through I/12.Noor’s statement that, “*the Sabzi Mandi in Islamabad is not large enough to cater to the needs of the population. Right now the Sabzi Mandi is located near Rawalpindi but there are currently no future plans on how it will grow or where it will be located*”. I/16.Hussain expressed it well when he explained that,

If our planners and the government had taken a timely decision then maybe we would not have had to deal with the very large, and ever increasing, number of sprawling squatter settlements and slums. Even the police are now involved with the slums because they see it as a financial opportunity. All this has to do with honesty, foresight and vision, and professional expertise.

The CDAs lack of land development was best discussed by I/3.anonymous:

One sector is developed in about a decade's time, however, our population multiplies much faster than this. This shows that we are moving backwards and not forwards. The government should keep the price of the land reasonable, and this can only be done by developing sectors at a faster pace and supplying them. Sectors are planned in the Master Plan but they are not implemented.

However, reasons behind the CDA’s loss of capacity around the early 2000’s and the consequential lack of land development are unclear and need to be further investigated.

Moreover, along with the discussion on urban sprawl as a result of the a lack of land development by the planning bodies in order to accommodate this new influx of internal and external migrants, a discussion on the CDA’s inability to timely acquire land and the examination of the CDAs management of the pre-existing villages is also necessary in understanding the urban sprawl in Islamabad. The exploration of all these challenges will begin with analysis of the pre-existing villages: where “Doxiadis showed empathy for the cultural landscape of existing village settlements and their architectural character”, the FCC considered these to be “of no value” (Mahsud, 2011). This was one point of

contention between the FCC and Doxiadis during the initial planning stages of the city. Overtime, some of these villages, such as the Saidpur Village, were integrated into the city. Some villages were granted exemptions by the ruling governments of the time. For example, Golra was granted an exemption by Zia ul Haq during his military regime from 1978 to 1988. Simultaneously, there were also several other villages which were supposed to be demolished, their inhabitants relocated, and that land acquired for development. However, two things happened with the villages which fell into the latter category: Firstly, the CDA did acquire that land, removed the inhabitants, but to this day, has been unable to relocate them elsewhere. I/7.Hasan discussed this issue and asserted that,

One sad part about Islamabad is that, whenever a new city is being built, the old residents of that area are incorporated into the new city. In Islamabad, however, those people were thrown out of Islamabad and were never incorporated into the new city. To this day those original residents do not have a claim to their land. Bylaws should be made which protect the claims of the locals- this happens in every city around the world except for autocratic cities.

Secondly, the CDA was unable to acquire these villages- I/5.Ahmed elucidated the reason behind this and stated that,

When Islamabad was being built, there were already villages that existed before. Ayub Khan thought that through the CDA, they would be able to remove these villages and ensure that all parts of the Master Plan are implemented. But the CDA failed to acquire land and some of those villages grew so much that it has now become impossible to remove them or acquire that land anymore.

As a result of this, some of these unacquired villages have today sprawled into large unplanned, haphazard, squatter settlements within the planned city, such as Mehrabadi in sector G-12 (shown below in figure 26- image retrieved from: (Najafi, 2020))

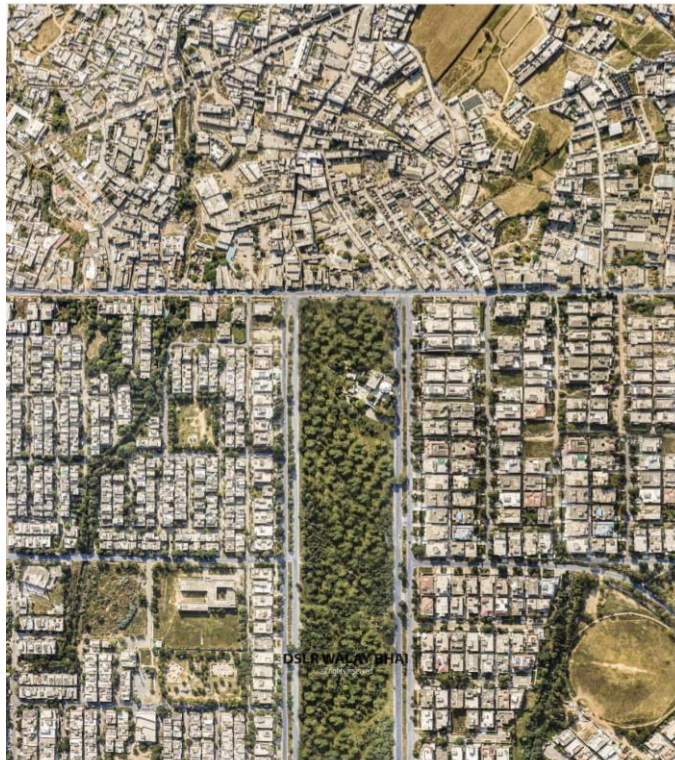


Figure 26 Mehrabadi Sector G-12

Land acquisition is of paramount importance in curbing the emergence and spread of urban sprawl. However, the CDA's land value capture and land acquisition has been deplorably low, as discussed by I/6.Javed,

The CDAs land value capture is low, and land value capture is the key to success. Look at M2, development here is done outside of jurisdiction. Before the Islamabad International Airport was built here, the price of the land was very low. And now the price is a lot due to private investment.

I/8.Nadeem expressed a similar stance:

We do not have low cost housing provision in the core of Islamabad and we also do not manage the city for all economic groups. The reason behind this is land value, land capture, power dynamics and security concerns. We are unable to give the land to the poor because our land acquisition is very poor.

I/9.anonymous, a high level bureaucrat, while discussing the topic of CDA's lack of land acquisition, explained that,

The city did not also grow according to this population increase. Because when CDA goes to acquire land, they are unable to afford such expensive lands. Because of this, land development ceases in certain parts of the city. For example, after sector G11, we could not acquire G12 because people refused to give their lands to the CDA.... So then what happened as a consequence was that Islamabad got divided to a certain extent- you had your main Islamabad, the capital territory area, which was under the CDA, and towards the ends of the city, at the end points, private housing schemes began developing. DHA, Bahria, on one side, near Tarnol, in G15 you have the Kashmir Society, in G16, G17 you have other societies, then you have your Naval Farms, etc. Like this, private societies began developing in the suburbs of your city to meet the ever increasing demand....Zone 3 is a forest area under the Master Plan. So, as per law, there cannot be development in Zone 3. But, all of Bara Kahu has developed in that zone 3. 1.5 lakh people live there. Now the CDA is stuck because construction was not originally allowed there but people still managed to make developments. Sometimes the CDA was unable to stop this unregularised construction, and at other times, the development had already been there since before the Master Plan was even made. For example, Bara Kahu is a 400 year old village.

In response to this, I/12.Noor asserted that, “*from the very beginning, the city lacked control mechanisms*”. I/20.Pasha discussed this issue thoroughly and in length as well:

(One issue that impedes Islamabad’s ability to grow sustainably) is the land acquisition issue. Private people owned pieces of land in Islamabad and the CDA did not acquire this land initially to implement the plan, and with time, their control over this land decreased and now, it is difficult to stop development on these lands because they are not the property of the CDA. You can pass laws to stop such unwanted developments but you cannot change their land use because, eventually, these villages increased in size and turned into bigger settlements. Now the problem is that due to this, the CDA does not have adequate land. And because land became inadequate, it became a commodity and an investment...Lately there has been a move towards a different formula whereby the land owners are given plots from the same sector where their land is being acquired. But, due to corruption with the Authority, the land prices for their built up property, their huts, their houses, are not paid for a number of years, or it's paid to the wrong people. Then there are court cases and the CDA remains unable to possess the land. Another thing is that, due to these court cases, or due to lethargy with regards to the decision making process within the Authority, the development does not take place in time. In one particular sector, the sector E12, more than nearly 40 years back, land was allotted to people, and yet the development has not taken place. And for a large part of the sector, possession of the land has not been taken by the CDA from the original land owners. This delay in handing over possessions results in increased costs, and harassment for the people who have been allotted plots but cannot get their possession from the CDA.

3.2.5. Lack of timely revision of the master plan

When developing master plans, planners understand the dynamic nature of their creations, and hence, prescribe the revision and review of these plans in accordance with the changing realities. Experts have often expressed that if the time limit for the revision of the master plan had been shorter, instead of reviewing and modifying it after every 2 decades, most of the issues discussed above might have been better managed or avoided

entirely. For some planners, considering the rapid demographic changes and the increasing needs of these populations, a review after every 5 years would be most fitting for Islamabad. For example, I/13.Kapadia, an architect with a PhD in urban sustainability, proposed that,

A review after 20 years is not good, this time frame is too long. We should have small 'in between' reviews after 5 years or so because now Islamabad's population is greatly dependent upon migration- most of the current population is migratory. This 5 year review should be based on demographic changes because any plan for low cost housing goes down the drain as prices increase because people enter the city and buy land. (Review the master plan every 5 years) to control ad hoc planning, not so you can change Doxiadis' vision.

Other planners suggest that 5 years is too short a time period, and a reviewing or modifying the master plan every decade would be more appropriate. I/3.anonymous, for example stated that we should “*review the MP after 10 years after carrying out a thorough study and also make it compulsory for the government to amend the MP within this time period*”. Simultaneously, there were also respondents who, like Doxiadis, advocated for revisions and reviews once every 2 decades.

In my opinion, however, it is not the time frame of the master plan, but the act of actually revising the master plan which is of greater importance, especially in countries like Pakistan where political stability and political will, along with the institutional capacity, are often low. Islamabad could have avoided most of the troubles it faced, or could have responded much more proactively if, I believe, the planners and federal government had reviewed, revised and approved the Master Plan, in accordance with the planning paradigms and the fast changing ground realities. However, this did not happen and there are various factors which delayed the review and revision of the master plan. As discussed earlier, unlike other major cities in the country where the development authorities are autonomous bodies, the CDA in the capital city, however, has often been seesawing between the bureaucracies in different federal government divisions. Secondly, the functions and duties of the CDA are very vast as it is not only responsible for the planning and development of the city but has also been managing and providing the municipal, health and other primary services of the city. This has resulted in the shifting of its prime focus as an organization responsible for developing new guidelines, formulating strategic plans and implementing short and long term urban policies to one

that is largely firefighting and dealing with day-to-day issues in the provision of urban services. Thirdly, since the federal government, in connivance with the bureaucrats, is greatly involved in running the CDA, the priorities and goals of the development authority were always subjugated by the politically motivated policies of the government in power. In most of the instances, the interests of the ruling party in particular and the parliamentarians in general had effectively downplayed the need for rational and effective review and revision of the master plan. As a result, very often, any reviews or revisions which were not in line with the self-interests of the influential political elite were scrapped off or modified without considering the sustainability of the master plan and the future needs of the city. Moreover and most importantly, the CDA itself also did not exhibit as a dynamic and self-contained organization which had the will and the capacity to review, revise, and reassess the master plan with time.

The last party in power, the Pakistan Tehreek-e-Insaaf (PTI) has been the third government since Islamabad's inception over 60 years ago, which has attempted to revise the capital's master plan (Abbasi, 2022). From December 2018 to January 2019, the PTI government put together a commission, but even 3 years later the CDA along with this commission has only been able to propose new bylaws for zones 4 and 5, and has paved the way for the regularization of construction in areas which were not allowed in Doxiadis' master plan. However, this interim report prepared by the commission did not actually revise the master plan, stating that it was meant to be done by a professional consultant firm, one which has not been hired to this day. With the inescapable departure of the PTI government after the Prime Minister Imran Khan faces vote of no-confidence on April 10th, 2022, as it has already lost its majority in the National Assembly, "the revision of the master plan, it seems, will also be shelved" (Abbasi, 2022). In 1993, and then again in 2007, the CDA attempted at revising the master plan. However, on both occasions, the revisions did not get an approval from the federal government due to which Islamabad continued to follow the plan which was made decades ago. This manifests four things:

1. Efforts to revise the master plan are initiated by the federal government, not by the CDA. This means that if Islamabad is not on the federal governments' priority

list or agenda, a lack of political will would mean that Islamabad would be disregarded completely during that governments' tenure.

2. Despite being on the federal government's priority list, substantial modifications have not been made to the master plan within the tenure of the PTI government- this shows lethargy, a lack of capacity and will, or all three, within the CDA. For example, I/13.Kapadia asserted during her interview that,

According to the Master Plan, the Master Plan was supposed to be under the authority of the CDA and that it would have to be reviewed after every 20 years...However, CDA's reviews were pretty superficial and did not take into account ground realities.

This became one of the greatest causes behind Islamabad's urban sprawl and a great hindrance in Islamabad's sustainable development. As I/6.Javed and I/8.Nadeem, respectively, expressed, "*Islamabad was never designed for such a large population*" and because the city could not accommodate this population, the city sprawled: "*it is the urban sprawl that has created problems*".

3. Vested interests within the federal government and the CDA, and the conflicting interests of strong land developers, play a major part in deciding which revisions are approved and which are not. The urban poor, the marginalized, and all those who are affected the greatest by the decisions made by institutions, do not have the least say.
4. Finally, and most importantly, although the unexpected factors did create hindrances in the development of the city in line with Doxiadis' master plan, the CDA could have, and should have, responded better to these issues. Islamabad was conceived at a time very different from today, both in terms of planning practices, on-ground realities, and aims of the government. That is because Islamabad was designed as a dynapolis, and as stated by I/14.Zakir, "*anything that is a dynapolis is dynamic. Islamabad, on the other hand, is static, it is static because it is only, technically speaking, but not always practically, revised after every 20 years*". And with the change in circumstances, it was of paramount importance that the CDA, and all other planning institutions involved in the city,

improved its capacity and evolved its methods as well simultaneously- which it did not.

Therefore, in light of these revelations, it is essential to scrutinize these planning bodies and examine the role each institution, along with the federal government, play in Islamabad's decision making process.

CHAPTER 4

ISLAMABAD - MANAGERIAL AND ORGANIZATIONAL PROBLEMS

Before delving into the discussion of managerial and organizational issues, it is of paramount importance to mention that following points: Firstly, although we cannot disregard the substantial role that political, social, economic and various other dimensions play at in the urban planning processes, on local, provincial, and national levels, however, for the purpose of this thesis, this section will only specifically delve into the managerial, organizational, institutional and technical aspects of urban planning within Islamabad.

Secondly, it is important to understand the role various bodies play in the administration of the capital city. At present, there are 3 primary bodies involved, other than the federal government, in several ways, in the development, monitoring and control, and for the provision of municipal services in the urban (zones 1 and 2) and rural (zones 3, 4 and 5) parts of the city:

Union Councils

The duties and functions of the Union Councils include both the management and provision of municipal services - such as ameliorating public spaces and streets, preventing encroachments, or determining the deficiencies found within the delivery of services and providing recommendations to the Metropolitan Corporation in order to fill in the gaps - enhancing social interactions and improving the quality of life through arranging recreational activities; arranging the registrations of births, deaths, marriages of the population living within their jurisdiction; and ensuring the health, safety, welfare and comfort of its inhabitants

The Unions Councils are also permitted to levy taxes including, but not limited to, entertainment taxes, taxes for the municipal services provided by the Union Councils (such as garbage collection, execution or maintenance taxes (applied on projects of public utility such as street lighting), or community taxes (applied on public utilities).

Metropolitan Corporation of Islamabad

The MCI is, in principle, the primary body responsible for the implementation of all rules, regulations and bylaws pertaining to public utilities, the equitable provision of municipal services, executing all municipal laws which govern its functions, enforcing and managing urban and development plans, scrutinizing and approving development projects aimed at beautifying urban areas, and ensuring that the quality of life is improved. Its duties include, but are not limited to developing water reservoirs and water treatment plants, waste disposal systems and adequate sanitation services, constructing technology parks and promoting small to medium sized businesses, preventing encroachments, and providing, operating, and managing municipal infrastructure and services. Other than this, the MCI also functions as a development and overseeing body for community and cultural centers such as museums or libraries and ensures the conservation of cultural and historical assets. Furthermore, it facilitates social activities and strives to improve the quality of life by arranging fairs, exhibitions or providing relief to its inhabitants in the event of a natural calamity.

Some taxes which the Metropolitan Corporation is permitted to levy include the rate for water and drainage, the fee for granting approval for new building plans or for changing the land use, and the property tax which, under article 89 (1-3), it must distribute between itself and the Union Councils in accordance with the ratio dictated by the federal government.

Despite the powers that have been granted to the MCI, this institution has been inactive since the tenure of the PTI government. As a result, the CDA has been, more or less, carrying out these functions and levying these taxes.

Capital Development Authority

Established in 1960 as a successor of the Federal Capital Commission, the CDA is responsible not only for developing current and future development plans of the city through revising and reviewing the master plan, but it also provides municipal services including, but not limited to, the provision of health services, water provision, sanitation, construction of filtration plants, waste collection and garbage disposal, upkeep of greenbelts and public spaces and natural and manmade water bodies, development of infrastructures, etc.

Basically, the CDAs responsibilities are threefold: it acts as regulatory authority which oversees and controls building code, environment or public safety standards; it is responsible for the maintenance of public infrastructure such as roads; and it is in control of planning and revising the master plan for the Islamabad Capital Territory.

Federal Government

Islamabad is the only city in the country where a democratically elected municipality is absent due to which the city is still governed in the same “technocratic, bureaucratic, and authoritarian” manner in which it was conceived (Mahsud, 2011). Despite various civil society movements and media campaigns, there have been no considerable steps taken to move the capital away from the bureaucratic directive of the development ‘authority’ (CDA) and into the hands of an elected representative.

I/I.Iqbal, an urban planner at the Capital Development Authority asserted that, “*one issue is that the federal administration has the final say in which plans or revisions are accepted and which are not...the CDAs job is only to make a plan sustainable and resilient- it is up to the federal government to accept it*”. However, simultaneously he believes that this situation is

Fine the way it is right now, under the federal government. This is because if we give Islamabad to the local government, the politicians will turn into a city like Lahore or Karachi. For example, the issues Rawalpindi faces today are not because of its urban plan, they are due to political reasons.

In Pakistan, due to the lack of an effective local government system, there is a weakness within our central and provincial institutions which is made apparent through the overwhelming desire to centralize without being held accountable. Therefore, although an effective and efficient local government system is generally desired and should be the ultimate goal, I strongly agree with I/Iqbal's latter statement. In my opinion, it would be imprudent to disregard the long-established, deeply ingrained, powerful segments within our society and institutions. Hence, in accordance with this belief, I propose recommendations in the following chapter for the progressive development of our local government systems and institutions and the incremental shift of powers from the federal level to the local level so that the local government is not thwarted indefinitely while it is still in its nascent stages.

4.1. Administrative hindrances resulting in the abandonment of Doxiadis' Metropolitan Plan in a Regional Framework

One of the greatest shortcomings in the implementation of the master plan, in my opinion, was the abandonment of Doxiadis' metropolitan framework as it isolated Rawalpindi, the adjoining rural (now peri or semi urban) territories and the hinterland from Islamabad. There were a number of administrative failures, highlighted below, as a result of which Doxiadis' Metropolitan Framework was reduced only to Islamabad:

Firstly, as discussed above, there was an administrative fragmentation due to which the authority over the Master Plan was divided between three different bodies: the federal government, the provincial government, and local governments. Under the federal government, the Capital Development Authority (CDA) was established in 1960 with the mandate to design and implement the capital city. However, the jurisdiction granted to CDA was limited only to, what later became known as, the 'urban areas' of Islamabad (zones 1 and 2). After the 1973 Constitution was promulgated, "provincial assemblies were established in all provincial capitals, but Islamabad remained a federally administered federating unit without an assembly" (Habeeb, 2020). Even after the announcement of the 18th amendment to the Constitution in 2010, which brought decentralization in the country with regards to fiscal and administrative decisions, there was no concrete decision made concerning the "future of Islamabad which is still

dependent upon the National Parliament for its matters” (Habeeb, 2020). Authority over Rawalpindi’s development was granted to the following bodies until the late 1990s: Rawalpindi Municipal Corporation, Rawalpindi Development Authority (RDA), Rawalpindi Cantonment Board and Rawalpindi Zila Council. Out of these, only RDA was working under the provincial government, whereas the others were functioning under the local government. This arrangement was changed in 2001 under the devolution plan in which the Rawalpindi Municipal Corporation and Zila Council were dissolved and RDA came under the authority of Rawalpindi City District Government. To put it simply, both Rawalpindi and Islamabad were under the jurisdiction of multiple bodies, however, “there was no legal framework to facilitate coordination between the CDA and provincial and local departments involved in Rawalpindi”, despite the fact that these twin cities were originally planned to support one another’s social, physical, and administrative infrastructure (Maria, 2006). Consequently, no solid commitments have been seen since the 1960s to implement the Master Plan in the urban areas of Rawalpindi.

Secondly, there was the clear lack of institutional and administrative capacity in the early stages: according to Maria (2006), a progress report written on Islamabad in 1967 found that “only one qualified architect-planner, one architect and one town-planner from Pakistan were recruited in the early days of (design and implementation of the plan in) Islamabad. All other works were completed by foreign architects and planners”. Moreover, even though there was a clear deficiency in the human resource capacity within the planning bodies in both Islamabad and Rawalpindi, this situation was further aggravated due to the imbalance in the allocation of human resources “in favor of Islamabad as compared to its counterpart Rawalpindi” (Maria, 2006).

Thirdly, there was also an imbalance found within the distribution of resources between Islamabad and Rawalpindi. Up until the 18th amendment to the Pakistani Constitution in 2010, that devolved “significant administrative and financial powers to the provinces”, and the 7th National Finance Commission award (which distributes Pakistan’s financial resources between the federal and provincial governments) were announced, Rawalpindi, which was under the responsibility of the province Punjab, was allocated very limited financial resources as compared to Islamabad, which was under the responsibility, and hence, directly received funds from, the federal government (DAWN , 2020) (Tariq,

2019). This is because prior to the announcement of the 7th National Finance Commission award and the 18th amendment, the federal government collected 93% of the total tax resources, whereas the remaining 7% were collected by the provincial governments. Hence there was a disparity and an inequality in the distribution of federal taxes which resulted in horizontal and vertical imbalances in the country leaving provinces, like Punjab, heavily dependent upon federal government grants (Maria, 2006). And since the federal government does not have jurisdiction over the planning and development agencies and activities in Rawalpindi like it does in Islamabad, therefore, “in practice, resources (were) allocated for CDA but not for organizations working in Rawalpindi” (Maria, 2006).

This lack of, and imbalance in the allocation of, administrative and financial resource capacity were the three primary reasons due to which, despite its importance, the regional and metropolitan characteristics of Doxiadis’ original master plan were disregarded and implementation of the original plan was limited only to Islamabad, whereas Rawalpindi’s urban area did not adopt the intended plan, “nor in fact any plan”, and continued to grow haphazardly, in a disorganized and unplanned manner (Mahsud, 2019) (Botka, 1995).

Partial attempts were made to establish higher level institutions to coordinate regional spatial planning processes and facilitate metropolitan planning, but all efforts were in vain. As a consequence of reducing the metropolitan dimension of Doxiadis’ original master plan to the urban areas (zones 1 and 2) of Islamabad, not only did Islamabad, Rawalpindi and the greater metropolitan region lose a substantial opportunity in developing a coherent, integrated and efficient greater region, but urbanization within this area has now also unfolded in a fragmented manner which will inevitably result in the emergence of various social, spatial, environmental and economic challenges for the future generations (Mahsud, 2019).

Today, Rawalpindi and Islamabad have begun working in unison, but only at the expense of the other: Rawalpindi bears the ever-increasing demand for housing, especially for lower income groups, which Islamabad cannot meet. As a result, development continues to take place in Islamabad, but at the cost of Rawalpindi (Maria, 2006).

4.2. Role of the Federal government and a lack of public participation

From its inception, Islamabad's final decisions had been under the authority of the federal government. Conceived, designed and implemented under the patronage of an authoritarian regime, it was unsurprising that the federal government was made a decision maker of Islamabad's fortune. Furthermore, although the country's local governance system is comprehensive and robust on paper, however, according to I/17.anonymous, "a lack of technical capacity" along with inadequate "communication between different stakeholders" and the absence of "stakeholder engagement", the implementation of this local governance system has been greatly hindered as a result of which Pakistan's "local government outputs are below par". The absence of an effective local government system, coupled with unabated involvement of the federal government has created two substantial concerns in Islamabad's development:

4.2.1. The absence of public participation

The absence of a locally elected municipal authority is a massive "hurdle in the way towards 'democratic governance', 'public participation', and 'social inclusion' that are the main policy imperatives and a must for the unfolding of a sustainable metropolis of the future" (Mahsud, 2011). I/17.anonymous shed light upon the policy making process in the country and pointed out that,

Policy making has a certain niche only - it is not a process that involves different people from different areas. Citizenship, public hearings should be a part of the decision making process but it is not. There is no sharing of information. Citizens do not even know which projects are ongoing and which ones are about to commence and you can hardly find information on the public institutions webpages. Academia, scientists, international best practices and grassroot organizations are not involved or followed.

A locally elected municipal system capacities the residents of a city by enabling them to play an active role within their communities. As I/2.Chaudhry asserted,

Having a local government is crucial in making this city more inclusive...when you have a locally elected body, this will mean that the people will not only have a voice and a say

in the decision making process, but it will also mean that the development authorities will be answerable to the people.

I/3.anonymous added to this and stated that,

Currently, the CDA is run by bureaucrats and that is undemocratic in nature because these bureaucrats are not answerable to the people. The city has no voice and this is manifested through issues found in the delivery of municipal services throughout the territory...there is no platform, no institution for the people where they can voice their opinions, concerns and issues.

I posed a question to a high level bureaucrat deployed in Islamabad regarding the bureaucracy's unaccountability, and he responded saying that,

If there is a local government, how will they work or implement their policies? Through the bureaucracy. Therefore, who are we, the bureaucracy, answerable to? To the elected representatives. And even in the absence of a local government we are still answerable to elected representatives, to the Prime Minister, to the MNAs. Therefore, It is not true that the people have no voice- this would be the case if the country had been ruled by technocrats and your ministers were bureaucrats...the bureaucracy is answerable for their entire lives...(we are) more accountable, we are here (to answer) and our stakes are here. Politicians (on the other hand) come and leave).

For a local government to be effective, however, there has to be a real devolution of power at the grass root level, including the power to generate funds and use these for the community's welfare.

Though it houses the world's fifth largest population, Pakistan has little semblance of an effective local government system. The country inherited the local government model introduced by the British colonial powers which was based on centralized control through the bureaucracy. Over the next several years, various local government systems were introduced- the first in 1958, and the last by the previous government. All these frameworks, based on a top-down approach, favored a centralized system at the federal and provincial levels (responsibility was transferred following the passage of the 18th Amendment). The will to devolve power (and especially the benefits associated with it), which would bring out the much needed reforms and introduce a fair and accountable working system, is simply nonexistent. The limited local government structure, whenever implemented, has been practically toothless and existed in name only. Each power sphere, right from the federal level to the provincial set-up has either wanted to

accumulate more power by decentralization (specifically in case of the non-representative military regimes) and/or utilize the (development) funds and resources (more in case of civilian governments) to their political advantage and personal patronage in the constituency. On the people's end, they support the democratic process and believe that a properly functioning local government system is the best method for improving their quality of life through the services it can deliver. But until that time, proper devolution is not enforced, the population will continue to look towards the people who hold power to financial and human resources needed for the betterment of their lives.

4.2.2. Consequences of a lack of political will within the federal government on urban planning

The disinclination of political or administrative institutions, especially within the federal government, can substantially disable an urban entity's primary needs to be met and can incapacitate the city from developing sustainably. A lack of political will is not only the most common lament amongst Pakistanis for public policy failures, but 15 out of 20 of my interviews also pointed out the detrimental consequences of political unwillingness of being the greatest hindrance in the sustainable development of the city under discussion (Dawani, 2018). City planner I/16.Hussain asserted that,

Islamabad has turned into a city for the rich. And if you want to change this situation, the first thing you need is a political will- right now, politicians and bureaucrats are not really bothered by this issue. Elitism is a very big problem in our country, there is no perception of common good.

Similarly, I/11.anonymous, an officer at the Ministry of Planning Commission of Pakistan stated that,

A lack of political will is the greatest hindrance in the development of an inclusive and sustainable city, in my opinion. For example, one of the agendas of the current Prime Minister Imran Khan is housing. And so, because housing has been made a priority...Whenever a party takes ownership of a particular issue, or when there is a political will to resolve something at the top level, then things will get done at a much faster pace.

Likewise, I/6.Javed, a retired bureaucrat and planning consultant propounded that, “*there is not one thing that cannot be done to make this city more inclusive or sustainable, but you need the will and the understanding to want to do it*”. These statements therefore

indicate the significance of political will in addressing contemporary crises and involving the public in the decision making process.

More often than not, a lack of political will in Islamabad has manifested itself through the administrators', planners', and politicians' disposition towards prioritizing and using short term goals and to address long term problems. I/2. Chaudhry explained that,

Our political agendas and our systems work on short term planning, or political expediency. Political expediency is the opposite of political will- where political will is long term, political expediency is short term. Unfortunately, in our planning processes, there is no such thing as long term thinking - with new technologies being introduced every other day, new wars, new agendas, new policies, rapid urbanization and globalization, long term planning has become irrelevant unfortunately because planners and administrators are always busy addressing current needs which can only be met through short term goals. The only way to escape the disaster we are in right now is to plan long term.

Similarly, I/20. Pasha, a city planner who worked as a technocrat with CDA in their planning wing for over a decade, explained that,

One of the biggest issues with our country is that anything that is long term planning, whether that is waste management, water management, sanitation, it is put on a back burner. Nations are built on long term planning but here, people are busy firefighting. Dams that were constructed 40-50 years ago are our main source for water. And other than this, our second option are tube wells or boring. There is no long term planning whether it is related to climate change or water or waste management...

4.3. City Governance and the Capital Development Authority

The duality and stark contrast found not just *between* Islamabad, Rawalpindi, the adjoining territories, and the hinterland, but also *within* Islamabad is profound. This polarity is not a new phenomenon in this region, but is one that has persisted since Islamabad's inception and always acted as a major impediment and challenge in Islamabad's planned and sustainable development.

In the late 1950s, during the city's planning phase, and the early 1960s, during its initial implementation phase, rural settlements were the primary challenge that Doxiadis, his fellow associates, and the CDA faced: a thriving historical city on one end, and a new modern city under construction on another end, with villages, rural, informal and squatter settlements in between and around them, greatly obstructed the planned development of

the new capital in its region. These stark contrasts between the adjacent planned urban settlements and unplanned rural settlements also resulted in a duality of living conditions and vastly affected the social sustainability of the Islamabad Metropolitan region. Today, however, owing to the changing norms, realities, rapidly growing populations, and due to the lack of development of land by the CDA, these challenges, impediments, and the dichotomy they create still persists, but instead in the form of aggressive urban settlements, insistent land mafia and private land developers. These urban settlements, and the subsequent urban sprawl, are a grave threat to the social and environmental sustainability of the Islamabad Metropolitan region due to the various planned and unplanned, formal and informal, high density and low density, urban typologies and sprawl characteristics that they generate within the planned territory.

Furthermore, until the mid-1980s and early 1990s, in the pre-aggressive-urban-settlements era, service and infrastructure provision were essential tools in the curtailment and prevention of unplanned development within and around Islamabad and its metropolitan area. New residents and migrants would refrain from settling into areas which were undeveloped, outside of CDAs developed residential sectors, which did not have adequate water, gas, sewage pipelines, other necessary infrastructure, or were not serviced and maintained by the CDA. However, by the late 1990s and early 2000s, at a time when the population of the city and demand for housing was increasing exponentially, due to a loss in capacity, the CDA ceased the opening of new residential sectors to the public. This forced newcomers to settle into undeveloped lands in the rural, agricultural or hinterland of the city, and depend upon the private sector to meet their infrastructure and service needs. Overtime, these unplanned urban settlements grew, creating an urban sprawl, the role of the private sector in the development of the city increased, and the CDAs ability to curtail and prevent unwanted developments and control and manage the territory, the land mafia, and private developers through service and infrastructure provision decreased. Today, it can be argued that the CDAs current ambiguous, inadequate and incomprehensive law governing housing societies, private land developers, and the private sector is eminently unsatisfactory and futile. In light of this, it is of paramount importance to scrutinize and investigate the control mechanisms,

urban planning practices and approaches, management processes and procedures of the most dominant planning institution in Islamabad- the CDA.

In his article, 'Towards Sustainable Built Environment: Understanding Sustainability Prospects in a Metropolitan Framework', Mahsud (2012) identified 6 shortcomings that have unfolded over the past 6 decades during the materialization (or a lack thereof) of the master plan: firstly, he highlighted the meager understanding that the bureaucratic command of the development authority (CDA) has ended and the city must be handed over to its citizens in the form of an elected local government. Secondly, he stressed upon the adverse impact of abandoning the metropolitan framework designed by Doxiadis, isolating Islamabad and separating the developments with Rawalpindi and the hinterland from the capital city. Thirdly, the article shed light upon the CDAs disregard for the original design of the residential sector (which was based on a historical city urban layout), the feedback process, along with various other design patterns and housing typologies as recommended by Doxiadis' master plan. Furthermore, Mahsud (2012) also called attention to the deviation from Doxiadis' plan on aligning the CBD "with connections to the sectors on both sides". Fifth, the CDAs' indifference to the strategies determined by Doxiadis that integrated the natural and built environments without compromising the development and maturation of either of the two was illuminated. And lastly, he also identified several shortcomings within Doxiadis' plan which were not addressed during the formulation of the master plan, such as those related to social exclusion and a lack of cultural diversity, or the absence of a participatory and democratic government.

From the above mentioned shortcomings, 4 out of 6 can be attributed to Islamabad's primary development authority- the CDA. Taking this into consideration, after thorough in depth discussions with experts, the following four broad areas of concern with regards to the organizational and administrative issues within the Capital Development Authority were identified:

4.3.1. Poor implementation and development of the master plan

The inability of the development and planning authorities to fully materialize Doxiadis' master plan has already been discussed above. Within this subchapter, through the use of both primary and secondary data, we will investigate the CDA's performance in executing and developing the master plan, to whichever degree it was implemented. This section will not look into a lack of implementation, but instead it aims on evaluating the CDA's understanding of the original master plan and their ability to execute the master plan and develop the dynamic metropolis in a manner envisioned by Doxiadis.

Respondents of the interview often argued that the Islamabad today, and the Islamabad that Doxiadis envisioned are two very different cities. They asserted that the CDA's inability to execute the plan and impose it in a manner that Doxiadis had intended is the main cause behind Islamabad's environmentally unsustainable development. City planner and receipt of the Aga Khan Award for Architecture I/16.Hussain explained that,

Doxiadis envisioned a city with 2 by 2 km sectors but whenever this plan was being implemented, the original plan got distorted as the city grew...so, for that particular time, the sectors which were developed under Doxiadis were good, but with time, under the CDA, this plan got contorted and the quality of the plan of these sectors also declined. Other than the poor quality of the sectors, the roads in Islamabad are another example of the CDA's poor implementation of the master plan: in Doxiadis' Islamabad, the built roads were seen as a means of linking different sectors to each other and to the Blue Area. However, due to poor implementation, the roads ended up dividing the sectors instead... With time, as the city grew, only Doxiadis' geometry is what is left behind and everything else has been changed. If you compare Washington DC to Islamabad, you will notice that DC stuck more to its master plan and the development authorities in DC were able to bring out the true characteristics of their planners' city, as opposed to only the geometry. In my opinion, the master plan has authority and therefore, the plans' sanctity should be preserved and maintained.

Likewise, I/12.Noor and I/13.Kapadia also stated that, “*the thing about Islamabad's master plan is that its implementation, management and control did not take place at the pace and in the manner in which Doxiadis designed it*” and that “*the 1960s grid structure is simply still being copied for expansion, without any regard for the natural terrain or*

topography” respectively. In a similar manner, while scrutinizing the CDAs performance in implementing the master plan, I/8.Nadeem declared that,

In the current situation of urban practice and governance, Islamabad has taken a sharp detour from the original plan...from (sectors) F-10 to G-6, you have the original, Doxiadis’ Islamabad, and after that, although the expansion was more or less similar, it was only the physical plan that was copied. The true essence of the plan, along with the socio-economic realities of the present time, however, were never kept in mind during expansion.

As stated in chapter 1 above, not only was there supposed to be a coherent integration of and linkage between public spaces and markets in each sector to Islamabad’s CBD, the Blue Area, but there was also a dynamic trait embedded within each sectors’ skeleton which enabled it to densify, regenerate and diversify. However, it can be contended that the subsequent sectors in Islamabad clearly manifest that Doxiadis’ concepts and ideologies were not truly understood, appreciated, or materialized sufficiently. As a result of reducing Doxiadis’ true urban design for the sectors to only their size and geometry, the sectors being developed under the CDA are now poor in architectural quality, have inadequate public spaces, and rigid building codes.

I/8.Nadeem commented on Islamabad’s environmental sustainability today, as compared to that during the 1960s and 70s, and stated that,

When it comes to sustainability, the original Islamabad that was built under Doxiadis or shortly after his departure, from G-5 to F-10, with the northern boundary of the city at G-4 and the southern boundary at F-9, was environmentally sustainable because the population it carried within these sectors could easily be catered by the Rawal Dam and the city was not a threat to the natural environment- it was not lacking in water supply and was neither, simultaneously, suffering from urban floods and excessive rainfall. If the CDA had maintained this boundary, and the population it was designed for, then yes, the city would have been sustainable. It is the urban sprawl that has created problems...the CDA must urgently stop this unchecked urban sprawl....It is due to this reason, and due to some others, that Islamabad today is not the Islamabad that was originally planned.

I/5.Ahmed maintained a similar stance when he asserted that,

In order to expand the city after Doxiadis, what the CDA did was simply stretch the lines on the map that Doxiadis drew and expanded the grid iron structure, without actually understanding or inculcating the essence of Doxiadis’ actual plan. Therefore, from a planning perspective, it can be said that the newer, CDA developed sectors are a bad

copy of Doxiadis' sectors...CDA was unable to implement the actual plan in its true form due to which they either copied the gridiron pattern in a bad way, or they were unable to implement it at all.

While discussing the contemporary issue of traffic congestion within the capital, I/5.Ahmed continued stating that,

Traffic congestion became an issue due to commercialization and due to the fact that land prices became so high in the city that people had to start living somewhere outside Islamabad. Doxiadis tried to ensure that traffic congestion would not be an issue. For example, he did not allow the construction of large monuments in the city center and said that they should be located outside the city so that the city does not choke...Islamabad was his best project, it was the CDA that did not respect the integrity of the Master Plan and allowed for certain projects to be built in the city, causing the city to choke.

Mahsud (2019) had a similar stance when he explained that, “the original concept of monumentality...was neither really understood nor translated into appropriate building regulations, leading to the unfolding of disconnect and incoherent urban fabric”. Not only has this but, Mahsud (2019) continued writing that the original design of the Blue Area was also deserted as a result of a “lack of understanding and the complexity of its implementation”. Instead, planning bodies evolved Doxiadis' vision into a more convenient approach whereby the ground+18 buildings would be placed on the northern side of the main Jinnah Avenue, and the shorter, ground+5 buildings on the southern side.

By quoting Chandigarh as an example, I/5.Ahmed also provided a solution for the current predicament:

After Chandigarh was built, the state of Punjab got divided into Punjab and Haryana. Both Punjab and Haryana wanted Chandigarh as its state capital. Therefore, their federal government advised that both these states could share Chandigarh as their capital. And so, in order to preserve the original Chandigarh, extensions were made outside of the city so the city could grow and serve the needs of the two states, while maintaining its original plan. And we should do the same in Islamabad. Leave the original Islamabad which was designed and built by Doxiadis and the other parts which were built by the CDA can form the greater Islamabad. Right now Islamabad is actually two different cities- there is the Islamabad that Doxiadis built, and the Islamabad that the CDA built. If we had carefully copied Doxiadis' Islamabad, then we would not have faced the issue of traffic congestion in the city.

These remarks clearly illustrate the CDA's poor performance in establishing Doxiadis' city of the future. Islamabad today is not only inconsistent with but also contradicts Doxiadis' dynapolis in several aspects. This discussion can also be linked to the argument above regarding the polarity that exists within the Islamabad metropolitan area and Rawalpindi. Although, as mentioned previously, this duality also existed during Doxiadis' time, however, Doxiadis was able to find a balance between rural and urban areas within his metropolitan framework, was sensitive to the rural settlements, strived to integrate certain settlements into the urban framework, and understood the vitality of a thriving rural, agricultural and hinterland for ensuring the sustainability and ameliorating the microclimate of the urban territory. The CDA, on the other hand, has not only struggled with incorporating private developers and their projects into the urban framework, but only recently accepted, realized and comprehended the profound role they play in Islamabad's rural and urban development and sprawl today, thereby resulting in the lack of timely, adequate and comprehensive control mechanisms and indirectly, allowing the duplexity created by the urban sprawl to persist.

4.3.2. Poor management and governance

The Smart City Project has been the CDAs recent endeavor in making Islamabad a sustainable city of the 21st century, one that can be equated with other internationally acclaimed cities. This Smart City Project, as described by I/1.Iqbal, an urban planner at the CDA, is one in which

Services, whether transportation services, municipal services, or infrastructural facilities, will all be smart. The concept is to have maximum benefits and minimum charges. For example, there will be a smart parking system, smart street light system where our street lights will stay on or switch off according to how busy a street is. Similarly, the residents of Islamabad will know through a bus app the location of the bus and whether or not there is space available in it. Likewise, the solid waste disposal facilities will know through our smart system when the waste in an area needs to be picked up.

The discussion on the Smart City Project brought to surface some issues of urban management and governance in the capital city and the CDAs technical and technological capacity, or a lack thereof. For example, I/2.Chaudhry expressed his concerns that,

CDA does not have the technical capacity to implement or manage the Smart City project once its planning is completed. Therefore, a third party should be outsourced for

implementation of this project and in order to manage it effectively, the CDA needs to increase its human resource capacity. And unfortunately, the people working in CDA are not ready yet to want to improve themselves or increase their capacity.

The management and proper, transparent governance of any urban entity is the most important task that befalls a city administrator. Urban crises such as population explosions, climate change and its consequential water scarcity, excessive rainfall issues and urban floods, along with urban sprawl and the increase in illegal developments and slums have long plagued cities and created difficulties in its maintenance and management and in the equitable distribution of municipal services. Aspects such as poor urban planning and weak institutional frameworks, along with interference from entities, such as the federal government who are not direct stakeholders in the daily affairs of the city, worsen the proper maintenance and management of these urban regions, create issues in accountability and adequate transparency, thereby turning cities into breeding grounds for corruption, malpractice, social inequalities and environmental degradation. This is why proper urban management and governance are two important pillars upon which our cities reside.

This section on poor management and governance, therefore, includes an examination of the CDAs capabilities in ensuring accountability, transparency, monitoring and control of the areas under their jurisdiction, along with their capacity to provide adequate and affordable housing and the equitable distribution of municipal services and resources, and urban management and governance. When asked what the predominant factor in Islamabad's unsustainable development was, 14 out of 20 respondents stated that poor urban management and governance is a primary factor behind this contemporary predicament.

On the topic of housing and urban management, a myriad of issues with regards to the equitable distribution of resources and municipal services were disclosed. For instance, I/2. Chaudhry asserted that,

There is a clear segregation (in the distribution of municipal resources) based on economic and social hierarchies. Sectors which are better off receive better services, and rural areas such as Bara Kahu do not get services at all because by law, technically speaking, until 2015, the CDA did not need to provide services to the rural areas of Islamabad. Growth in Bara Kahu was organic and the CDA's bylaws are only applicable

in areas which are supposed to be developed according to the master plan or to spaces where development has not yet commenced. Therefore, most of CDAs laws have been applied to areas where development began after they acquired the area, and not when there was already an existing development.

I/4.Gul and I/6.Javed expressed similar concerns: “When it comes to rain water management or solid waste management, for example, some areas in Islamabad receive good municipal services whereas others are ignored. It is mostly ignored in the low income housing areas” and “Only the rich are catered for. Not everyone receives equal services” respectively. Likewise, I/8.Nadeem, an urban policy planning professional stated that,

Housing and urban management, in my opinion, are the greatest hindrances in Islamabad’s proper, sustainable and inclusive growth. We do not have low cost housing provision in the core of Islamabad and we also do not manage the city for all economic groups...Therefore, we urgently need a revision of housing provision and urban management that better controls land acquisition, land value, etc.

In a similar manner, I/11.anonymous, a senior officer at the Ministry of Planning stated that, “municipal services are not provided to all parts of Islamabad equally. Especially in the peri urban areas of Islamabad, there is no proper solid waste collection system”.

I/12.Noor explained that,

Islamabad does not also have an air ambulance and PIMS (Pakistan Institute of Medical Sciences) is inadequate to cater to the needs of the Islamabad and the greater Islamabad region which includes areas such as DHA, Bahria Town, Naval Farms, and areas beyond Korangi River until Rawat. These areas are completely unserved for. They are regulated by the CDA but not really given proper services.

I/15.Ahmad had similar concerns:

Not all parts of Islamabad receive equal municipal services because areas with richer and more powerful people are given a greater emphasis. Repairs and response to grievances is done mostly in the F sectors. Even now, sectors like G-13, though they are in reasonably good shape because they were recently developed, the quality of infrastructure is below par.

Likewise, I/18.Tariq stated that,

No, all parts of Islamabad do not receive equal municipal resources and facilities. Even the road renovations take a lot of time in certain parts of Islamabad. It will also be easier

to get water tankers in more well off neighborhoods than in others. This problem happened due to illegal settlements, and a lack of management.

These conversations on the inequitable distribution of municipal services also sprung up discussions on a lack of land supply for the urban poor and inadequate low cost housing. For example, I/15.Ahmad expressed that,

The greatest issue that Islamabad faces in my opinion would be the lack of land supply for the urban poor. The possibility for the poor to live in Islamabad has become non-existent and because of this reason, they have to bear a large commute cost every day. There are very few small-scale plans to accommodate the urban poor in Islamabad but for the remaining masses, there is nothing and they have to survive somewhere outside of Islamabad. However, for the rich or for investment purposes, an area had been established in Islamabad. A targeted land supply for the poor is absent and this issue keeps increasing. The rich and powerful have the capacity and the resources to make decisions whereas the poor have neither.

Similarly, I/13.Kapadia stated that, “*Due to a lack of development, land has become a target of land speculation. Hence, blue collar workers are not being integrated into society*”. I/18.Tariq revealed that, “*I am usually working for the housing sector so I know that there are hardly any provisions for the poor. In fact, even some well off families are now finding it difficult to afford a home in Islamabad due to the high price of land*”. I asked a high level bureaucrat (I/9.anonymous) regarding the housing crisis and he explained that,

We give them malkana haqooq, they sell out those places again, or more Christians migrate to Islamabad from other areas to benefit from these housing schemes- so this is a very difficult process. It's not that we can just simply give them a home and that's that. If we give one person a home, a hundred more will come. We provide homes to these hundred, another hundred will migrate to the city. So this is a crisis. A vicious cycle. And this is a national problem, the lack of affordable housing. We do not have enough housing as there should be. There is a lot of private land. If the government one day declares in the constitution that all land in the country is now public land, they introduce land reforms, then the government can construct whatever they want to, at whatever price, and distribute it to whomever they want.

One interesting phenomena which I would like to shed light upon is that in Islamabad, the creation and growth of katchi abadi's (slums) and the social segregation that they produce within and around the city boundary is not only tied to socio-economic differences, but it also persists as a consequence of differing religious beliefs. This raises certain fundamental issues in the overall social sustainability and integration of the city.

Although a separation of urban neighborhoods on the basis of religious preferences is not uncommon in Pakistani urban entities- Karachi for example, a city of over 16 million inhabitants, has large neighborhoods based solely on the basis of religious identities, such as the Memon society or the Parsi colony- the formation of katchi abadis (a distinctive case as opposed to the urban neighborhoods in Karachi as they exist, form, grow, and cater solely to the lower economic strata) on the basis of religious identities is a situation that is unique to Islamabad. Obviously, urban segregation, either in katchi abadis or developed neighborhoods, based on religious and ethnic diversity does not necessarily create hostility among these diverse groups.

In response to the high bureaucrat's statement, I/13.Kapadia explained that,

Katchi abadis/villages need to be incorporated into the city plan. But instead of incorporating these katchi abadis/villages, the CDA displaces these people to develop that piece of land. This displacement causes a social rift because it leads to a loss of heritage. You see, one aspect of sustainability is social sustainability and heritage is something that we develop through living in a certain area for a long time. When we displace the people who were living there, we cut them off from their roots(What the high level bureaucrat stated) would absolutely happen. This has to do with land speculation. Money is the next best thing that they can have because they lost their heritage, their home, their land once they were removed from it. Displacement means breaking off all social networks. In countries like ours, our people do not have social security, but we have social networks. So when you forcefully destroy a population's social network by displacing them and moving them to a piece of land that is not significant to them, you are destroying centuries old traditions and disrupting memories. Saidpur Village in Islamabad is an excellent example of what we should do instead. Saidpur was incorporated into the urban plan and design of Islamabad. Golra, on the other hand, has been left out completely and has not been provided with a separate framework for development and for incorporation into the larger urban plan of Islamabad. Therefore, instead of annihilating and reinventing, preserve and upgrade. Make rejuvenation plans for these villages/slums/squatter settlements and surround them with your city/urban area.

While on the topic of inadequate low cost housing and land supply for the urban poor, the issue of high price of land in the city, and the reasons behind it, also became apparent:

I/1.Zafar, an urban planner at the CDA explained that,

Land is expensive nowadays due to two reasons: firstly, if we have developed a space for, let's say 5000 people, but 500,000 fill out applications, then how is this our (CDAs) fault? Secondly, people from different provinces, who do not want to actually live in the city, buy land for investment purposes. When they sell land, they sell it at very high prices. And prices are determined by the market forces of demand and supply.

In response to this I would say that the CDA should have responded in a timely manner to the exponential increase in population around the late 1990s by developing residential sectors at a faster pace, or should have put into place adequate monitoring and control mechanisms for private developers and their housing schemes. With one sector being developed in almost a decade's time, it was inevitable that the large, and ever increasing, number of new residents would resort to squatting or settling in the private housing societies within the city's periphery, hinterland and/or rural areas. In fact, simply by executing Doxiadis' metropolitan framework for Islamabad and its surrounding territory, there is a great chance that the urban sprawl might have been prevented or the situation might not have been as detrimental to the city's sustainability as it is today. There is a causal relationship between the lack of development of sectors and the increase in land values. The beneficiaries of this situation, however, were the land mafia, the property owners, and the private land developers as they were able to capitalize on this situation. Not only this but, it was the CDAs responsibility to monitor and ensure that large tracts of land were not being sold to investors for commercial purposes. Furthermore, the lack of regional development in Pakistan is another major issue which results in the increase of rural to urban migrations. Hence, in this regard, the government of Pakistan should also address this concern by promoting and facilitating regional development in the country.

I/18.Tariq explained that: *“seasonally the CDA auctions off land to the public and in the late 1990's and early 2000's... the CDA made land available at a very reasonable price because of which there was a boom in private developers and the population”*.

The discussion on housing and urban management brought forth several interesting revelations regarding the issues with management, maintenance, governance and operations in the CDA. I/7.Hasan put it well when he stated that, *“Planning is not the most important part of municipal services. Planning and implementation happen gradually. It is the management, the maintenance, the operations that are the real issue. In Islamabad, the plans are generally well-implemented, but the management is bad- this is where your issues reside”*. I/5.Ahmed shared this stance: *“Planning things is not the*

problem, regulating them, implementing them and monitoring them is the problem”.

I/4.Gul, Director at the National Disaster Management Authority expressed that,

Poor governance and poor planning- these both are a challenge for sustainability and Disaster Risk Reduction. I do not want to make this political, but our political leaders must prioritize these issues if they want to see some improvement in this respect...the level of resilience is very low in Islamabad. And poor governance has become a reason for urban risk in this city. For example, the university CUST is located on the edge of a river and it floods during heavy rainfall periods. CUST is a very high value asset and such assets should be built and developed accordingly. Even if you shift this university to a safer region, there are many other such developments which are allowed to take place due to poor governance without following any building codes and regulations....there are a lot of unplanned or unapproved developments taking place currently and this is directly a result of poor governance. What happens in our cities is that, developments that are unapproved take place, and once the construction is complete, that is when CDA gives an approval for it. Therefore, building codes and regulations are hardly ever taken into consideration while constructing or approving...such social issues and injustices are a result of poor governance.

I/12.Noor stated that, “No matter where you are in Pakistan, governance is a major issue. It is important to understand that governance is not the government, instead, governance includes aspects such as housing, globalization, and urban society”. Similarly, I/14.Zakir expressed that,

There are a lot of loopholes that need to be fixed. There is actually an article about this as well, “Urban Biasness throughout Pakistan”- this article talks about those rural areas in Pakistan that have turned into urban areas but have not been tagged to receive proper development. This happens either due to corruption or because our development authorities do not have the capacity to accommodate such areas.

Proper urban management and effective and efficient urban governance policies are closely associated with accountability, openness, transparency because they not only are the essence of a democratic political system but they also ensure the monitoring and control of urban regions and prevent malpractices, misappropriation, corruption, social inequalities and environmental degradation. I/1.Zafar, an urban planner working at the Capital Development Authority explained that,

The only way we (CDA) can ensure that plans are implemented is through transparency and political will...A lack of implementation, lack of political will, lack of transparency, misappropriation and administrative malpractices are the main culprits...The CDA’s job is only to make a plan sustainable and resilient- it is up to the federal government to implement it. And if the federal government does not implement it, then that is not due to

a lack of resources, but due to misappropriation, maladministration, and lack of transparency.

Likewise, I/3.anonymous stated that, *“The biggest issue is that we have people who have vested interests in high level positions, and they are not at all concerned about building or strengthening the MCI”*. I/6.Javed and I/7.Hasan expressed that, *“There needs to be accountability”* because *“the buying and selling and use of land is not in our hands, it is in the hands of the financiers of the politicians”*, respectively. I/14.Zakir asserted that, *“A lack of transparency and sensible planning approaches is the greatest problem that impedes Islamabad's proper, sustainable and inclusive development”*. Sensible planning can be defined as a process through which the planning institutions can devise plans that are flexible and dynamic enough to adapt to the changing realities, demographics, and situation within your urban entity. Where such types of flexible planning approaches need to be inculcated into our planning processes, the importance of ensuring transparency and constant monitoring and control cannot be disregarded. Currently, transparency within the planning and municipal institutions in the city is negligible, the regulations formulated are ambiguous and incomprehensive, and the decisions taken are whimsical.

A plethora of fault lines within the CDA were revealed during these discussions such as, but not limited to, inadequate low cost housing, high price of land, the inequitable distribution of urban facilities and municipal services, and ineffective operation, maintenance and governance framework. This indicates that poor governance, ineffective management and a lack of transparency and openness within Islamabad's systems can be associated with managerial constraints and a lack of technical, technological and human capacity within the CDA: for example, I/3.anonymous expressed that,

(One main constraint that impedes the proper, sustainable and inclusive development of Islamabad are) managerial issues- these issues are closely linked with a lack of political will; implementation constraints, etc. Managerial (constraints are the greatest issue) because most of the time, the person you place in a specific office is not the appropriate person for that particular office. For example, bureaucrats are placed in the CDA and these bureaucrats do not have the technical capacity to make urban decisions. They are not even trained properly as technocrats. There are technocrats obviously, but the bureaucrats drive them. This does not mean that we only need technocrats. Both of them are required because where technocrats are trained on technical aspects, bureaucrats

are trained for managerial purposes. The issue is not regarding who should be above whom and who should be the subordinate, the issue is regarding which person is put in which office. We do not put the right man in the right office.

I/11.anonymous had similar concerns regarding the inappropriate appointment of certain civil servants:

Within the government, jobs are not designated properly or are not divided properly amongst public servants due to which one person is responsible for things which should have been under the responsibility of another person...due to this government officials are firefighting all the time. Secondly, there are a lot of capacity issues within the government. The government cannot handle everything and it desperately needs to outsource some of its jobs to private parties. However, before this is done, it is essential that the government establishes some sort of a framework which regulates control so that the private entities do not misuse certain things or that jobs, responsibilities and checks and balances are properly established. There must also be transparency in this system, it must be digitized and jobs must be designated to the right person. Training must be provided to the employees and the system must be user friendly and service delivery must be top notch. Thirdly and most importantly, this system would require dedication, political will, the right team and continuous monitoring.

With regards to the CDAs lack of capacity, and in continuation of the discussion on the inequitable distribution of municipal services and resources, I/8.Nadeem expressed her concerns that,

Not parts of Islamabad receive equal municipal services. And this is due to power dynamics. Certain areas are given a higher priority status than other areas. The areas which come under the original master plan receive such services fully and properly, but the areas which were expanded later, they fall off the grid. You will only be able to provide them services as well if you increase your capacity. And you can increase your capacity by training your personnel, by improving your technical and technological capabilities, by establishing better infrastructural systems, by having proper setups in different locations, and by clarifying your jurisdictions- your responsibilities and how you will fulfill them- all of which is currently absent or insufficient with our development authority.

Likewise, I/14.Zakir explained that,

When Islamabad was made, it was made for a particular number of people. And for this population, CDA was adequate. It is not adequate anymore. When a city grows, especially at the rate Islamabad is growing, you need more capacity to handle it.

On a similar note, I/17.anonymous asserted that,

We need to think of proactive solutions if we want to combat climate change but due to technical gaps and constraints, we are unable to do anything....There are standards on how to dump solid waste and where to dump it but there is no enforcement of these rules and maybe this lack of enforcement is due to capacity issues.

I/11.anonymous brought to my attention that: “*there are issues in the capacity, in the equipment and enforcement, and the manpower of the CDA*”.

I/7.Hasan highlighted another issue and stated that,

Your municipal corporation does not have the human capacity right now, but that can be built. The problem is that the MCI is not able to generate enough resources for the purpose of operations and maintenance, the CDA tells them to tax the people, but not everyone gives tax.

With regards to the issue of inadequate resources within the MCI, I/7.Hasan had a similar response: “*The problem is that the MCI is not able to generate enough resources for the purpose of operations and maintenance, the CDA tells them to tax the people, but not everyone gives tax*”. I/20.Pasha explained this issue better when he stated that,

There are obviously turf wars between them. CDA can only give instructions to the MCI but can't enforce anything. MCI does have an issue with funding- it does not have enough money. Taxes cannot be enforced without the permission of the federal government. Secondly, the area which is under the MCI, the people living there mostly do not have the means to pay taxes or cannot give that money. MCI also does not have the technical capacity along with the money....Right now, Islamabad's zoning is good. But when you tell an organization to generate their own funds, they will want to change the zoning in order to do so. Therefore, development and provision of services should be under one agency.

A lack of financial resources within the MCI conveys that the municipality is fiscally dependent upon the CDA, as stated by I/3.anonymous and I/15.Ahmad: “*The municipal services, which are under the Metropolitan Corporation Islamabad (MCI), are below par. The MCI does not have its own budget, it is fiscally dependent upon the CDA*” and “*right now our municipalities are fragile because they take money from the Development Authorities*” respectively. I/8.Nadeem firmly expressed a solution:

Improve your capacity, fix the overlapping of jurisdiction- ICT needs to tighten its governance and management services by being clear regarding what they will deliver and how they will deliver these services.

In the foregoing pages, a long list of issues associated with CDA have been brought to the surface. However, in order to summarize the administrative, governance and management related, and, particularly, the organizational problems with the CDA, it is important to point out the languid demeanor and the reactive mindsets of the officers within the CDA. This lethargy within the authority is manifested through the fact that the CDA has been striving to review Islamabad's master plan since 2019. In order to do so, committees had been formed and certain small scale initiatives were taken. However, due to ideological differences found between the CDA and the consultants who were appointed initially, the overall review is yet to take place. Today, almost four years later, not only has the CDA not hired any new consultants, but they are yet to even advertise for a consultant. On April 10th, 2022, Islamabad also lost the federal government (PTI) which was keen on reforming the cityscape and its master plan. This exhibits the apathetic nature of the government in dealing with issues which require long term, comprehensive planning and their zeal in only prioritizing and resolving issues which suit them immediately.

4.3.3. Poor Urban Planning

When asked which has been the greatest hindrance in Islamabad's sustainable development, the respondents gave a number of reasons for explaining the current phenomena which has engulfed the city. One of the most common causes which the experts chose to unravel the city's conundrum was poor urban planning: just as 14 out of 20 participants chose insufficient governance and poor management as a predominant factor in the city's current predicament, 16 out of 20 experts stated that the CDAs inability to plan proactively and respond competently to the changing realities over time has been the greatest hindrance in Islamabad's sustainable development.

For the purpose of this thesis, poor urban planning has been defined as the formulation of inadequate, unsatisfactory and/or defective policies and strategies for the development and growth of the metropolitan region (Islamabad, the National Park, its hinterland, and Rawalpindi for the purpose of regional development, so that Islamabad is not isolated

and separated from its surrounding areas), ineffective and/or untimely response to unprecedented challenges, the use of reactive planning practices as opposed to proactive ones, and the inability to understand pertinent issues and respond in an effective and efficient manner that does not threaten the environmental sustainability and upset the ecological balance of the region under consideration.

I/14.Zakir propounded that,

In the revisions and reviews, urbanization and migration were not taken into consideration and this is where Islamabad failed as a city because it shows the CDA's lack of foresight...in the original plan, there was no zoning done for the urban poor, and today the CDA keeps replicating those mistakes.

While discussing the CDAs current projects in the city, I/14.Zakir, a senior architect, asserted that,

No, (the changes currently being made to the urban infrastructure of Islamabad do not take into consideration climate change, sustainability or inclusivity) at all. These new buildings are all very expensive. In Islamabad, the new approach is to build bigger buildings- but is that really going to solve your inclusivity problem? Are these buildings energy efficient? This is the same as building bigger roads to accommodate the increase in the number of cars. In fact, in a meeting, a CDA director actually stated that we need to build bigger roads to accommodate more cars. If your approach is to destroy usable land in a manner that does not fix your problems in the long run, then you are not only wasting land but are also creating more problems. Even the metro in Islamabad is ineffective- it was not designed for users' needs. Sustainable transportation is not even a conversation within the planning institutions right now.

Likewise, city planner I/16.Hussain expressed that,

We first plan poorly and then we repeat these mistakes somewhere else. Karachi is an example of this, of how construction is ad hoc. We keep reducing street sizes, plot sizes, number of parking lots, and open spaces, but despite this fact we do not have enough space for anything. This is because we are planning messes.

Even the CDAs methods of resource generation have been deemed unsustainable by experts such as I/3.anonymous:

The CDAs process of resource generation is like selling silver. Basically, what they do is, after they have formulated a plan, to generate resources for that plan, they sell some plots off. This is not a sustainable method of resource generation at all because land is a commodity that will end one day. In fact, Islamabad is almost at the end and we have sold everything till McDonalds (in sector F9).

As asserted previously on several occasions, a lack of adequate regional planning, and the abandonment of Doxiadis' metropolitan framework, in my opinion, is one of the most pressing concerns and fundamental problems related to urban planning in Pakistan and Islamabad, respectively. With regards to this, I/5.Ahmed explained that,

You need to have a regional planning system so you can preserve your green areas. For example, if you look at the Margalla hills and the surrounding areas, construction is at a minimum there, which is good. That area is green and is being preserved. However, if you move towards the A sectors, that entire place is full of gray infrastructure. This is only a result of a lack of regional planning, and this is detrimental for the overall ecology of the area.

I/4/Gul, while discussing the city's traffic issue and the planning institutions' reactive mindsets, stated that, "*building roads on top of roads and not investing in a sustainable transit system manifests that you are only providing for, and caring about, those people who have the financial resources to own a car and are subsidizing their way of living*".

I/18.Tariq, gave a similar example and explained that,

Right now our policy makers think increasing the road width is a solution. Increasing your road widths is an easy fix and this has been something that our planners have always done in the past to address traffic concerns. This is the reason why, despite the fact that our solution is always to increase the size of our roads, the Kashmir highway, for example, still gets choked during rush hours. Planners are not addressing the actual issue which is our inefficient and ineffective public transportation system.

The act of widening roads is a common fix endorsed by politicians, particularly those from the government in power. This is because the construction or widening of road infrastructure are examples of projects which mature in a shorter period of time, as opposed to those, such as investing in a sustainable, inclusive and accessible public transit system, or reforming the national health or education systems, which usually take (at least) a decade to mature. Such short term projects are carried out and prioritized deliberately in order to boost the political party's popularity and increase their chances of being reelected.

I/18.Tariq shared another example during her interview which manifests the CDAs poor planning approaches and their reactive policies: "*A few years ago, in an attempt to plant trees in a short span of time, a large number of trees which produce pollen were planted.*

And because of the pollen, 6 out of 8 people in Islamabad were affected”. Reactive mindsets reveal that development authorities are not considering deep rooted issues or are turning a blind eye to actual concerns and are instead firefighting crises as they spring up. Reactive planning forces you to aim for short term goals as opposed to long term ones. And this sort of urban planning is detrimental for urban entities and counterproductive in most cases, especially in the long run. As I/4.Gul, the director at National Disaster Management Authority, stated “*poor governance and poor planning- both these are a challenge towards ensuring sustainability and disaster risk reduction*”.

Another pertinent issue are the pre-existing villages in Islamabad. These villages, as they were not incorporated into the city, such as the Saidpur Village was, have therefore turned into semi-urban squatter settlements. Gradually, as these villages grew from semi-urban to peri-urban spaces, they, coupled with slums and other unregulated developments, have resulted in an urban sprawl and are a massive threat to the region’s sustainability, as discussed in length in the chapters above. I/13.Kapadia, a PhD in urban sustainability, asserted that,

Katchi abadis/villages need to be incorporated into the city plan. But instead of incorporating these katchi abadis/villages, the CDA displaces these people to develop that piece of land. This displacement causes a social rift because it leads to a loss of heritage. You see, one aspect of sustainability is social sustainability and heritage is something that we develop through living in a certain area for a long time. When we displace the people who were living there, we cut them off from their roots. You can urbanize a piece of land without keeping the mud houses by developing that area and allowing those people to live there again, thereby maintaining the spirit of that space. Incorporating culture into urban planning is good planning.

I/7.Hasan also discussed these villages and stated,

One sad part about Islamabad is that, whenever a new city is being built, the old residents of that area are incorporated into the new city. In Islamabad, however, those people were thrown out of Islamabad and were never incorporated into the new city. To this day those original residents do not have a claim to their land. Bylaws should be made which protect the claims of the locals- this happens in every city around the world except for autocratic cities.

While also discussing the CDA’s inability to perceive pertinent issues, or their disposition to turn a blind eye to issues such as climate change and Islamabad’s water scarcity crisis, and respond to it in a suitable and prompt manner, I/2.Chaudhry asserted that,

Islamabad's water drains start from the Margalla Hills, they pass Islamabad, and fall in Pindi. These drains and waterways not only clog, but also overflow, due to climate change. Every other year the CDA cleans these waterways but they will not get to the bottom of the problem, which is actually climate change. Climate change is not incorporated in any of CDAs plans and even when in 2020 the Master Plan was under revision, there was nothing in this revision relating to Climate Change or adapting to and mitigating the climate crisis.

Likewise, I/3.anonymous explained that,

Water is our biggest concern right now. That is how climate change is affecting Islamabad. Currently, Islamabad is getting its water supply from Khanpur and Simly dams, but this only fills 50% of the total requirement. The remaining water used is groundwater. The city has been unable to develop any new water plants despite having been planning for it for the last 20 years.

When discussing the CDAs' inability to respond appropriately to unprecedented challenges, in a timely or efficient manner (such as population increase), and its decision to allow for the construction of high rise buildings to accommodate this ever increasing population, I/2.Chaudhry stated that,

The CDA has begun to allow the construction of high rise buildings in the city, but the problem with this is that the CDA's pipelines which supply water or gas are not capacitated enough to provide these municipal services in high-rise buildings. And the CDA is not particularly looking into this fundamental problem. The CDA will have to completely reinstall new pipelines which can easily cater to the needs of these high rise buildings before it allows for the construction of these high rises. And in order to do this, the CDA must also improve its own human capacity.

Likewise, I/3.anonymous explained that the city's

Builders and planners mostly consider the aesthetics of a building and do not carry out need assessment reports. Likewise, they are not bothered by old pipes or outdated infrastructures. Political leaders will not touch actual issues that affect people.

He continued discussing the issue and stated,

I do not think that building high rise buildings will solve our problems. High density will create an even bigger mess. In my opinion, high density buildings are only a short term solution...today, in Islamabad, even living in an apartment is very costly. If you want to, then you can construct high rise buildings in the outskirts, but they need to be available at an affordable price if you want to curb urban sprawl and accommodate your population. Otherwise if the price is high, then there will be no point in constructing these high rises.

I/6.Javed had a similar stance:

High rise buildings are a need today, but I doubt that they will solve the issue of exclusivity. We still urgently require low cost buildings. The ones being built currently, I think, like most projects, these projects too prefer aesthetics over efficiency- and this just shows ignorance on the planners' part.

I/9/anonymous, a high level bureaucrat explained that, “right now our high rise buildings are not affordable. If you go to the DHA, or Gulberg societies, or to Bahria, there are hundreds of high rise plazas, and all are empty, due to high prices”. In fact, I/7.Hasan, who has been involved with several urban planning projects for the accommodation and provision of municipal services to the urban poor in several cities across Pakistan, such as in the Orangi Pilot Project and Khuda ki Basti (City of God), stated regarding high rise buildings that, “people of low income groups cannot live in high rise buildings. Even in Scandinavian countries they have now realized that ground +3/+4 for low income groups is the best solution. Even in Turkey this is being done now”. The rise of squatter settlements and slums in the city can also be attributed to the very high price of land in Islamabad. When asked regarding this, I/3.anonymous stated that,

One sector is developed in about a decade's time, however, our population multiplies much faster than this. This shows that we are moving backwards and not forwards. The government should keep the price of the land reasonable, and this can only be done by developing sectors at a faster pace and supplying them. Sectors are planned on the Master Plan but they are not implemented.

In my opinion, the construction of high/medium rise buildings, although a necessity right now, is not the first step in remedying the housing crisis and the issue of the inequitable distribution of municipal services. The first step should instead be to improve the technological, technical, and human capacity of the CDA. After this, the CDA must also update its bylaws, strengthen its monitoring and control mechanisms, and incorporate a comprehensive framework within its urban regulations for private land developers and the private sector to ensure effective Public Private Partnerships. High or medium rise buildings will be a viable, effective, and sustainable solution if the social, economic, managerial, management and infrastructural aspects are taken into consideration. Next, through these public private partnerships, the CDA must ameliorate the existing infrastructure in the city (since high/medium rise buildings require sound infrastructure),

while simultaneously distributing urban resources, services and facilities to the parts of the city which were previously not being catered to by the CDA. Inequality in the distribution of infrastructure, services, and facilities is a major obstacle in ensuring social sustainability and bridging the gap between the rich and the poor within an urban entity. Although Pakistan's constitution provides, promotes, and ensures equality in all matters of life, a lack of implementation or corruption within the administrative structures has made equality a mere phase than a reality- and the duality and disparities found in our urban entities are a manifestation of this. Therefore, the need of the hour today, in my opinion, is not equality, but equity (which can be assured through adequate infrastructure and the provision of basic necessities, either provided by the public institutions, or through a public private partnership). Equality will naturally be the next step after equity has played its part.

Certain experts attributed poor planning to a lack of awareness and community participation. I/17.anonymous, for example, explained that,

Currently, green building codes are being introduced in collaboration with provinces. Heavy handed and enforcement approach does not work because it creates a lot of backlash. So federal ministries can only give a push to provinces. In Japan's disaster management, the community is greatly engaged. But such community involvement does not happen in Pakistan because we do not have the resources to involve people and also because most of our population is living below the poverty line. Therefore, the majority of our people are not an asset, but are liabilities.

She continued discussing the problem and also suggested a solution:

The question of public awareness has been raised multiple times and many innovative solutions have been provided. But due to a lack of stakeholder participation and engagement, implementation of these solutions never occurred. There is also a lot of significant backlash so, from a very young age we need to tell our future generations about climate change so that they can understand its importance and urgency. Schools are a good starting point and I know that ensuring that this becomes a part of the curriculum is the responsibility of the government but our country is a developing country. It is difficult for the government to do this because there are so many other places that need to be looked at as well. Therefore, private schools and NGOs should come together to work on this and they have come together but due to the 18th amendment, the mandate for education and climate change has been given to provincial governments so the mandate for implementation is in the hands of the provinces.

I/2.Chaudhry, also reiterated this stance:

When it comes to using energy efficient materials in construction or insulation, these are some very advanced concepts that can be used in Pakistan at the moment. We should first focus on constructing good quality high rise buildings with quality infrastructure and proper water/gas lines/sewage disposal facilities; with time energy efficient materials will also be incorporated during construction. But this is a very gradual process. The least that can be done right now is to build awareness in our communities so our people understand the importance of at least using LED lights and other efficient lighting methods to conserve energy.

Meanwhile others attributed poor urban planning to the CDAs urban planning practices and their inability to prioritize projects well. The Smart City Project was the primary example that experts used to discuss this concern. For example, I/3.anonymous stated that, *“These are ideas that are brought from western countries into our own country. The project itself is nice, it is a good project, you can publicize it and create a hype but there will be no value addition unless you first fix the fundamental issues within your city”*. Likewise, I/14.Zakir explained that,

We do not need a smart city right now. We are not prioritizing our needs sensibly- put money where it is needed. We do not need a smart city right now because before building a smart city you need a certain kind of infrastructure, certain institutions and certain systems in place, which we do not have.

Similarly, I/5.Ahmed said,

I think this project is only for point scoring. It is nothing more than a marketing strategy. Maybe they might be able to implement it, I can't say for sure but I can say that we just pick European ideas and try implementing them in our land when, on the inside, there is much work to be done before these projects can even be effective.

I/11.anonymous also had a similar remark: *“There are some smart city concepts under discussion to improve public welfare but we do not have the infrastructure right now to implement them”*. I/20.Pasha also shared these stances:

In the recent past, this “smart city” nomenclature has become quite popular and is being bandied left and right. Some private developers around Islamabad and in Lahore have also floated “smart city” projects. In all probability, their idea is limited to internet connectivity and that's it. To have a sustainable, inclusive and resilient urban environment is definitely going to take a long time.

This is not only a comment on the CDA's lack of understanding of pertinent issues, their inability to prioritize environmental sustainability and respond in an appropriate manner,

but it also manifests that planners are state employers and their decisions are also, more often than not, subject to various political and economic pressures, and that political priorities and/or a lack of political will can extensively change the skeleton of a region.

Therefore, we cannot assign full responsibility to the CDA, for example, with regards to incorporating the communicative rationality approach discussed in the previous chapter, literature suggests that the penetration of this approach into society and implementation of this approach into practice has been much easier in cities which have a more collaborative culture and where the presence of social capital is strong and widely prevalent. Certain republican countries, like Pakistan, however, do not have this culture. Although republican states generally have armies and civil bureaucracies that are greatly involved and intertwined with economic developments in the form of State Owned Enterprises, the level of public participation is crucially low. That is because these republican states are generally authoritarian in the sense that they do not sincerely support political grassroots movements. Similarly, the lack of regional development is also something that can be attributed to the federal government. The federal government can act as a moderator between various provinces by ensuring coordination and facilitating the generation of regional development plans.

Hence, it is important to note that although the CDA has taken some wrong steps, this was not only due to their own incompetency, their inability to evolve themselves and their planning practices in accordance with the changing spatial planning paradigms (discussed in chapter 3), but also as a result of the substantial role the federal government plays in interfering in Islamabad's decisions and the consequential political and economic pressures that the politicians and bureaucrats bring with them to the planners table. And so, if the city is still adrift today, it is due to the role that the CDA has played in the city. The CDA has been able to save the city from most of the ills and vices that have infected and engulfed all other major cities in the country. For this, the CDA must be applauded. If Islamabad today is still one of the most beautiful cities in the country, or a city that is still generally 'planned', it is due to the efforts of the CDA. That being said, I would strongly advocate that the CDA effectively improve their technical, technological and human capacity and strive to make proactive decisions.

During the height of the energy crisis in the early 1970s, two planning academics from the University of California, Berkeley, proposed perceiving urban problems and dilemmas as either *tamed problems* or *wicked problems*. Tamed problems can be identified as those “which have a relatively well-defined problem statement, a point where a solution is reached, and where solutions can be tried and abandoned with relatively little impact” (Gurria, 2008). They have a “definite set of well-defined rules (like those in mathematics, engineering...), and are soluble (eliminable)”. Conversely, wicked problems are those for which “you can never come to a ‘final’ or ‘fully correct’ solution since the problem constantly evolves. Solutions to wicked problems are not true-and-false, but simply better or worse” (Gurria, 2008). These “numerous problems in planning, management, and policy-making are by nature wicked, and stand in sharp contrast to the problems of engineering and sciences” (Xiang, 2013). And most importantly, “every wicked problem is entangled with another wicked problem” (Gurria, 2008). For instance, traffic congestion is a contemporary wicked problem that is closely associated with another contemporary wicked problem: “historical decisions on infrastructure, zoning, and land use” (Gurria, 2008). Hence, responding well to a wicked problem is more pertinent than striving to find a solution as the constantly changing conditions within which the problem exists, or the wide range of influences and effects it is shaped and modified by, makes it impossible to find a “clean endpoint” (Hamm, 2009). An important characteristic of wicked problems is that, unlike tame problems, they are “resistant to...the conventional approaches and skill sets of planning, management, and policy-making” (Xiang, 2013). The CDA, however, as pointed out previously, continues to utilize conventional tools and methods of planning. Xiang (2013) pinpointed one strategy commonly used by planners to solve a wicked problem with tame approaches is to “divide and conquer which consists of ‘carving off’ a piece of the (wicked) problem and finding a rational and feasible solution to this piece”- just as the CDA continues to do with the issue of traffic congestion: they did not only leave the actual *wicked* problem “unanalyzed” in order to “deceive people that the problem is solved while the beast (the wicked problem, that is) is still as wicked as ever”, but they also modified the dynamics of the original wicked problem, thereby creating a “mutated wicked problem” (Xiang, 2013).

Moreover, in the global city that we live in today, one characterized by the multiplicity of time and space, which are economically competitive in nature, and are influenced greatly by social, cultural, technological, environmental agendas, whether local or global, it can be argued that wicked problems are now just as prevalent, maybe even more so, than tamed problems. And since wicked problems are “in essence expressions of diverse and conflicting values and interests”, always evolving, similar to our dynamic cities, wicked problems have to be approached in a diverse manner as well, and therefore, this approach has to be “fundamentally social” (Xiang, 2013). Wicked problems need to be accessed by strategies which are “by nature adaptive, participatory and trans-disciplinary” and examined through a “panoramic social lens rather than a scientific microscope”, just as our contemporary planning practices sternly advocate the use of communicative rationality and collaborative planning approaches (Xiang, 2013). In this regard as well, the CDAs urban planning policies and their efforts to inculcate and involve stakeholders from various socio-economic backgrounds in the urban planning decision making process have been below par.

Furthermore, although the concept of *wicked* and *tame* problems have been discussed substantially in literature, Xiang (2013) found that most of this research has been “largely a repetitive description of the social reality of wickedness” and focus has been limited to “raising awareness, preaching for acceptance, and advocating creative adaptation strategies and innovative approaches”, rather than determining “exactly *how* these ideas and approaches...can be materialized” (Xiang, 2013). With regards to materializing sustainable development, however, particularly when considering methods of restraining urban sprawl to decrease its repercussions on the ecological balance of our urban landscape, several approaches to deploy and operationalize sustainable development have been researched thoroughly and put into practice as well.

With time, planners around the world have not only recognized the significance of these new practices, but have attempted to incrementally incorporate these shifts into their cities as well. Copenhagen, for example, through its Finger Plan was able to curtail urban sprawl and reduce its threat to the city’s sustainable development. It is important to note that the Copenhagen Finger Plan is not a Strategic Plan by nature (as it did not utilize

certain contemporary planning approaches such as the participatory planning approach) but is instead a Structural Plan. However, it is still worth mentioning due to the foresight and flexibility incorporated within the plan which enabled it to remain relevant and applicable even in the 21st century and has allowed it to successfully curtail and control urban sprawl. In Islamabad, however, planning institutions are still using traditional methods, formulating policies that are still reactive in nature or are not the need of the hour (such as the Smart City Project), and have a highly bureaucratic, top-down decision making process.

Hence, in the following chapter, I provide various recommendations for the issues discussed in this thesis.

CHAPTER 5

SOLUTIONS & POLICY RECOMMENDATIONS

21st century cities, like Islamabad, have today turned into dual cities plunged into a state of liminality, dawdling about, as they are being constantly influenced by contemporary forces such as technological advancements, globalization, global economies, pluralities of time and space, while being simultaneously stuck in the previous century due to a lack of resources or capacity within planning institutions and, most importantly, because planning institutions still continue to view these cities within the parameters set by traditional planning approaches. Hence, some parts of our cities are modern in the contemporary sense- they are sustainable, global cities that play vital roles in the global economies- whereas on the other side of the road, unsustainability, exclusivity, social ills, and ecological degradation prevails. It is in light of this duality which continues to persist in our capital, which I assert that immediate alterations be made in our urban entities, institutional frameworks, administrative capacities and our political mindsets. Hence, the following recommendations and policy proposals have been suggested in order to help policy makers and planners develop a homogenous sustainable city for all.

Over the course of this thesis, several problems, such as the following, have been identified and brought to the surface: population increases and the management of demographic changes; the issue of Islamabad's pre-existing villages; a lack of affordable housing; increasing urban sprawl; inadequate and unequal provision of municipal services and resources; the high price of land; poor implementation and development of Doxiadis' plan for the metropolitan region; poor urban planning, a poor response to urban issues, and reactive planning approaches; poor management and governance; the lack of a timely revision of the master plan; the absence of a local government and public participation; lack of political will and vested interests.

These problems can be categorized into the following 3 branches:

1. Problems which stem from the urban sprawl in Islamabad,
2. Problems which were caused due to negligence, poor planning or poor management on the CDA's part, or
3. Problems which are a consequence of the substantial role the Federal government plays in Islamabad's urban planning.

In light of the above mentioned issues, the following recommendations have been suggested after a careful analysis and consideration of both primary and secondary data. In light of these issues, the following recommendations have been provided below.

5.1 Recommendations for problems associated with urban sprawl

Suggestions and policy proposals for problems, such as, managing population increases and demographic changes, the issue of the pre-existing villages, lack of affordable housing and the inadequate and unequal provision of municipal services and resources will be discussed in this section.

Population increases, demographic changes, and the inability to provide affordable housing, are one of the greatest factors resulting in urban sprawl and also one of the greatest struggles of the development and planning institutions. In order to respond to this population increase and the simultaneous lack of housing, the CDA has been recently considering allowing for the construction of high rise buildings within and around the periphery of the capital. In this regard, as advocated previously, the construction of high rise buildings, although an important step, should not be the CDAs priority right now. High rise buildings are not only a short term solution, but if established in an improper manner, will lead to several long term issues instead. Rather, the CDA should prioritize improving their technological, technical, and human capacity- as discussed in detail below. Moreover, high or medium buildings will be a viable, effective, and sustainable solution only if and when the social, economic, managerial, management and infrastructural aspects are taken into consideration. Since the private sector is not only filling the housing gap created by the CDA by developing land and establishing housing schemes, but are also providing urban infrastructure, municipal services and various

facilities, hence, it is of paramount importance that the CDA formulate a comprehensive framework, update their bylaws, and strength their monitoring and control mechanisms in a manner that would ensure coordination between and allow for more public private partnerships. There is a wide gap which needs to be filled in terms of the equitable provision of various urban facilities, and since the CDAs capacity is insufficient, therefore, it must utilize the private sector in bridging this gap. Islamabad's housing problem mainly lies in the fact that there is inadequate developed land, therefore public private partnerships are a good approach to resolving this crisis as well. Furthermore, as suggested by a majority of the experts, high rise buildings, which are generally more expensive in nature, would not be a sensible solution for the housing crisis, particularly for the urban poor. The answer, instead, lies in the construction of medium rise buildings, which have smaller dimensions, plot sizes and a lesser carbon footprint, for resolving the lack of housing, high price of land, population increase and its consequential urban sprawl.

Although increasing the density is an indispensable solution and a necessity of the hour, it is often argued that large cities are generally more difficult to manage and maintain. Hence, I strongly believe that Islamabad now requires a framework and strategic plan that would guide not just the capital, but instead would control the Islamabad Metropolitan Area. This plan will act in two ways: firstly, it would divide Islamabad into two administrative units- Islamabad (zones 1, 2, 3, 4 and 5) and the Greater Islamabad Region (the hinterland and the surrounding sprawled areas). Secondly, the Islamabad Metropolitan Area Plan would act as an upper level regional spatial strategic plan for the following regions: the 5 zones of Islamabad, the hinterland, the city of Rawalpindi, nearby towns such as Attock, Wah, Kamra, etc. Spatial Strategic Plans are generally characterized as plans that represent the hierarchy of settlements and the overarching goal or vision of the city under consideration. These plans have to be both flexible and precise in nature: spatial strategic plans should be flexible so that they would enable planners to create a durable plan which would not be thwarted when faced by external unforeseen and uncertain circumstances such as demographic changes, in-or-out migrations, the socio-economic profile of the area, economic or political trends of the country, thereby allowing the dynamic urban entity to manoeuvre in the face of changing

conditions, and should concomitantly be precise enough to provide opportunities for investment and development in the present and the foreseeable future. Therefore, spatial strategic plans need to be simple and must only address priorities and key decisions such as major land use decisions (development nodes or boundaries in the city), major transportation decisions (placement of hubs, corridors, communication centers, etc.), or identify non-negotiable lands such as archeological sites or conservative areas which are not open for development. One key characteristic of a spatial strategic plan is that it is also a coalition building process as it is not only concerned with the output but, since it is a highly collaborative process, it is also involved in the development and capacity building of the institutions and stakeholders included- this is something that planning bodies in Islamabad are in a severe need of. In this regard, a regional level spatial strategic plan should be prepared for the urban and rural parts of Islamabad, along with the hinterland, Rawalpindi, and the towns near the twin cities. This would also be in line with Doxiadis' vision for Islamabad which was supposed to be in sync with and expand together with the National Park, Rawalpindi and the surrounding hinterland. Obviously, since Rawalpindi and the nearby towns are a part of the province Punjab, while Islamabad is under the Federal government, there needs to be a central body that would collate and facilitate communication between different stakeholders and ensure sufficient stakeholder engagement.

Furthermore, in order to increase connectivity within this Greater Islamabad Region, and to decrease sprawl and the development of unplanned settlements between them, an affordable, sustainable, widely accessible and inclusive transportation system is of the utmost importance. The current transportation system in Islamabad is ineffective, inaccessible, unaffordable and insufficient. In the preceding chapters, the CDA's reactive mindsets and the consequential *Predict and Provide* approach to traffic management has been discussed at length. In order to adopt the *Predict and Prevent* approach, several mitigating and adaptive strategies should be incorporated in Islamabad's transport policies. In this regard, Sustainable Urban Mobility Plans (SUMPs) can be incorporated into Islamabad's urban and transportation policies. These plans seek to prepare and impose policies that ensure social integration as opposed to being car-oriented. Since Islamabad was conceived around the 20th century concept of car-centric cities, SUMPs

would not only reshape the foundational ideologies within the original master plan but will also help reconstruct the reactive mindsets of our policy makers and development authority. Some of the primary objectives for SUMP include: reducing traffic, air pollution, greenhouse gas emissions, and energy consumption by promoting non-motorized modes of transportation, endorsing the use of alternative and renewable energy sources, and introducing trams/trolleys system; improving the accessibility of the existing public transit system; and enhancing the quality of the urban layout, design and environment.

When it comes to the issue of Islamabad's pre-existing villages and the CDAs inability to incorporate those villages into the urban skeleton, I/13.Kapadia suggested that the CDAs current practice of displacing and relocating the inhabitants is creating a social rift in the city. Such policies not only destroy decades old traditions, disrupt memories, and cut off social networks, linkages and ties, but also result in a loss of heritage. Therefore, she asserted that, "*instead of annihilating and reinventing, preserve and upgrade. Make rejuvenation plans for these villages/slums/squatter settlements and surround them with your city/urban area*". The Saidpur Village in Zone 3 in Islamabad or the Orangi Pilot Project in Karachi are outstanding examples of well incorporated, merged and integrated rural and urban spaces. Hence, these projects must be standardized and granted legislative powers.

One major issue that the sprawled areas face is the inequitable delivery of services. Obviously, rapid population growth and urbanization greatly diminish the ability of governments to provide services, thereby increasing social and urban ills. Islamabad's authorities have faced similar concerns and in order to aid these bodies and enable them to respond better to this issue, I would suggest the following recommendations: firstly, and most importantly, the development authority and the municipal corporations must both improve their capacity by assessing their current capabilities, introducing training and coaching programs, developing their resources and technologies, and improving their infrastructural systems. Capacity building does not only include the improvement of the monitoring, regulation, and implementation frameworks but it is also connected to the upgradation of bylaws and standards. Hence the CDA and MCI must reform their

institutional frameworks to adequately delineate and modernize their organizational and administrative jurisdictions. Capacity building will not only improve the organization's capability as a managing, governing and regulating body but this is also one of the most substantial components of formulating long term plans and ensuring an equitable delivery of services.

Lastly, the CDA, in an attempt to make Islamabad sustainable, have currently been considering and planning to implement the Smart City project in Islamabad. The Smart City approach primarily has to do with the incorporation of Information and Communications Technology (ICT) infrastructure within and across various urban services and facilities, such as in transportation, energy, waste collection and the provision of other municipal services, or the integration of smart buildings and smart lighting in order to achieve energy efficiency in your city. Although this is a good step, I believe it is not necessarily the right one, for two reasons:

1. Before moving towards smart buildings and smart services, the basic existing infrastructure in the city must be improved. In an unpublished thesis submitted to the Pakistan Institute of Development Economics (PIDE) on "Issues on Water Crisis in Islamabad", Ahmad (2020) found that the shortage of 19 million gallons of water per day (MGD) which Islamabad faces can easily be fulfilled, not by constructing new reservoirs or pipelines as the CDA has recently been adamantly endorsing, but instead, by simply managing the existing water sources in a better manner. For example, his study revealed that although the production capacity of the Simly Dam (one of the two main dams that supplies water to Islamabad) is 42 MGD, its present production is only 24 MGD (Ahmad, 2020). Likewise, the design capacity for Islamabad's other primary dam, Khanpur, is 16.50 MDG, though its present production is only 7 MGD (Ahmad, 2020). In a similar manner, out of the total 194 tubewells in Islamabad managed by the CDA, only 151 are fully functional (Ahmad, 2020). Therefore, simply by rehabilitating and upgrading their existing infrastructure, along with instituting a metering system to better calculate the supply, demand, usage and loss of water through leakages and pricing water in accordance with this metering system (currently, water is priced according the size of an individuals' plot), this gap between the demand

and supply can be constricted. Not only this but, prior to implementing the smart city approach, institutional capacities and institutional frameworks must be upgraded so that this smart city can be managed, governed and controlled well.

2. Even though energy efficiency is an important measure for mitigating the effects of climate change, urban sprawl has created an ecological and social disaster in the city and therefore needs to be urgently addressed. Smart Growth, broadly speaking, aims to “restrain urban sprawl” and it does so “through a variety of land-use control mechanisms and other regional and local policy mechanisms that help encourage more compact development, urban revitalization...transportation and housing diversity, open space protection, and collaborative decision-making” (Jepson & Edwards, 2010). Likewise, the Ecological City approach primarily aims at developing urban communities which do not exceed their carrying capacities, i.e. “the limits of nature to sustain them”, primarily through the use of public policies which “encourage the replacement of non-renewable energy and other resources, the protection of open space, the use of ‘appropriate’ technologies, the reduction and natural assimilation of waste, and local economic and functional self-reliance” (Jepson & Edwards, 2010). Therefore, since Smart Growth is a significant factor in controlling urban sprawl, and Eco-city in developing communities in a manner that they do not exceed their carrying capacities, I believe that it would be more appropriate to implement both of these first- the Eco-city approach can be deployed in Zones 1 and 2 of Islamabad whereas Smart Growth can be implemented in the remaining zones of the city which are currently facing urban sprawl. However, of course, using all approaches concomitantly in an area-specific manner would produce the best results in terms of sustainable development.

5.2 Recommendations for problems associated with the CDA

A detailed discussion and analysis in the chapters above have made it abundantly clear that the primary factor which resulted in Islamabad’s urban sprawl and subsequent unsustainable development were the CDAs inadequate, unsatisfactory, and/or defective policies and strategies for the development of the capital city; ineffective and/or untimely responses; their reactive planning mindsets; along with poor management and urban

governance. Since the CDA is a predominant player, and has been one since Islamabad's inception, hence, it is of utmost importance that they resolve the administrative and management related issues within them- and this can only be achieved by increasing their capacity and regularly updating their policies and standards in accordance with local requirements and work towards making land in Islamabad more affordable. Discussions related to capacity building were touched upon in the previous subsection, but will be delved into more deeply in this subsection.

First of all, the CDA needs to not only formulate plans through the use of Communicative Rationality and the Collaborative Planning approaches, but must also establish a Research and Development Cell (hereafter referred to as the R&D Cell) where international planning trends can be examined and local planning trends can be developed, monitored and reviewed in light of these international best practices, where research and research training can be carried out to ensure technical, technological and human capacity building, and where Islamabad's SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis can be carried out for the evaluation of the existing situation, and the formulation of the vision, strategies, projects and action plans for the Regional Strategic Spatial Plan in the Islamabad Metropolitan Area Plan.

Secondly, there is an urgent need for the upgradation and revision, and of course, effective and complete implementation of the urban laws which govern Islamabad. It is important to drastically revise laws and guidelines for residential spaces and commercial areas in accordance with demographic and economic realities. The CDA must facilitate and coordinate communication amongst planners, academics, and social and environmental think tanks, the public, along with private land developers during the planning and implementation process. Such a partnership and planning process will bring to light various societal, economic, or environmental issues that had previously been unknown. The CDA should be the primary body that formulates and develops plans, however, private developers must work in unison with the CDA in order to implement these plans.

5.3 Recommendations for problems associated with the Federal Government

The key feature of a true democracy is its local government system. This is because local government systems can ensure the representation of the common man, thereby improving the quality of life, environment and services: urban planning and local government systems go hand in hand in this regard. Participatory planning, which has been widely suggested by experts, is another strand of guaranteeing public representation in urban planning. Its benefits are numerous, both for the citizens- it “fosters human development, enhances the sense of political efficacy, reduces the sense of estrangement from power centers, nurtures a concern or collective problems and contributes to the formation of an active and knowledge citizenry”- and the urban planner- it helps planners “develop appropriate and effective solutions or community design and planning problems...increases user satisfaction” and builds trust (Magdy, 2011). Though local government systems and the participatory planning approach are two strands to ensuring public representation in urban planning, they are both interrelated in the sense that participatory planning, and the true penetration of various stakeholders, interest groups, academics, think tanks, and the public cannot prevail without the existence of a local government system.

As stated in the previous chapters, the local government system of the country, although robust and comprehensive on paper, is largely absent on ground because our generally authoritarian institutions do not sincerely support political grassroot movements. Islamabad, which is at the disposal of the federal government, hence suffers from the lack of political will, and the authoritarian top-down approach to urban planning. One effective method of resolving these issues is to ensure transparency within our systems and institutions. With regards to the other- lack of participatory planning problem- the following two recommendations have been suggested:

1. Allow for the development of the local government system:

In Pakistan, we have never had an effective local government system because of the weakness within our central and provincial institutions. Those in power do not desire to part with their power and all the benefits that come with it. The federal government wants to control resources, and so do the provincial governments, which, in turn, does not transfer power and resources to the district administration and so on. There is an overwhelming desire to centralize and simultaneously, not be held accountable. And a true local government system would be an opposing force in materializing their desire. Whenever we have had a local government, it has therefore been toothless, and has existed in name only, without any power to bring about a meaningful change. However, although it is of utmost importance that we allow for the development of local governments, one cannot intentionally disregard how deeply entrenched and long-established the powerful segments in our society and systems are, and hence, it is important to gradually shift powers from the federal level to a local level. Since our local government system is still in its nascent stages, so as to ensure that it is not easily thwarted by opposing parties, and is not deemed ineffective and unsatisfactory in its early stages, it must be allowed to progressively develop its capacity and its abilities. It would be impetuous and ill-considered to shift powers entirely, and not incrementally, because it is important to understand that it may take several decades for Pakistan to develop an ideal, strong, and effective local government system.

The National Finance Commission Award (hereafter referred to as the NFC Award) is the only forum which constitutionally, under Article 160 (3A), allows for the division of the finances and resources amongst the federal and provincial governments, through a consensus between the parties involved. Prior to the revision of the 7th NFC Award, which was enacted in March 2010, there were several imbalances between the division of the fiscal resources from the divisible pool: a vertical imbalance as 93% of the resources were transferred to the federal government, and the remaining 7% was distributed amongst the rest of the country- the provinces; and a horizontal imbalance because *population size* was the sole criteria for the division of resources between the provinces as a result of

which the Punjab province received the greatest share, and it was in the best interest of provinces to over-represent themselves whenever possible. The 7th NFC Award brought with it several changes to the criteria upon which fiscal resources would be distributed, so as to ensure that vertical and horizontal imbalances were eliminated from the system. And, for the very first time, the provinces received a greater share from the divisible pool than the federal government did. Simultaneously, the 18th Amendment to the Constitution, which was passed in April 2010, resulted in the devolution of federal powers as well. Although the 7th NFC Award was a bold step in the country's resource distribution history, economists argue that this initiative was a purely political move and, since the Act had rudimentary defects in it, it only resulted in several financial problems. One of the greatest issues was that this award was far too extensive, it was inappropriately timed, and most importantly, implementation was in an injudicious manner. Economists and financial experts assert that the shares granted to the provinces should have been increased gradually and not all at once. This is primarily because a gradual increase in resources would have enabled provinces and given them time to simultaneously increase their human and technological capacities so as to be better able to manage, govern and effectively and efficiently utilize the increased resources.

Therefore, in order to ensure that a similar mistake is not made in Islamabad's case, it is suggested to gradually increase the local governments' power.

2. Secure political will through public will:

It is often stated that change within a society comes from the top, and that the public cannot be blamed because the "top" is yet to develop a strong and transparent institution whereby transparency is ensured and the government is answerable to the public. However, since 1994, which marks the landmark *Shehla Zia v. WAPDA* (Water and Power Distribution Authority) case, in which residents from Islamabad challenged the construction of a high power electricity grid in a designated 'green belt' within their neighborhood, is the first public litigation in the fields of environment and urban planning. The Court ruled in the favor of the

petitioner's argument, and this judicial intervention became highly significant because, for the very first time, the 'Right to Life' and 'Right to Dignity', under Articles 9 and 14 of the Constitution, would also include the right to a healthy environment (Khurram, 2021). "The Court ruled that the word "life" covers all facets of human existence, all such amenities and facilities that a person is entitled to enjoy with dignity, legally and constitutionally" (Supreme Court of Pakistan, 1994). This win was not only a notable achievement because, prior to this case, there had been "no specific provisions in the Constitution that addressed environmental protection and environmental rights", but also because it enabled the public to raise their voice through the courts (Khurram, 2021). Thus, "ever since the Court's use of its *Suo Motu* powers under Article 184(3) of the Constitution in the Shehla Zia judgment, many such instances sprung up- such as the Khewra Mine Case (1994), *Suo Moto* Case No. 3 of 2003 (Environmental Pollution), *Concerned Citizen Society of Pakistan v. Government of Punjab* (2009), *New Murree Project* (2010)- in which the Supreme Court used its *Suo Moto* actions in environmental and urban planning cases (Khurram, 2021).

This shows that the public legally can, and has, pushed the government into taking their opinions into consideration. In order to substantially reorganize, reform and reshape our societies and systems, change needs to come from the "top" and from grassroot levels. The idea to expect one government, or one person to completely rectify an issue that is backed by powerful players and is so deeply ingrained in our systems is impractical and utopian. Yes, one person can mobilize a nation, but the nation, and most importantly the elite of that nation, must also be willing to strive towards a collective and gradual improvement: this means struggle and sacrifice. And until the elite class is "complicit in the (gradual) destruction" of the country, and is unable to sacrifice its privileges for the greater good, the system that confines us would remain unchanged (Shaikh, 2022).

CHAPTER 6

CONCLUSION

From environmental degradation to becoming a climate refugee, from un-or-underdeveloped rural areas to the absence of an effective and regional planning framework, from the utilization of 20th century conventional planning paradigms within our 21st century cities to facing contemporary urban issues, our urban layout has been deformed and defaced, its ecological equilibrium disrupted, and its shelterless residents forced to squat in immensely abysmal conditions and frightful urban informal settlements only to benefit from the employment, infrastructure and educational facilities that urban entities can provide.

Outwardly, each of these aforementioned issues may seem different, however, on the contrary, they are so considerably entwined that they have the power to create massive transformations within an urban region's spatial characteristics, boundary and form, simply through an upsurge in the population of a city as a result of the rural to urban migrations. Islamabad, perhaps the only city in Pakistan to initially develop largely in accordance with the master plan, is no stranger to these massive transformations, migrations and demographic changes.

Conceived in the late 1950s by the eminent planner Doxiadis as a dynamic metropolis, and genesisised in the absence of a democratically elected political government under the superintendence of President General Ayub Khan, Islamabad was Doxiadis' best project. The absence of a suitable capital city in the early decades of the newly independent country, not only made Islamabad a necessity, but also a means of nation building, displaying sovereignty and consolidating power. Since its initial implementation phase in the early 1960s, this dynamic metropolis, true to its name, has been anything but static

- it grew constantly, evolved persistently, its urban form altered and stretched, its architecture modified and refashioned, and its demography and geography re-moulding its character with the changing currents of time and space. This is a remarkable achievement of Doxiadis' plan: it provided a malleable and flexible urban plan and structure which would allow it to gradually evolve into a City of the Future. Another remarkable feature of Doxiadis' City of the Future was its metropolitan framework: as opposed to being a capital isolated from subsidiary functions and nearby cities and districts, Islamabad was planned to grow in conjunction with Rawalpindi, the surrounding territories, and the hinterland in an attempt to develop an integrated and coherent society, economy, and environment. However, despite these features which were embedded deeply within the master plan, and despite the fact that the master plan is, to a certain extent, still taken into consideration, the city's expansion and development, especially in the last few decades, has been unsustainable due to the rapid, unchecked and unplanned urban growth.

Rapid urban growth, a phenomenon that we will undoubtedly continue to face in the near and distant futures, manifests itself in the form of a plethora of problems, and has dire consequences in the form of urban sprawl, loss of green cover, urban flooding, and various social issues, injustices, and inequalities. Hence, rapid urbanization, exponential population increases, and the environmental instability, social inequality, and spatial incoherence that they generate, must be dissected and examined at length so that we may formulate effective, timely, and sustainable urban policies to guide our regions and cities. However, prior to policy formulation, it is essential to identify the problems, issues and vices that have engulfed our urban entities, within our development authorities, municipal corporations and planning frameworks, as problem identification is the first step in policy formulation.

Therefore, this thesis aimed at identifying the critical most cause and defect that has had the greatest impact on Islamabad's unsustainable expansion and evolution, owing to urban sprawl, from the city's inception until the present day. Over the discourse of this thesis, urban sprawl has been defined as all planned and unplanned, mixed or single land use, high density or low density developments that do not conform to Doxiadis' original

master plan for Islamabad. Two factors behind urban sprawl and the unsustainable developments associated with it, which were most commonly suggested in existing literature or have been hypothesized by the intelligentsia, including planning practitioners, namely, the unprecedented challenges and organizational and managerial issues within the planning and administrative institutions, were thoroughly delved into. Through in-depth discussions with experts and key district administration personnel, and a thorough analysis of secondary data, I was able to explore each of these two causes and examine them closely.

As mentioned previously, Islamabad was Doxiadis' best project, one that grew and developed, to a certain extent, in accordance with the master plan. However, shortly after Doxiadis, Islamabad faced unprecedented challenges and issues in the implementation of the master plan, in the control and maintenance of the region, the rate of population growth and the rate at which development took place. These unprecedented challenges therefore created a hindrance in the form of development and the type of evolution of the metropolitan region that Doxiadis had envisioned for the Islamabad Metropolitan Area.

Although unforeseeable in nature, it can be postulated that these challenges can be categorized into two subsections: challenges which could not have been avoided- such as the Cold War era Soviet-Afghan war, economic crises, political instabilities, or the changing on-ground socio-economic realities- and challenges which could have been avoided- such as the inadequate acquisition of land, the lack of a timely revision of the master plan, or the consequences of the abandonment of the City of Futures' dynamic characteristic. However, despite the differences between the type and form of these unforeseen situations, there are two similarities between each of these above mentioned challenges. Firstly, each challenge directly influenced and massively altered Islamabad's urban form and its spatial features through a surge in population, causing the city to sprawl and its boundary to swell. Secondly, through the use of proactive planning and by timely reviewing and revising the master plan, in accordance with the planning paradigms and the fast changing ground realities, I believe that Islamabad could have avoided most, if not all, of the troubles it faced. In this regard, it is of the utmost importance to scrutinize the planning and development bodies in Islamabad and examine

the role they, along with the federal government, play in Islamabad's decision making process.

At present, four primary bodies - the Union Councils, the Metropolitan Corporation of Islamabad, the Capital Development Authority, and the federal government - are involved, in several ways, in the development, monitoring and control, and for the provision of municipal services in the urban (zones 1 and 2) and rural (zones 3, 4, and 5) parts of the city. Various managerial and organizational problems - such as the authoritarian role of the federal government in Islamabad's affairs and a lack of public participation, the poor implementation and improper execution of Doxiadis' original master plan, poor management, governance and poor urban planning - within Islamabad's planning and administrative institutions were also brought to light in the chapters above. One of the greatest shortcomings in the implementation of the master plan, which can also be associated with the CDAs lack of technical, technological, and managerial capacity, in my opinion, was the abandonment of Doxiadis' metropolitan framework. By casting aside the metropolitan framework, disregarding the city's dynamic characteristic, and leaving the nearby districts to their own devices, the Islamabad Metropolitan Region now suffers from an incoherent economy, fragmented transportation networks, damaged ecology, with a large part of its low-income residents plunged into social inequalities and injustices. Not only this but, one of the most significant ramifications of abandoning the dynamic characteristics and metropolitan framework in Islamabad has been urban sprawl.

After careful considerations, it can be concluded that urban sprawl in Islamabad and its consequential unsustainable developments are a result of the poor urban planning and a poor understanding of the underlying logic behind Doxiadis' original master plan, on the CDAs part. As mentioned earlier, for the purpose of this thesis, poor urban planning has been defined as the formulation of inadequate, unsatisfactory and/or defective policies and strategies for the development and growth of the metropolitan region (Islamabad, the National Park, its hinterland, and Rawalpindi for the purpose of regional development, so that Islamabad is not isolated and separated from its surrounding areas), ineffective and/or untimely response to challenges, whether routine (for example, provision of

municipal services, silting of water reservoirs, etc.) or unprecedented (such as the climate crisis, or political instability, wars, etc.), the use of reactive planning practices as opposed to proactive ones, and the inability to understand pertinent issues and respond in an effective and efficient manner that neither threatens the environmental sustainability of the city nor upsets the ecological balance of the region under consideration. A poor understanding of the true spirit of the original master plan, as this statement suggests, signifies the CDAs inability to fully apprehend and appreciate Doxiadis' vision and planning ideologies in the Islamabad Metropolitan Framework, thereby resulting in the development of a city which is at odds with Doxiadis' City of the Future.

There are certain pillars upon which our urban entities repose. Proper urban planning, proactive mindsets, effective and timely responses, along with good management and governance frameworks are some of these pillars. It is because of the weakness within the structure of these pillars that Islamabad floundered, especially in the last three decades. The CDA's poor urban planning techniques reveal that the planners in our city have yet to accept the characteristics of a dynamic entity in this contemporary era and are struggling to manage the City of the Future. It is due to this reason that our planning institutions, our decision making bodies, and our courts are always 20 steps behind the actual phenomena and **our policies are mostly reactive in nature, sometimes incremental, but never proactive**. It is only after this acceptance that the CDA would understand that dynamic cities such as Islamabad cannot be tamed and more often than not, they cannot be controlled either. But they can be managed and maintained if responded well and in a timely manner to. Therefore, to respond better, it is recommended that the CDA improve its capacity. As planning paradigms went through radical shifts after the 1980s, planning institutions in Islamabad must also evolve themselves in accordance to these changes.

There is an inevitable gap between a master plan (the intention of a planner) and the on-ground realities (implementation constraints), and in Islamabad, one of the ways in which this gap manifested itself was urban sprawl and the consequential unsustainable environment. This thesis has only been able to study at length two factors behind Islamabad's unsustainable development, with regards to urban sprawl. Further research

still needs to be conducted which would verify the remaining factors behind urban sprawl that have been proposed in past literature or have been hypothesized by experts and academics, examine the extent of urban sprawl in the city, and inspect the features, typology and characteristics of sprawl in the Islamabad Metropolitan Area. In this regard, it is also vital to investigate the structural problems, including but not limited to, the political, economic, social makeup and dimensions, not just in Islamabad, but in third world countries – particularly those that share cultural and historical ties with Pakistan. It can be postulated that, similar to the way in which the characteristics of urban sprawl are analogous to one another in various developing countries, perhaps the reasons behind urban sprawl, and the political, economic, cultural or social facets associated to it, along with the modernization efforts in each of these developing states are also similar. Lastly, but most importantly, research needs to be conducted in order to design proactive, effective, and sustainable regional frameworks, urban policies, and implementation tools, while utilizing contemporary planning paradigms and keeping in mind the political, social, and economic structures of the region under consideration, so that we are able to construct a contemporary, sustainable, inclusive and resilient Islamabad.

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APPENDICES

A. APPROVAL FROM THE METU HUMAN SUBJECTS ETHICS COMMITTEE

UYGULAMALI ETİK ARAŞTIRMA MERKEZİ
APPLIED ETHICS RESEARCH CENTER



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01 ARALIK 2021

Konu : Değerlendirme Sonucu

Gönderen: ODTÜ İnsan Araştırmaları Etik Kurulu (İAEK)

İlgi : İnsan Araştırmaları Etik Kurulu Başvurusu

Sayın E. Atilla AYTEKİN

Danışmanlığınızı yürüttüğünüz AMAL KHURRAM'ın "A City for All? Making Islamabad Sustainable and Inclusive Through Planning and Urban Policy" başlıklı araştırması İnsan Araştırmaları Etik Kurulu tarafından uygun görülmüş ve 441-ODTU-2021 protokol numarası ile onaylanmıştır.

Saygılarımızla bilgilerinize sunarız.

Prof. Dr. Mine MISIRLISOY
İAEK Başkanı

B. SAMPLE INTERVIEW

Interviewee: Mustafa Kamal Pasha

Occupation: Architect; METU alumni, worked at CDA for over a decade in the Planning wing

Date and time: 28-10-2021, 10:00pm

Consent to mention name in the research: yes

1. How successful was the original Master Plan in establishing a ‘City of the Future’? Is Islamabad inclusive, sustainable and resilient? Why or why not?

When the planning process began for Islamabad’s master plan during the late 1950s, this city was envisioned as the City of the Future. The important thing however is that the conditions during which the MP actually began being implemented, during the 1960s, were very different: This capital would be one of the two capitals for East and West Pakistan- the second capital would be in Dhaka. And not long after 1965, a war broke out between East and West Pakistan due to which Islamabad saw an extreme lack in funding. The original plan was quite comprehensive and was based on empirical findings while taking into consideration the mother city, Rawalpindi. Both cities were planned to grow as a dynapolis but due to the changing conditions, the original plan did not get fully implemented.

However, there was no institutional arrangement within the MP. Institutional arrangements include technical aspects and legal frameworks with regards to the governance of this land. At the beginning, the CDA was decided to be the main authority for development and implementation. But after the provincial setups after the loss of East Pakistan in 1971, Islamabad became a federal capital. This led to some jurisdictional problems because Rawalpindi, unlike Islamabad, was in the province of Punjab and therefore, was under the jurisdiction of the Punjab government. Murree, along with some

other districts or tehsils that surrounded Islamabad, had the same issue- it came under the Punjab government and it also bordered another province, KPK. And developments in these regions meant that they would create a lot of problems for Islamabad, such as environmental problems. When Doxiadis was drawing up plans for Rawalpindi, at that time, Pindi had no framework for development nor personnel. In Islamabad, there was the CDA, but Pindi had neither personnel nor administrative bodies. There was also no specific funding for Pindi either. So this created issues during the implementation of the Rawalpindi plan. In Islamabad, however, the plan was followed to an extent.

Therefore, the original plan was good. But unforeseen circumstances are what created issues.

With regards to sustainability, there was no concept of environmental sustainability then. Doxiadis divided the area into sectors and more than adequate spaces were left for cars. However, no one had envisioned the energy crisis. And there was also no mass transit system set in place. None whatsoever. Doxiadis thought that the public sector would provide buses to cater to the needs of people traveling to and from Rawalpindi. And later when the public sector could not provide this system, the private sector brought forth wagons as a mass transit system. This too, however, is insufficient.

Not only this but the service sectors were also not catered for by the MP. The city was imagined as a place for government employees and an administrative unit- and therefore it was only planned to cater to the needs of these government employees. This was one of the biggest problems with the plan. So, eventually, the Sweepers Colony sprung up- the CDA designed this but it too was grossly inadequate. So inclusivity wise, the master plan lacked.

Furthermore, there was rapid growth in the country as a whole which resulted in internal migrations and rural to urban migrations. People mostly came to Islamabad for employment purposes in hopes of finding a job and since there was inadequate housing, they began living in shanty settlements- this led to a decrease in green areas around the city.

2. What are some constraints/hindrances that Islamabad suffers from which impedes its proper, sustainable and inclusive development?

a. Which is the greatest, in your opinion, and how can we address/overcome it?

There is the land acquisition issue. Private people owned pieces of land in Islamabad and the CDA did not acquire this land initially to implement the plan, and with time, their control over this land decreased and now, it is difficult to stop development on these lands because they are not the property of the CDA. You can pass laws to stop such unwanted developments but you cannot change their land use because, eventually, those villages increased in size and turned into bigger settlements. Now the problem is that due to this, the CDA does not have adequate land. And because land became inadequate, it became a commodity and an investment, people began wanting more and more land. The problem is, people do not see development- they do not understand that selling their lands to the CDA would develop their lands and that this would be beneficial for all. CDA auctions off developed lands at a high rate. There are not enough finances to develop land and buy private lands as well. So, for major proposals and plans, the CDA takes money from the government- these projects are called PSDPs.

b. Why are the land prices so high?

I have already mentioned that CDA's land saturation is not too good and the CDA has great difficulty in acquiring land because the land owners are reluctant to sell at the prices that CDA offers. Lately there has been a move towards a different formula whereby, the land owners are given plots from the same sector where their land is being acquired. But, due to corruption with the Authority, the land prices for their built up property, their huts, their houses, are not paid for a number of years, or it's paid to the wrong people. Then there are court cases and the CDA remains unable to possess the land.

Another thing is that, due to these court cases, or due to lethargy with regards to the decision making process within the authority, the development does not take place in time. In one particular sector, the sector E12, more than nearly 40 years back, land was allotted to people, and yet the development has not taken place. And for a large part of the sector, possession of the land has not been taken by

the CDA from the original land owners. This delay in handing over possessions results in increased costs, and harassment for the people who have been allotted plots but cannot get its possession from the CDA.

As you may know, within certain countries, the land saturation is quite different. Here, there is a construction period after the land has been allotted, but it is quite lenient and there is not enough punitive action in terms of fines whereby people are forced to undertake construction. So, land is there, allotted land, developed land, in some cases, but no construction takes place on those houses. Due to shortage of housing, the prices of land naturally also goes up.

In Pakistan, investing in land is considered one of the safest investments. Especially CDA, as opposed to the private schemes, is considered a better, safer option because most people think that CDA provides a better level of development as opposed to housing societies and also is more secure in the long term. So these are factors that are responsible for land prices and of course, as I mentioned earlier that the allotment of plots takes place through auction- land is disposed of through auction- so in the bidding process, the prices go really high. So, instead, what they could do is, the prices could be fixed for the land and people could get their plots through the process of balloting.

In the master plan, Doxiadis had defined areas or zones, for institutions, and in addition to this, large tracts of land were allocated for educational purposes within the residential sectors. However, these were allotted only to the federal directorate of education which, firstly, unfortunately, did not have enough funds to establish schools or maintain them, and secondly, they were unable to uphold the quality of education. Therefore, there was a great demand for private education, however, since land in the developed sectors was unavailable, CDA had to allot them land in the zones which were meant for other institutions. And simultaneously, there is no busing system either. In the original master plan, in the residential sectors, a child could easily walk to the school as it was designed to be close by. But now as it is at least at a distance of 5 to 10 kilometers or more,

students rely on private transport which is not a sustainable nor a desirable system.

As I mentioned earlier, anything that is long term, is put on the back burner: one of the sewage treatment plants which was installed in the 1980s, has not been functioning for the last 20-30 years because it requires a lot of investment and investigation to know why it is not functioning. So things get delayed and an effective disposal system for waste and sewage is not there.

Lastly, for the last 3 years we have been hearing that Islamabad is going to have a new Master Plan and the existing one is going to be reviewed. Committees have been formed, one after the other, they have taken very tiny steps or decisions regarding small matters but the overall review is yet to take place. In fact, they were going to appoint a consultant, they have been searching for one, but they are yet to even advertise for a consultant. Three years have passed, so this shows you the lethargy at the governmental level in dealing with long term things. They only want to solve things that suit them immediately but the longer term problems which require a more comprehensive solution are not taken up.

c. What can be done on a city level to impede climate change? How does climate change impact Islamabad?

Sustainability requires studies regarding the environmental development and ecology of an area and this is a relatively new concept. We do consider the environment but it is only a formality. Therefore, right now we should dwell into this more seriously.

The original plan was mostly, because it truly only considered government housing mostly, was envisioned as single dwellings. Until 30 years after Islamabad was created, there were no high rises in the city.

d. While keeping these constraints in mind, what can be done to make Islamabad more inclusive?

The plan reflects what the power elite wants. The prices of residential plots are very high. Therefore, you should firstly stop making large sized residential units. Secondly, it is important to go vertical now but high densities should be constructed based on studies.

In the old sectors, pipes should be changed and new ones should be put in. In the new sectors, the CDA can provide proper parking spaces and infrastructure.

Right now, it is increasingly becoming acceptable to buy apartments as people are being forced to buy apartments because single family units are very expensive. It'll be far more acceptable and better if we construct ground+4- it'll also be easier to manage and control them. However, this is my suggestion and this is only a gray area- the CDA is not working on this right now.

e. Changes are being made to the urban infrastructure of Islamabad- did these plans take into consideration climate change and sustainability?

Not really, but development in terms of infrastructure, which was mentioned in the MP, is being considered. But with regards to environmental issues, those are not being considered or looked into. The problem is, we are following the MP too rigidly.

3. There are growing concerns that Islamabad has turned into a city for the rich owing to the very high price of land. What are your opinions on this statement?

It was also intended to be a city for the rich, for top level bureaucrats, for example, despite the fact that 80% of the city comprises middle and lower middle classes.

4. What are some ways in which we can improve the urban infrastructure and delivery of services, construct sustainable buildings and ensure inclusive and proper land usage?

This comes down to the jurisdictional aspect. Right now we have multiple bodies dealing with this- the CDA provides these services in the urban areas of Islamabad. In the rural areas you have the MCI. The Civil Administration is under the Chief

Commissioner (bureaucrat). There are obviously turf wars between them. CDA can only give instructions to the MCI but can't enforce anything. MCI does have an issue with funding- it does not have enough money.

Taxes cannot be enforced without the permission of the federal government. Secondly, the area which is under the MCI, the people living there mostly do not have the means to pay taxes or cannot give that money. MCI also does not have the technical capacity along with the money.

One of the biggest issues with our country is that anything that is long term planning, whether that is waste management, water management, sanitation, is put on a back burner. Nations are built on long term planning but here, people are busy firefighting. Dams that were constructed 40-50 years ago are our main source for water. And other than this, our second option are tube wells or boring. There is no long term planning whether it is related to climate change or water or waste management. There is a lot of warfare between the CDA and the MCI over the Margalla Hills over who would have the final say in its decisions.

Right now, Islamabad's zoning is good. But when you tell an organization to generate their own funds, they will want to change the zoning in order to do so. Therefore, development and provision of services should be under one agency. There should be constant monitoring and if any issues arise, then devise a solution after conducting proper research. Also, there should be transparency in your plans, operations and decision making processes. Right now, neither the regulations are clear, and the decisions taken are also whimsical. This is why you need to make decisions after conducting empirical research. Also, Islamabad should be under the local government. Not the federal government.

5. How effective/successful was the original master plan in building the institutional framework?

Yes, it was drawn up, but it was drawn up at a time very different to the current realities. Secondly, not enough time was devoted to its review. Whenever a review

of the MP was being carried out, the review had to go through the hands of many people, each of whom had their own vested interests.

6. Ensuring high density in the city would mean abandoning the concept of single family units. Which population group do you think would oppose this move the most and how should the government respond to this opposition?

High densities are a good solution, but it is easier said than done. Especially getting rid of the concept of single family units- no one would want to give up these privileges. However, it can be tapered off by decreasing the allowed size of plots. Before, 2000 sq. yards were allowed, this could be decreased to a maximum of 600 sq. yards. This is a gradual process.

7. In your opinion, do all parts of Islamabad, whether rural or urban, new or old, receive equal municipal services such as drinking water, sewage disposal facilities, proper infrastructure, etc.? If not, then why, and what can be done about it?

Absolutely.

8. Do you believe that the entire concept of designing and implementing master plans is outdated because of how rapidly our cities are being urbanized? What is a better, more practical, alternative for this?

No, it is not an outdated concept but it is certainly not adequate. I believe that there is a need for plan development starting with Regional Plans. Then you move onto smaller, Master plans, for cities. The most important part is the review of the MP. If you do not review your MPs, then that is a serious problem. Therefore, master plans are not outdated concepts. We need monitoring and the private sector is more capable of providing municipal services and transportation facilities so they should be allowed to do so, however, their monitoring, control and regulation must be under the government.

9. Is water scarcity in Islamabad a problem of a lack of water provision or poor water management?

There is an inadequate water supply because there are not enough dams. This might not have been a problem if dams were timely constructed. We keep building tube wells and this is highly unsustainable, and not to mention, expensive because you are using electricity to pull out water from the depths of the earth. And other than this, it is also an issue of management- water is wasted a lot because it is not charged properly, nor is rainwater harvested.

Therefore, it is an issue of both water provision and water management. But mostly management because there were no timely dam constructions and water was also not charged the way it should have. Water is practically free, it is that cheap- in fact, it is actually free in government quarters. The way we no longer waste electricity because it is charged properly, similarly, we will also stop wasting water. And I understand no politician would want to increase the price of water- do not increase it all at once. Do it gradually while keeping in mind the economy and the people's buying power. Also, as you increase the cost, simultaneously also increase the supply, or improve the supply of water so people can actually see the benefits of paying more money.

10. Do you believe that Islamabad saw a population boom only after the 2001 security concerns?

It may have been a factor but generally speaking, there has always been a push from rural areas because there are inadequate jobs in those areas so people are forced to come to urban regions. In Islamabad, the rate of population growth is the highest in the entire country.

The actual problem is with regards to affordability. People do not have enough resources to commute everyday- people would not mind living further away if you provide them with a cheap and accessible commute. In foreign countries, transportation is highly subsidized- municipalities provide bus services. Here, we want the private sector to provide these services. In Lahore, due to transportation facilities, it has become easier for people to travel from far flung areas every day.

11. To what extent do you believe the smart city project would be effective in ensuring development of a sustainable, inclusive, and resilient Islamabad?

In the recent past, this “smart city” nomenclature has become quite popular and is being bandied left and right. Some private developers around Islamabad and in Lahore have also floated “smart city” projects. In all probability, their idea is limited to internet connectivity and that's it. To have a sustainable, inclusive and resilient urban environment is definitely going to take a long time.

C. TURKISH SUMMARY /_TÜRKÇE ÖZET

2018 yılına kadar, dünya nüfusunun kentsel bölgelerde yaşayan toplam yüzdesi %55 idi. 2050 yılına kadar bu sayının %68'e çıkması bekleniyor. Eşi benzeri görülmemiş bir oranda kırdan kente göçler olurken, yerel, eyalet ve/veya federal hükümetler hizmet ve altyapıyı eşit ve hakkaniyetli bir şekilde sağlamak için mücadele ediyor. Hızlı kentsel büyümenin sonuçları arasında, birkaçını saymak gerekirse, kentsel sel, sosyal meseleler ve eşitsizlikler, istikrarsızlık ve kirlilik gibi fenomenler var. Ancak şehrin ana planının ruhunun terk edilmesi veya benzeri görülmemiş zorluklar veya en önemlisi, hükümetlerin ve karar vericilerin zamanında karar almak ve koşullara cevap vermedeki yetersizliği bu sorunları büyük ölçüde şiddetlendiriyor. Bu nedenle, daha iyi karar verme süreçleri, daha verimli ve zamanında politikalar ve etkili bir kurumsal çerçeve için bu sorunların her birinin araştırılması büyük önem taşımaktadır.

Hızlı kentsel büyüme, kendisini çok yönlü sorunlar şeklinde gösterir ve bir kentsel varlığın sürdürülebilirliği üzerinde korkunç sonuçlar doğurur. Bu nedenle, bölgelerimize ve şehirlerimize rehberlik edecek etkili, zamanında ve sürdürülebilir kentsel politikalar formüle edebilmemiz için bu hususlar ayrıntılı olarak incelenmeli ve sorgulanmalıdır. Ancak, politika oluşturmadan önce, sorun tanımlama politika oluşturmanın ilk adımı olduğundan, kalkınma yetkililerimiz, belediye şirketlerimiz ve planlama çerçeveleri içindeki sorunları ve kusurları belirlemek önemlidir. Bu nedenle, bu çalışma, aşağıdaki iki faktörü etraflıca incelemeyi ve şehrin uygun, sürdürülebilir büyümesinde en önemli kısıt olarak gördüğüm bir faktörü seçerek bu tezi sonuçlandırmayı amaçlamaktadır:

1. Şehrin varlığı boyunca karşılaştığı emsalsiz zorluklar.
2. Kentin planlama ve yönetim kurumlarında yönetsel ve örgütsel sorunlar.

Bu amaç ışığında, bu tez şu araştırma sorusu etrafında dönmektedir: ***"İslamabad'ın sürdürülebilir kalkınmasını kritik olarak engelleyen en önemli faktör nedir?"***

1950'lerin sonlarında seçkin planlamacı Doxiadis tarafından dinamik bir metropol olarak tasarlanan ve Başkan General Ayub Khan'ın gözetiminde, demokratik olarak seçilmiş bir siyasi hükümetin yokluğunda ortaya çıkan İslamabad, Doxiadis'in en iyi projesiydi. Bağımsızlığına yeni kavuşan ülkenin ilk yıllarında uygun bir başkent olmaması, İslamabad'ı sadece bir zorunluluk değil, aynı zamanda bir ulus inşa etme, egemenlik sergileme ve güç pekiştirme aracı haline getirdi.

Doxiadis, İslamabad'ı dinamik bir doğaya sahip, hızlı kentleşmenin ve artan gelişme ve büyümenin baskılarına dayanabilecek ve aynı zamanda ekolojik dengeyi koruyacak bir 'Geleceğin Şehri' olarak tasarlamak istedi. Doxiadis için kentsel büyüme ve yeşil alanların büyümesi birbirini dışlayan şeyler değildi - bunlar birbiriyle bağlantılıydı, birlikte gelişmeyi amaçlıyorlardı ve Geleceğin Şehri'ndeki başarının gerçek bir göstergesiydiler.

1960'ların başlarındaki ilk uygulama aşamasından bu yana, bu dinamik metropol, ismine sadık kalarak, statik olmak dışında her şey oldu - sürekli büyüdü ve ısrarla gelişti. Bu, Doxiadis'in planının dikkate değer bir başarısıdır: yavaş yavaş Geleceğin Şehrine dönüşmesine izin verecek, şekillendirilebilir ve esnek bir kentsel plan sağladı. Doxiadis'in Geleceğin Şehri'nin bir başka dikkat çekici özelliği de metropol çerçevesiydi: yan işlevlerden ve yakındaki şehir ve ilçelerden izole edilmiş bir başkent olmanın aksine, entegre ve uyumlu bir toplum, ekonomi ve çevre geliştirme çabasıyla, İslamabad, Ravalpindi, çevre bölgeler ve hinterland ile birlikte büyüyecek şekilde planlandı.

İklim değişikliği, sürdürülebilirlik kavramı ve kentsel gelişmenin bir sonucu olarak çevresel bozulma 1972'de Stockholm Konferansı sırasında gündeme geldi. Bu konferansın tutanakları, Brundtland Raporu (1987), ilk kez sürdürülebilirlik terimini tanımladı ve türetti: 'gelecek nesillerin ihtiyaçlarını karşılama yeteneğinden ödün vermeden şimdiki neslin ihtiyaçlarını karşılayan kalkınma'. Bunun üç temel ayağı olduğu görüldü: toplum, ekonomi ve çevre **(ki bunlardan ağırlıklı olarak kentsel yayılmayı çevresel sürdürülebilirlikle bağlantılı olarak inceleyeceğim bu tez kapsamında)** (Dünya Çevre ve Kalkınma Komisyonu, 1987, s. 8).

İslamabad, küreselleşme, iklim değişikliği, hızlı nüfus artışı, sürdürülebilir kalkınma eksikliği ve bunların sonuçlarıyla başa çıkmak için büyük bir mücadele veriyor. Bunun bir sonucu kentsel yayılmadır. Kentsel yayılma, değerli doğal arazileri ve kaynakları azalttığı, seyahat mesafelerini artırdığı ve bir şehrin taşıma kapasitesini azalttığı için kentsel sürdürülebilirlik için bir tehdittir.

İslamabad, gelişmekte olan dünyadaki birkaç “yaratılmış başkentten” biri olduğu için, kentsel sorunları araştırmak, ekonomik, mali, idari, siyasi ve askeri yönlerin şehirlerimizi ve toplumlarımızı nasıl şekillendirdiğini anlamamızı sağlayacaktır. Ve bu faktörleri tanımladıktan sonra, sistemlerimizde bulunan boşlukları iyileştirmeye ve gelişmekte olan ülkelerimizde çağdaş, esnek, sürdürülebilir ve kapsayıcı bir şehir inşa etmeye çalışabiliriz.

Bu tez, verilerin hem birincil hem de ikincil araştırma yöntemleriyle toplandığı **nitel bir araştırma yaklaşımını** kullanır. Birincil veriler yarı yapılandırılmış görüşmeler şeklinde, ikincil veriler ise resmi çevrimiçi veri tabanlarından toplanmıştır. Profesörler, hükümet yetkilileri, CDA yetkilileri, mimarlar, şehir plancıları, şehir plancıları, çevreciler ve bürokratlar gibi uzmanlarla kartopu örnekleme tekniği ile 20 görüşme yapılmıştır. Tüm görüşmeler **Tematik Analiz** kullanılarak analiz edilmiştir.

Kentsel yayılmanın özelliklerinin bölgeden bölgeye değiştiği literatürde yaygın olarak ileri sürülmektedir. Dolayısıyla, kentsel yayılmanın bu çeşitli kavramsallaştırmaları, yalnızca bu olgunun bağlama bağlı olduğunu göstermekle kalmaz, aynı zamanda yayılmayı kontrol altına almak için kullanılacak süreç ve yöntemlerin de yerel anlayışlar ve yayılma biçimleri üzerine inşa edilmesi gerektiğini ima etmektedir. Bu bağlamda, yayılmanın türünü ve biçimini, yayılmanın arkasındaki nedenleri ve yayılmanın sonuçlarını ve etkilerini İslamabad'ın perspektifinden anlamak, pragmatik, etkili, verimli ve işlevsel hale getirilebilir çerçeveler ve çevreleme politikaları formüle edebilmemiz için önemlidir.

2017 nüfus sayımına göre, Pakistan'ın toplam nüfusunun %34,6'sı kentsel bölgelerde, geri kalan %63,6'sı ise kırsal alanlarda yaşamaktadır. İslamabad, son on yılda, %3,7'lik bir nüfus artış hızı yaşıyor ve denkleme eklenen İslamabad kırsalının (0,90 milyon) nüfusu ile, Ravalpindi hariç, İslamabad Başkent Bölgesi'nin (İBB) toplam nüfusu, 2

milyona eşittir (Shah ve diğeri, 2021). Aslında, İslamabad'daki nüfus artışının benzersiz bir özelliği, kentsel nüfusun kırsal bölgelere kıyasla giderek arttığı ülkenin geri kalanından farklı olarak, İslamabad'da kırsal nüfusun, kentsel bölgelere kıyasla daha yüksek bir artış oranına sahip olmasıdır. Şah ve ark. (2021), İslamabad'ın, ya Pakistan'da terörün vurduğu belirli bölgelerdeki toplulukların yerinden edilmesi ya da gayrimenkul yatırımları ve yeni konut planlarının geliştirilmesi nedeniyle nüfus artışının bir sonucu olarak kentleşme ve dolayısıyla kentsel yayılma yaşadığını öne sürüyor.

Bu tezin amacı doğrultusunda, kentsel büyüme, **orijinal master plana uygun olarak gerçekleşen kentin planlı gelişimi veya genişlemesi olarak tanımlanmıştır** - dolayısıyla İslamabad'ın 1 ve 2 bölgelerindeki planlı gelişmeler kentsel büyüme olarak değerlendirilecektir. Öte yandan, **Doxiadis'in İslamabad için olan orijinal master planının dışında gerçekleşen tüm planlı ve plansız, karma veya tek arazi kullanımı, yüksek yoğunluklu veya düşük yoğunluklu gelişmeler** kentsel yayılma olarak tanımlanacaktır - bu nedenle, 1 veya 2 bölgelerindeki plansız gelişmeler (gecekondu veya kenar mahalleler gibi) ve 3, 4, 5 bölgelerinde, şehrin hinterlandında veya şehirler arası veya şehir içi ana yolların etrafındaki planlı veya plansız gelişmeler kentsel yayılma olarak kabul edilecektir. Bu tanımları göz önünde bulundurarak, İslamabad'da Doxiadis'in orijinal nazım planına uygun olarak meydana gelen tüm gelişmelerin sürdürülebilir olduğu varsayılabilir, çünkü nazım planları, kentsel, kırsal ve kentsel bölgenin hinterlandını bütünleştiren sosyal, çevresel, ekonomik güçler ve piyasa güçleri dikkate alınarak formüle edilir. Aynı şekilde, planlı veya plansız, nazım planına uymayan tüm genişlemeler, genel kentsel yapı için sürdürülemezdir çünkü bu gelişmeler parçalı, düzensiz, müstakil ve kentsel biçim ve düzen açısından, planlı bölgede gelişen mekansal, sosyal, çevresel ve ekonomik güçlerden farklıdır.

Liu ve diğeri (2020), İslamabad'da kentsel büyümenin sürdürülebilirliğini 1990 ve 2018 yılları arasında dört dönem boyunca değerlendirip 1990'dan 1998'e kadar olan gelişmelerin yoğunluğunun 1. ve 2. bölgelerde, geri kalanın Bara Kahu'da (3. Bölge) olduğunu buldu.. Bölge 1 ve 2'deki gelişmelerin planlı mı yoksa plansız mı olduğu belirsiz olsa da, Liu ve diğeri (2020), gelişmelerin esas olarak N5 otoyolunun kenarlarında bulunduğunu ve bunun yayılmaya işaret ettiğini belirtirler. Bu gerçeğe rağmen, 3. bölgedeki Bara Kahu'daki gelişmeler, plansız oldukları için kolayca kentsel

yayılma olarak kategorize edilebilir. 1998'den 2009'a kadar, 1. ve 2. bölgelerdeki kentleşmiş alan artmış olsa da, 1. ve 2. bölgelerin kavşağına yakın Ali Bakhsh Kasabası, 4. bölgedeki Ghorı Kasabası ve Gulberg Yeşilleri, 5. bölgede, N5 ve E2 otoyollarının yanındaki Savunma Konutları Topluluğu ve Bahria Kasabası gibi çeşitli konut toplulukları da (planlı kentsel yayılma) ortaya çıktı. Son olarak, 2009'dan 2018'e kadar, önceki zaman dilimlerine benzer şekilde, kentsel alanlar 1. ve 2. bölgelerde genişlemeye devam etti, ancak bunların ne ölçüde planlı genişleme olduğu açık değil. Bununla birlikte, Liu ve diğerleri (2020), N5 karayolunun yanında Bölge 2'deki gelişmeleri yayılma olarak tanımlarken, Rawalpindi'nin doğu sınırı boyunca 4. bölgede Ghorı ile Farash Kasabaları arasındaki gecekondu ve kenar mahalle yerleşimlerinin büyümesini kenar yayılma olarak tanımladı. Son olarak, Liu ve ark. (2020), İslamabad metropol bölgesinde çeşitli yayılma modelleri olduğunu belirtti: “köy yayılımı ve birdirbir”, “kenar yayılımı ve doldurma ve birleştirme”.

Benzer şekilde Shah ve ark. (2021), şehirdeki kentsel yayılmaya olan katkısını ve üzerindeki etkisini belirlemek için İslamabad'ın Arazi Kullanım Arazi Örtüsü değişikliklerini 1979'dan 2019'a kadar dört zaman diliminde inceledi. 1970'den 2009'a kadar, sadece şehrin toprak sınırlarının 87.31 km² arttığını değil, aynı zamanda İslamabad'ın ormanlık alanlarının ve doğal yaşam alanlarının da aynı anda azaldığını ve bunun da kentleşmiş arazide bir artışa işaret ettiğini buldular. 1999-2008 yılları arasında, keskin ve ani bir şekilde, Shah ve ark. (2021), toplam yapı alanının baz yıla (1979) göre 8 kat arttığını tespit etmiştir. Kentleşmiş alanlardaki bu hızlı artış, birkaç temel nedene bağlanabilir. Şehirdeki geçirimsiz yüzeylerin toplam miktarını artıran ve yeraltı suyu kaynaklarının yeniden doldurulmasını azaltan bu LULC değişikliği, İslamabad'ın yeraltı suyu kaynaklarını doğrudan etkileyip azaltarak şehrin çoğu yerinde su kıtlığı sorununa neden oldu.

Özel olarak İslamabad Metropolitan bölgesindeki kentsel yayılmanın karakteristiğini ve özelliklerini, birincil verilerin kullanımı ve kendi gözlemlerim aracılığıyla inceleyen ve yeterince tartışan yeterli literatür olmadığı için, İslamabad'daki kentsel yayılmanın kabaca iki kentsel tipoloji altında incelenebileceğini buldum:

1. Planlı ve ayrıcalıklı kentsel yayılma: İslamabad Metropoliten alanı içinde, yetkili veya yetkisiz alanlarda, özel arsa geliştiricileri tarafından geliştirilen tüm konut toplulukları ve bölgeleri, planlı ve ayrıcalıklı kentsel yayılma örnekleridir. Bu yayılma türü çoğunlukla düşük yoğunluklu, iyi gelişmiştir ve kendisine özel sektör tarafından hizmet verilmektedir. 3, 4 ve 5. bölgelerde veya şehrin hinterlandında bulunur ve genellikle orta ve üst gelir seviyelerine hitap eder.
2. Plansız ve imtiyazsız kentsel yayılma: Plansız kentsel yayılma, beş bölgenin tümünde, ana otoyolların yanında, şehrin hinterlandında ve/veya çevresinde bulunur ve gecekondular, kenar mahalle veya yarı kentsel alanlar şeklinde ortaya çıkar. Bunlar genellikle doğası gereği yüksek yoğunlukludur ve düşük ila orta gelir seviyelerine hitap eder. Bu alanların sakinleri, belediye hizmetleri için özel kaynaklara bağımlı olmak zorundadır.

Yayılmış alanların sakinleri ve CDA tarafından geliştirilmiş sektörlerde ikamet edenler, kentsel yayılmanın bir sonucu olarak değil, kentin yetersiz, etkisiz, parçalanmış, pahalı ve erişilemez toplu taşıma sistemi nedeniyle büyük ölçüde özel otomobillere bağımlıdır. Ayrıca, mevcut literatür İslamabad'daki yayılmanın gelişim modellerini bir sıçrama olarak tanımlasa da, şehirdeki ana otoyolların yanında bulunan yayılmanın şerit gelişmeler olarak ayırt edilebileceği ileri sürülebilir.

Daha önce de belirtildiği gibi İslamabad, Doxiadis'in, bir ölçüde master plana göre büyüyen ve gelişen en iyi projesiydi. Ancak, Doxiadis'ten kısa bir süre sonra, İslamabad, master planın uygulanmasında, bölgenin kontrolü ve bakımında, nüfus artış hızında ve kentin gelişme hızında eşi görülmemiş zorluklar ve sorunlarla karşı karşıya kaldı. Dolayısıyla bu benzeri görülmemiş zorluklar, Doxiadis'in İslamabad Metropoliten Bölgesi için öngördüğü, metropoliten bölgenin kalkınması ve evrim biçiminde bir engel yarattı.

Doğası gereği öngörülemez olsa da, bu zorlukların iki alt bölüme ayrılacağı varsayılabilir: Soğuk Savaş dönemi Sovyet-Afgan savaşı, ekonomik krizler, siyasi istikrarsızlıklar veya değişen sosyo-ekonomik zemin gibi kaçınılması mümkün olmayan zorluklar ve yetersiz arazi edinimi, ana planın zamanında revize edilmemesi veya Geleceğin Şehri'nin dinamik karakteristiğinin terk edilmesinin sonuçları gibi kaçınılması

mümkün olan zorluklar. Ancak, bu öngörülemeyen durumların türü ve biçimi arasındaki farklılıklara rağmen, yukarıda belirtilen bu zorlukların her biri arasında iki benzerlik vardır. İlk olarak, her zorluk İslamabad'ın kentsel biçimini ve mekânsal özelliklerini nüfus artışı yoluyla doğrudan etkileyip büyük ölçüde değiştirerek, şehrin genişlemesine ve sınırlarının şişmesine neden oldu. İkincisi, proaktif planlamanın kullanılması ve master planının, planlama paradigmalarına ve hızla değişen zemin gerçeklerine uygun olarak zamanında gözden geçirilmesi ve revize edilmesiyle, İslamabad'ın, karşılaştığı sıkıntıların hepsinden olmasa da çoğundan kurtulabileceğine inanıyorum. Bu bağlamda, İslamabad'daki planlama ve kalkınma organlarını dikkatle incelemek ve bunların, federal hükümetle birlikte İslamabad'ın karar verme sürecinde oynadıkları rolü incelemek son derece önemlidir.

Şu anda, dört ana organ - Birlik Konseyleri, İslamabad Metropolitan Kurumu, Başkent Geliştirme Otoritesi ve federal hükümet - çeşitli şekillerde, kalkınma, izleme, kontrol ve şehrin kentsel (1 ve 2. Bölgeler) ve kırsal (3, 4 ve 5. Bölgeler) bölgelerinde belediye hizmetlerinin sağlanmasında yer almaktadır. İslamabad'ın planlama ve idari kurumlarındaki, federal hükümetin İslamabad'ın işlerindeki otoriter rolü, halkın katılımının olmaması, Doxiadis'in orijinal ana planının yetersiz uygulanması ve uygunsuz yürütme, kötü yönetim, yönetim ve kötü kent planlaması gibi çeşitli yönetsel ve organizasyonel sorunlar da yukarıdaki bölümlerde gün ışığına çıkarıldı. CDA'ların teknik, teknolojik ve yönetsel kapasite eksikliğiyle de ilişkilendirilebilecek ana planın uygulanmasındaki en büyük eksikliklerden biri, bence, Doxiadis'in metropoliten çerçevesinin terk edilmesiydi. İslamabad Büyükşehir Bölgesi, metropoliten yapıyı bir kenara bırakarak, kentin dinamik karakteristiğini göz ardı ederek ve çevre ilçeleri kendi haline bırakarak, artık tutarsız bir ekonomiden, parçalanmış ulaşım ağlarından, zarar görmüş ekolojiden ıstırap çekerken, düşük gelirli sakinlerinin büyük bir bölümüyse sosyal eşitsizliklere ve adaletsizliklere dalmış durumda. Sadece bu değil, dinamik özellikleri ve metropoliten çerçeveyi terk etmenin İslamabad'daki en önemli sonuçlarından biri kentsel yayılma olmuştur.

Dikkatli değerlendirmelerden sonra, İslamabad'daki kentsel yayılmanın ve bunun sonucu olan sürdürülemez gelişmenin, zayıf şehir planlamasının ve Doxiadis'in orijinal ana

planının altında yatan mantığın CDA'lar tarafından yeterince anlaşılmasının bir sonucu olduğu çıkarımı yapılabilir. Daha önce de belirtildiği gibi, bu tezin amacı doğrultusunda, zayıf şehir planlaması, metropoliten bölgenin (İslamabad'ın çevresindeki alanlardan izole edilmemesi ve ayrılmaması için, İslamabad, Milli Park, hinterlandı ve Rawalpindi'nin bölgesel kalkınma amacıyla) kalkınması ve büyümesi için yetersiz, tatmin edici olmayan, ve/veya hatalı siyasa ve stratejilerin formüle edilmesi, rutin olsun (örneğin belediye hizmetlerinin sağlanması, su rezervuarlarının doldurulması vs.) veya benzeri görülmemiş (iklim krizi, siyasal istikrarsızlık veya savaşlar gibi), zorluklara etkisiz ve/veya zamansız yanıt verilmesi proaktif planlama uygulamalarının aksine reaktif planlama uygulamalarının kullanılması ve ilgili sorunların anlaşılabilmesi ve bu sorunlara, hem şehrin çevresel sürdürülebilirliğine hem de söz konusu bölgenin ekolojik dengesine karşı bir tehdit oluşturmayacak, etkili ve verimli karşılıkların verilememesi olarak tanımlanmıştır. Bu açıklamadan da anlaşılacağı gibi, orijinal master planın gerçek ruhunun zayıf bir şekilde anlaşılması, CDA'ların Doxiadis'in İslamabad Metropolitan Çerçevesindeki vizyonunu ve planlama ideolojilerini tam olarak kavrayamaması ve takdir edememesi anlamına gelir ve bu durum, Doxiadis'in Geleceğin Şehri ile çelişen bir şehrin gelişmesi sonucunu doğurmuştur.

Kentsel varlıklarımızın dayandığı belirli sütunlar vardır. Uygun şehir planlaması, proaktif zihniyetler, etkili ve zamanında müdahaleler, iyi yönetim ve yönetim çerçeveleri bu sütunlardan bazılarıdır. İslamabad'ın özellikle son otuz yılda bocalamasının nedeni bu sütunların yapısındaki zayıflıktır. CDA'nın zayıf kentsel planlama teknikleri, şehrimizdeki plancılarının bu çağdaş zamanda dinamik bir varlığın özelliklerini henüz kabul etmediklerini ve Geleceğin Şehri'ni yönetmek için mücadele ettiklerini ortaya koymaktadır. Bu nedenle, planlama kurumlarımız, karar verme organlarımız ve mahkemelerimiz gerçek fenomenlerin her zaman 20 adım gerisindedir ve **politikalarımız çoğunlukla reaktif, bazen kademeli, ancak asla proaktif değildir.** Ancak bu kabulden sonra CDA, İslamabad gibi dinamik şehirlerin evcilleştirilemeyeceğini ve çoğu zaman kontrol edilemeyeceğini anlayacaktır. Ancak iyi ve zamanında yanıt verilirse yönetilebilir ve sürdürülebilirler. Bu nedenle, daha iyi yanıt verebilmek için CDA'nın kapasitesini geliştirmesi önerilir. 1980'lerden sonra planlama paradigmaları köklü değişimler yaşarken, İslamabad'daki planlama kurumları da bu

değişimlere göre kendilerini geliştirmek zorundadır. Zamanla, dünyanın dört bir yanındaki planlamacılar bu yeni uygulamaların önemini sadece kavramakla kalmadılar, aynı zamanda bu değişiklikleri şehirlerine de aşamalı olarak dahil etmeye çalıştılar. Ancak İslamabad'da planlama kurumları hala geleneksel yöntemleri kullanmakta, doğası gereği hala reaktif olan veya zamanın ihtiyacı olmayan (Akıllı Şehir Projesi gibi) politikalar formüle etmekte ve oldukça bürokratik, yukarıdan aşağıya bir karar verme sürecine sahip olmaya devam etmektedir.

Ayrıca, yoğunluğun artırılması vazgeçilmez bir çözüm ve günün bir gereği olmasına rağmen, genellikle büyük şehirlerin yönetilmesi ve bakımının daha zor olduğu tartışılmaktadır. Bu nedenle, İslamabad'ın artık sadece başkenti değil, İslamabad Metropolitan Bölgesini de kontrol edecek bir çerçeve ve stratejik plan gerektirdiğine inanıyorum. Bu plan iki şekilde hareket edecek: ilk olarak, İslamabad'ı iki idari birime ayıracak - İslamabad (1, 2, 3, 4 ve 5 bölgeleri) ve Büyük İslamabad Bölgesi (arka bölge ve çevresindeki geniş alanlar). İkinci olarak, İslamabad Metropolitan Alan Planı şu bölgeler için bir üst düzey bölgesel mekansal stratejik plan görevi görecektir: İslamabad'ın 5 bölgesi, hinterlandı, Rawalpindi şehri, Attock, Wah, Kamra, vb. gibi yakındaki kasabalar. Bu Büyük İslamabad Bölgesi içindeki bağlantıyı artırmak ve aralarındaki yayılmayı ve plansız yerleşimlerin gelişmesini azaltmak için uygun fiyatlı, sürdürülebilir, geniş çapta erişilebilir ve kapsayıcı bir ulaşım sistemi son derece önemlidir. İslamabad'daki mevcut ulaşım sistemi etkisiz, erişilemez, pahalı ve yetersizdir. Önceki bölümlerde, CDA'nın reaktif zihniyetleri ve bunun sonucunda trafik yönetimine ilişkin *Tahmin Et ve Sağla* yaklaşımı uzun uzadıya tartışıldı. *Tahmin Et ve Önle* yaklaşımını benimsemek için, İslamabad'ın ulaşım politikalarına çeşitli hafifletici ve uyarlayıcı stratejiler dahil edilmelidir. Bu bağlamda, Sürdürülebilir Kentsel Hareketlilik Planları (SUMP'ler), İslamabad'ın kentsel ve ulaşım politikalarına dahil edilebilir. En önemlisi, İslamabad'ı sürdürülebilir kılmak için, CDA şu anda bu Akıllı Şehir projesini uygulamayı düşünüyor ve planlıyor. Bu iyi bir adım olsa da, iki nedenden ötürü, doğru adım olmasının şart olmadığına inanıyorum. Öncelikle, akıllı binalara ve akıllı hizmetlere geçmeden önce şehirdeki mevcut temel altyapı iyileştirilmelidir. Sadece bu değil, akıllı şehir yaklaşımını uygulamadan önce, bu akıllı şehrin iyi işletilebilmesi, yönetilebilmesi ve kontrol edilebilmesi için kurumsal kapasite ve çerçeveler

geliştirilmelidir. İkincisi, enerji verimliliği iklim değişikliğinin etkilerini azaltmak için önemli bir önlem olsa da, kentsel yayılma, kentte ekolojik ve sosyal bir felaket yarattığı için acilen ele alınması gerekiyor. Bu nedenle, genel olarak kentsel yayılmayı engellemeyi amaçlayan Akıllı Büyüme ve öncelikle taşıma kapasitelerini aşmayan metropoliten bölgelerin geliştirilmesini amaçlayan Ekolojik Kent yaklaşımlarının her ikisinin de uygulanmasının daha doğru olacağını düşünüyorum. - Eko-şehir yaklaşımı İslamabad'ın 1. ve 2. Bölgelerinde uygulanabilecekken, Akıllı Büyüme, şehrin şu anda kentsel yayılma ile karşı karşıya kalan geri kalan bölgelerinde uygulanabilir. Ancak, elbette, tüm yaklaşımların bir arada ve alana özgü bir şekilde kullanılması, sürdürülebilir kalkınma açısından en iyi sonuçları verecektir.

Bir ana plan (bir planlayıcının niyeti) ile yerdeki gerçekler (uygulama kısıtlamaları) arasında kaçınılmaz bir boşluk vardır ve İslamabad'da bu boşluğun kendini gösterme yollarından biri kentsel yayılma ve bunun sonucunda oluşan sürdürülemez çevredir. Bu tez, İslamabad'ın kentsel yayılma açısından sürdürülemez gelişiminin ardındaki iki faktörü uzun uzadıya inceleyebildi. Geçmişte literatürde öne sürülen veya uzmanlar ve akademisyenler tarafından varsayılmış olan kentsel yayılmanın ardındaki diğer faktörleri doğrulayacak, şehirdeki kentsel yayılmanın boyutunu inceleyecek ve İslamabad Metropolitan Bölgesi'ndeki yayılmanın şekillerini, tipolojisini ve özelliklerini inceleyecek daha fazla araştırma yapılması gerekmektedir.. En önemlisi, çağdaş, sürdürülebilir, kapsayıcı ve dayanıklı bir İslamabad inşa edebilmemiz için, hem çağdaş planlama paradigmasını kullanıp hem de söz konusu bölgenin siyasi, sosyal ve ekonomik yapısını göz önünde bulundurarak proaktif, etkili ve sürdürülebilir bölgesel çerçeveler, kentsel politikalar ve uygulama araçları tasarlamak için daha fazla araştırma yapılması gerekmektedir.

D. THESIS PERMISSION FORM / TEZ İZİN FORMU

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TEZİN TÜRÜ / DEGREE: **Yüksek Lisans / Master** **Doktora / PhD**

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