
URBANIZATION AND SOCIAL INEQUALITY IN THE UNITED ARAB EMIRATES: A COMPARATIVE STUDY OF ABU DHABI AND DUBAI THROUGH THE CONCENTRIC ZONE AND SECTOR MODELS

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ABSTRACT

The unprecedented urbanization of the UAE has resulted in the formation of globally integrated metropolitan areas featuring rapid economic development, substantial infrastructure, intense international migration, and increasingly heterogeneous patterns of housing differentiation. Nevertheless, spatial patterning of inequality in the cities of the UAE is not adequately explained by the existing urban growth theories developed in the context of Western industrialized societies. In this paper, the cities of Abu Dhabi and Dubai are analyzed within the framework of the classical Concentric Zone Model introduced by Burgess and the Sector Model elaborated by Hoyt, yet modified in accordance with the peculiarities of Gulf urbanism. Based on the integrative review of the literature in urban studies, as well as the statistics, data on urban planning, housing, migration and spatial segregation, the paper seeks to develop a comparative approach to studying the processes through which urban expansion creates differentials in access to housing, employment opportunities, infrastructure, and urban amenities. Abu Dhabi exemplifies certain characteristics of compact and relatively monocentric urban growth, although peripheral zones of housing and employment create different socio-spatial divides. On the other hand, Dubai represents a more pronounced example of sectoral and polycentric urban growth, where highways, investment corridors, free zones, waterfront development, gated communities and employment clusters have shaped urban expansion along differentiated

sectors. In both cases, however, socioeconomic inequality cannot be explained simply by distance to the CBD. Rather, spatial inequality emerges as the result of the interaction between the urban form and citizenship, migration status, labor-market segregation, housing policy, ownership, and transport accessibility. In order to understand how the Gulf cities differ from classical models and at the same time retain the crucial insight into the interrelationship between urban form and social stratification, the notion of institutionally mediated sectoral urbanism is proposed.

KEYWORDS: UAE; Abu Dhabi; Dubai; urbanization; social inequality; spatial segregation; urban morphology; Concentric Zone Model; Sector Model; Gulf urbanism; migrant labor; housing.

1. INTRODUCTION

The process of urbanization is tightly connected with social inequality. Urban space is structured in such a way that some people will have access to advantageous location, while others will suffer the drawbacks of distant commuting or poor-quality housing and low accessibility. The process of urbanization, in turn, means that these disparities will persist in the future, since new opportunities of access will emerge for those who already benefit from them. The situation described above is especially true for the United Arab Emirates. Over the last several decades, the UAE changed from a primarily small trading and coastally located country into a global economy, where Abu Dhabi and Dubai became international financial, tourism, logistic, aviation, construction, educational, energy and service centers. These transformations were accompanied with high levels of international migration and urban expansion. Abu Dhabi's demographic expansion gives an example of this process. In 2024, the emirate's population reached 4,135,985 people, which means 7.5% growth per year or approximately 51% growth over the previous decade. As for Abu Dhabi region, in 2024 it contained about 2.82 million people or 68% of the emirate's population. Similarly to Abu Dhabi, Dubai underwent a fast transformation. It was influenced strongly by foreign investments, tourism, logistics, real estate market, free zones, highway projects, waterfront projects and large-scale master-planned communities. Studies on Dubai identified many types of residential development: historic urban district, dense apartment neighborhood, labor housing, suburbia, gated development, tower cluster, waterfront development and offshore development. Regardless of all the above mentioned differences, Abu Dhabi and Dubai possess an important trait in common, which is the highly diverse structure of the population

according to nationality, occupation, income level, migration status, etc. Previous studies showed that expatriate labor market in both cities reproduced differentiated forms of migrant integration, where workers held different places due to their skills and occupations. In addition, researches on UAE urbanism found important differences between rich and poor residents, between Emiratis and foreigners, professionals and workers. This list of features poses the following theoretical question:

How well do classical urban growth theories account for the spatial structuring of inequality in fast-growing gulf cities such as Abu Dhabi and Dubai?

In answering this question, this paper employs two classic models of urban morphology – the Concentric Zone Model of Burgess and the Sector Model of Hoyt. The Concentric Zone Model describes urban growth in terms of concentric rings developing around the central business district (CBD) while the Sector Model explains how residential differentials tend to form along sectors or wedges radiating outwards from the CBD along transportation and development corridors. Neither of the two models was developed under conditions of temporary migration on a grand scale, active intervention of the state into land markets, meticulous planning of infrastructure and cities whose majority population consists of non-citizens. Therefore, the direct application of the models to Abu Dhabi and Dubai would be inappropriate. Still, the essential insight of both theories – the influence of urban morphology on socio-economic structuring – is very valid. For this reason, this paper argues that the models should not be applied as static geographic templates. Instead, they should serve as analytic instruments of uncovering the processes of spatial structuring. The paper makes three important contributions. First, the comparative analysis of Abu Dhabi and Dubai is provided in the paper instead of studying one of the two cities. Second, it is illustrated that social stratification in UAE cities is multidimensional and includes differences in income, citizenship, migration status, housing, occupation, mobility and access to urban amenities. Third, a new theoretical concept of institutionally mediated sectoral urbanism is proposed.

2. Theoretical Framework

2.1 Urbanization and social inequality

The urbanization process is not only demographic in nature and includes migration from countryside to cities and increased population concentration in urban areas. This is a complex transformation process involving changes in land use, economic development, housing and transport systems, institutional arrangements, and social interaction forms. As the cities expand and grow more economically diverse, the distribution of land, infrastructure,

employment, housing, and urban amenities becomes more and more uneven. Urbanization, thus, can create both economic opportunities and perpetuate or even increase existing social inequalities (Harvey, 2008; Lefebvre, 1991; Sassen, 2001).

A key research question in urban sociology and geography is the relation between urban spatial structure and social stratification. The organization of urban space determines residential, employment, transport and other social interactions of different social groups as well as socioeconomic inequalities determine these groups' location in space and access to urban amenities. Urban space is not a neutral physical entity, which houses social activity, but is constructed by socio-economic and institutional processes (Lefebvre, 1991). The land and infrastructure distribution reflects the existing relations of power and resource distribution; as a result, spatial differences between different parts of city may reflect the income, employment, housing, and other inequalities.

Thus, the urban inequality has the spatial dimension as well. Two households with similar income level can have quite different access to employment opportunities, transport, education, health care, urban amenities and other urban facilities depending on their residence and transport accessibility. At the same time, households of different socioeconomic positions may live in completely different environments located in one and the same metropolitan area. Geographical proximity does not imply social proximity as the social environment is differentiated according to the socioeconomic position of people. In the highly differentiated city, affluent professionals, middle-class families and low wage earners may live geographically nearby and at the same time have quite different living conditions and access to urban facilities. This relation becomes especially relevant in the context of globalizing cities, where economic sectors oriented towards international markets are intertwined with large groups of low-paid workers employed in the service industry, construction, domestic work, hospitality, logistics, and maintenance. Thus, the growth of global cities can lead to the formation of a highly differentiated urban labor market where people will be involved in unequal occupations in terms of location and income. Sassen (2001) claims that global cities produce occupational polarizations, when advanced financial and professional services coexist with low-wage service employment. Although the institutional context of the UAE is rather different from that of Western global cities from which this literature has arisen, the coexistence of highly qualified international professionals and low-paid migrant workers is a good basis for researching such phenomena.

United Arab Emirates is a special case because the process of its urbanization is strongly related to economic diversification, international migration, state-led development, and large

investments in the infrastructure of the country. Abu Dhabi and Dubai have become global metropolitan centers but at the same time, they depend on the international recruitment of their labor force. Such demographic composition produces a unique connection between urban development and social stratification. International migrants form not a homogeneous social group but occupy various positions depending on income, occupation, educational level, immigration status, and access to housing.

Studying expatriate labor markets of Abu Dhabi and Dubai it is possible to see how international migration is connected to the economic transformation of these cities. Ewers and Dicce (2016) have shown that expatriate labor is integrated into the urban economy through different occupations and socioeconomic positions. Therefore, international migration should be regarded not only as a demographic response to economic growth but also as a spatial phenomenon that determines where people live, what housing is available for them, their access to jobs, and means of transportation. Thus, spatial results of the above-mentioned labor-market differentiation can be seen in coexistence of luxurious residential estates, middle-class apartment complexes, urban residential districts, suburban zones, industrial zones and special accommodation of workers. Thus, the differentiation means that the rapid physical growth of UAE cities has been accompanied by the formation of particular socio-spatial landscapes. Residential locations depend not only on income level of the household but also on its occupational position, citizenship, immigration status, eligibility for housing, land use restrictions, employment location and transport accessibility.

Thus, the UAE is especially important for reconsideration of existing theoretical approaches to urban structure. Traditional models imply that urban spaces are structured mainly by certain processes such as competition for land, differences in accessibility, transportation costs, land prices and preferences for residence. The case of the UAE implies that there is an institutional environment when the state intervention and urban planning play a particularly significant role. State institutions have impact on land allocation, infrastructure, zoning, housing policy and new urban developments. Therefore, spatial differentiation cannot be interpreted as the result of market competition.

Citizenship adds additional complexity to the relationship between urbanization and inequality. In many traditional approaches, socioeconomic inequalities are based on the level of income, occupation and class relations. In the UAE case, citizenship can be considered as an additional institutional factor of urban differentiation because Emirati citizens and immigrants have different attitudes towards housing provision, land ownership, employment and state-provided services. Thus, the inequalities of socioeconomic and spatial character can

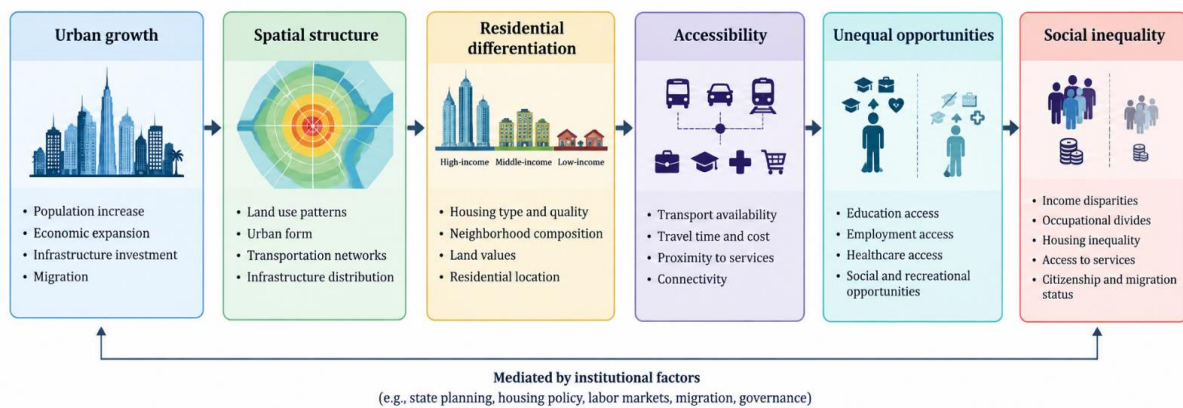
result from the combination of class relations, citizenship, immigration status and labor-market positions.

Housing is one of the most obvious mechanisms of urbanization leading to the formation of particular inequalities. Housing is an economic good, social resource and factor of access to urban space at the same time. Housing differences in terms of affordability and quality conditions influence the residential locations of the households – living near the employment center or far away from it. According to research in Dubai, there is significant differentiation in types of residential developments and affordability problems for middle-class residents (Alawadi, Khanal, & Almulla, 2018). Thus, it is possible to see that urban inequality is more complicated than the dichotomy between the poor and rich and involves important differences between wealthy residents, middle-class professionals and low-income workers. A third mechanism, besides segregation and spatial mismatch, through which urbanization creates or reinforces socioeconomic inequalities is transportation. In particular, the larger urbanized area becomes, the larger distance between living quarters and places of work become as well. When transportation is lacking, or if urbanized space is highly automobile-dependent, individuals who cannot afford private automobiles will face difficulties with mobility. In this sense, geographical location of residence becomes important in terms of cost and time needed to get to workplaces and other services.

This mechanism of inequality creation or reinforcement is especially relevant for Abu Dhabi and Dubai, since both cities were traditionally developing in an automobile-oriented way. It was found out that urban form, street layout, density, land use and transportation infrastructure affect residents' accessibility to different parts of the city. Thus, accessibility is a key mechanism of influence of urban morphological differences on social inequalities.

From this point of view, spatial inequality should be perceived not only in terms of people's locations, but also in terms of resources, available to them through the geographical place they occupy. For instance, peripheral location can have very strong negative implications for households in terms of high commuting distance, lack of transportation and low accessibility to social infrastructure, while central location will bring certain benefits in terms of accessibility to employment, education, healthcare, retail, entertainment and transportation itself, even if this group does not earn more than others.

The concept of spatial accessibility becomes a link between urban morphology and social inequalities, since urban form affects accessibility, accessibility affects opportunities, which, in turn, contribute to inequalities. This relationship can be illustrated by the following scheme:



Nonetheless, such a correlation is not deterministic because institutional policy, transport development, housing projects, and urban planning intervention can influence such an effect. Thus, the same physical distance will be socially different due to the availability of transport, housing, employment and public infrastructure. Consequently, in case of the UAE, the problem of urban inequality can be considered as a multidimensional one and institutionalized to some extent. Economic inequality overlaps with housing inequality, occupational inequality, mobility inequality, and citizenship-based or migration-based differentiation. The result is a number of overlapping dimensions and a formation of urban landscape where integration and segregation coexist. At the same time, the fact is particularly relevant to compare Abu Dhabi and Dubai in terms of urban form because even despite rapid economic growth, international migration, and intensive state infrastructure development, the cities do not share the same urban morphology. Historically, Abu Dhabi's growth was influenced by its compact and easily developed island and further expansion to mainland areas while Dubai's development was mostly determined by transportation corridors, real estate developments, water fronts, free zones, master-planned areas, and other factors. Such a situation allows making conclusions about possible association between the types of urban expansion and patterns of social inequality.

The theoretical importance of the comparison is in the opportunity to connect modern urbanization process in the UAE with classical theories of urban spatial structure. For example, Burgess's Concentric Zone Model states that the development of an urban area is characterized by its gradual expansion starting from a business district which leads to the differentiation of urban areas in different zones with specific functions and specific population. In turn, Hoyt's Sector Model underlines the directionality of urban expansion and

suggests that the pattern may be extended in a certain direction determined by transport infrastructure and development. Nevertheless, their application in relation to Abu Dhabi and Dubai is theoretically inadequate. Urban development in the UAE is associated with the interplay of market forces and a high level of government involvement, extensive international immigration, citizenship-based institutional differentiation, car-friendly infrastructural development, and large scale master planning. Consequently, the classical models should be considered as starting points of analysis rather than descriptions of urban form per se. Urban inequality in Abu Dhabi and Dubai is therefore seen as the result of interaction between urban form and institutional processes. The Concentric Zone Model is applied in order to find out whether there are certain regularities of socio-economic differentiation in Abu Dhabi that can be related to its centralized structure and expansion, while the Sector Model is applied in order to analyze the pattern of spatial differentiation in Dubai. At the same time, the author realizes that neither of the two models can account for the current urbanization in the UAE without considering such factors as state planning, migration, housing institutions, labor market segmentation, and accessibility.

This theoretical position results in the following key hypothesis of the study: urban form does not create social inequality on its own; rather, it is the result of interaction between urban form, institutional arrangements, socio-economic differentiation, and access to urban amenities. In this way, Abu Dhabi and Dubai serve as a good example of a setting in which it is possible to develop classical urban theory by analyzing its models outside of the Western world. The study therefore does not discuss the issue of whether Abu Dhabi or Dubai corresponds to one of the classical models. Instead, it discusses how and in what institutional setting the mechanisms proposed by Burgess and Hoyt operate in the Gulf cities.

3. The Concentric Zone Model

Burgess's concentric zone model is part of the legacy left behind by the Chicago School of urban sociology and is one of the earliest theories on the organization of the urban landscape. According to Burgess, the development of an urban settlement is an outward movement that leads to differentiation among social, economic, and residential functions surrounding the central business district of the city. As per the classical model, the central business district (CBD) is the commercial and administrative center of the city and is surrounded by the zone of transition which is defined by its mixed land uses, industries, dynamic population, and the instability of its residential areas. Outside the zone of transition is the working-class residential zone in which lower income residents live, followed by the higher income

residential zone which comprises more stable and wealthier communities. Finally, there is the commuter or suburban zone which is low density and whose population commutes into the city center for employment. Though current cities do not develop according to the concentric pattern, Burgess's model is useful in understanding urban expansion and resulting spatial differentiation and residential segregation. According to Burgess, the development of the city took place through expansion, invasion, succession, concentration, and decentralization. The importance of the theory is that instead of the exact five-zone theory, it offers the idea that: distance, accessibility, land values, and competition for space in the city are factors of social stratification. This model can be used as a basis for analyzing UAE cities.

The direct use of Burgess's Concentric Zone Model in Abu Dhabi and Dubai would not be entirely accurate since both cities are different from the industrial cities which gave rise to the said model due to their differences in history and development. Abu Dhabi and Dubai did not develop mainly due to the spontaneity of urban growth and industrialization. The cities' development has been heavily influenced by government planning, government land distribution, massive infrastructure projects, and urban development plans. The cities' urban design and development have also been influenced by the dependence on migrant labor, auto-dependent movement, residential zoning, industrial zoning, and economic zoning. Furthermore, the free zones, gated communities, artificial islands, and large-scale master planned communities created distinct spatial patterns which cannot be accounted for solely by concentric spatial development patterns. The government housing program for nationals has contributed to the spatial distribution of the cities through planned housing and land allocation based on national policies. In conclusion, despite the fact that the application of the Concentric Zone Model can be considered useful at the beginning of the analysis, it must be modified, taking into account the government involvement, planned development, migrations, car-centered city, and zoning policies because they are not taken into consideration by the model. Therefore, the concentric model should be regarded as a process model.

4. The Sector Model

The Sector Model, which was formulated by Hoyt (1939), is quite pertinent in the study of spatial change in Dubai since it considers that transportation systems, development corridors, and investments along particular directions were an important determinant of the city's urban form. Contrary to the assumption made in the Concentric Zone Model by Burgess that socioeconomic attributes vary with the distance from the central business district (CBD), the

sector model takes into consideration that urban development may also develop along transportation routes. This model would be applicable in Dubai as far as its development corridors, such as highways, metro rail, airport connectivity, waterfront developments, and planned developments have been important in shaping the direction of urban development in the region. Instead of the assumption made in the Concentric Zone Model that socioeconomic attributes increase or decrease systematically with the distance from the CBD, the sector model will enable researchers to consider which geographic directions favor high-value residential and commercial development, which transportation corridors become the center of business activities, and how low-cost residential zones and labor accommodations cluster. The model is applicable due to the fact that the spatial form of the city itself was largely driven by the connection between transportation accessibility, development of the land, and investment. The areas where valuable developments are likely to take place include the corridors, where increased accessibility, waterfront, commercial infrastructure, and other prestigious qualities increase the attractiveness and economic value of the land. As a result, such valuable developments as waterfronts, luxury housing areas, gated communities, and important business centers may give rise to the distinct sectors of valuable urban land, while industrial zones and labor accommodations may develop in another corridor, where the land is cheaper, but provides easier access to the industrial and construction activities. Major highways and transport systems affect not only the mobility of people, but also their choice of residential location and employment opportunities. It means that in comparison to a pure concentric model, the Sector Model provides more detailed understanding of how the urban growth takes place along corridors and in certain directions. However, since the development of Dubai is connected with state planning, master planned communities, foreign investments, free zones, zoning regulations, and mega projects, the model should be used as a framework for analysis and not as a direct description of the spatial form of the city.

5. From Classical Models to Gulf Urbanism

The application of Burgess and Hoyt to Abu Dhabi and Dubai requires theoretical modification. Three features distinguish Gulf cities from the historical cities for which these models were developed.

5.1 State-led urban development

Land markets in Gulf cities are strongly influenced by state institutions. Urban expansion therefore cannot be explained exclusively through decentralized competition among households and firms. Government decisions concerning land allocation, infrastructure,

zoning, housing, and economic development influence the direction and intensity of urban growth.

5.2 Migration-dependent urbanization

The UAE's urban population contains large numbers of international migrants occupying highly differentiated occupational positions. Consequently, spatial differentiation often corresponds not only to income but also to **migration status and labor-market position**. Research on Gulf cities indicates that lower-income migrants are frequently concentrated in peripheral labor accommodations, while affluent expatriates can access exclusive residential communities.

5.3 Automobile-oriented urbanism

Both Abu Dhabi and Dubai have experienced extensive automobile-oriented development. Research comparing the two cities finds that neighborhood accessibility declined in many developments after the 1980s as automobile-oriented forms became dominant. Consequently, spatial inequality is also a question of **mobility inequality**.

6. METHODOLOGY

6.1 Research design

This research utilizes a comparative qualitative urban analysis based on a review of the scholarly literature and documentation about urban morphology, housing, migration, land use, and accessibility in Abu Dhabi and Dubai. The research does not attempt to make any statistical causal claims about urban form and inequality. Rather, it seeks to generate a theoretically informed comparative understanding of the subject matter.

The analysis includes:

1. The classical theory of urban ecology;
2. The literature on Gulf urbanism;
3. UAE demographic information;
4. Literature on housing and affordability;
5. Literature on migrant labor;
6. Literature on transportation and accessibility; and
7. Research on urban morphology.

Abu Dhabi government statistics offer a contemporary demographic base for the research. As of 2024, the emirate had 4.14 million inhabitants, 2.82 million of whom resided in the Abu Dhabi area.

6.2 Analytical dimensions

The comparison evaluates the two cities across six dimensions:

Dimension	Abu Dhabi	Dubai
Urban structure	Relatively compact/monocentric tendencies	More sectoral and polycentric
Major growth mechanism	Government-led expansion and planned districts	Investment-led, corridor-based expansion
Residential differentiation	District-level and micro-scale segregation	Stronger corridor and development-sector differentiation
Labor geography	Strong industrial/peripheral concentrations	Multiple labor and employment corridors
Housing inequality	Citizen housing versus migrant/labor accommodation	Citizen suburbs, middle-class rental pressure, luxury developments and labor housing
Mobility	Automobile-oriented with emerging connectivity reforms	Strong highway/metro/corridor influence
Dominant theoretical lens	Modified concentric model	Modified sector model
Major limitation of classical model	Does not capture state planning	Does not fully capture polycentric megaprojects

7. Abu Dhabi: Urban Growth and Spatial Inequality

7.1 The emergence of a compact urban core

The layout of the city of Abu Dhabi offers quite good support for the modified concentric model. In this case, the historic island has emerged as the political and economic center of the emirate. High density business and residential zones were built on the central island and then expansion has taken place towards mainland areas. What differentiates Abu Dhabi from Dubai is its small size compared to the large and expansive metropolitan layout of Dubai which has grown along lines and corridors. A study comparing the two cities reveals that despite having a similar political and planning system, the two cities have different neighborhood morphologies.

7.2 Concentric differentiation in Abu Dhabi

Inner Zone: Central Urban Core

In the context of a modified Burgess model, the central island in Abu Dhabi could be defined as the inner urban core, i.e., the most accessible area of the metropolitan region. From a historical and functional perspective, the central island has become a key place for housing governmental institutions, financial and commercial transactions, dense residential

developments, professional employment, cultural facilities, and metropolitan services. The combination of these functions emphasizes the strategic significance of the central part of Abu Dhabi in terms of its urban structure and position as a key administrative, economic, and social center. High levels of accessibility, well-developed infrastructure, closeness to employment locations, and the availability of public and private services make the central zone highly attractive for residents and enterprises. However, the lack of land availability in the central island along with the demand for strategically located plots leads to high competitiveness of residential, commercial, institutional, and public land uses. It is evident that high land value and competitiveness of different land uses result in high-density residential construction and vertically integrated commercial and office complexes. In other words, the central urban core illustrates how high accessibility and concentration of economic and institutional functions lead to pronounced spatial differentiation. However, in contrast to the concept of a central business district used in the classic Burgess model, the central urban core in Abu Dhabi is multifunctional in terms of incorporating governmental, residential, cultural, institutional, and service functions in an elaborately planned urban environment. Thus, the inner zone should be seen as a multifunctional central urban core.

Intermediate zone: mixed-income urban districts

Also located around and associated with the core are districts that comprise apartments, business activity, and mixed residents. Unlike the traditional Burgess theory, however, such districts cannot be defined as “working class” or “middle class” areas. Segregation takes place within buildings, blocks, and districts. Studies of the UAE focus on how segregation can take place at a highly micro scale, including within individual districts and buildings.

Outer zone: planned suburban expansion

The districts of the mainland have managed to accommodate much population increase.

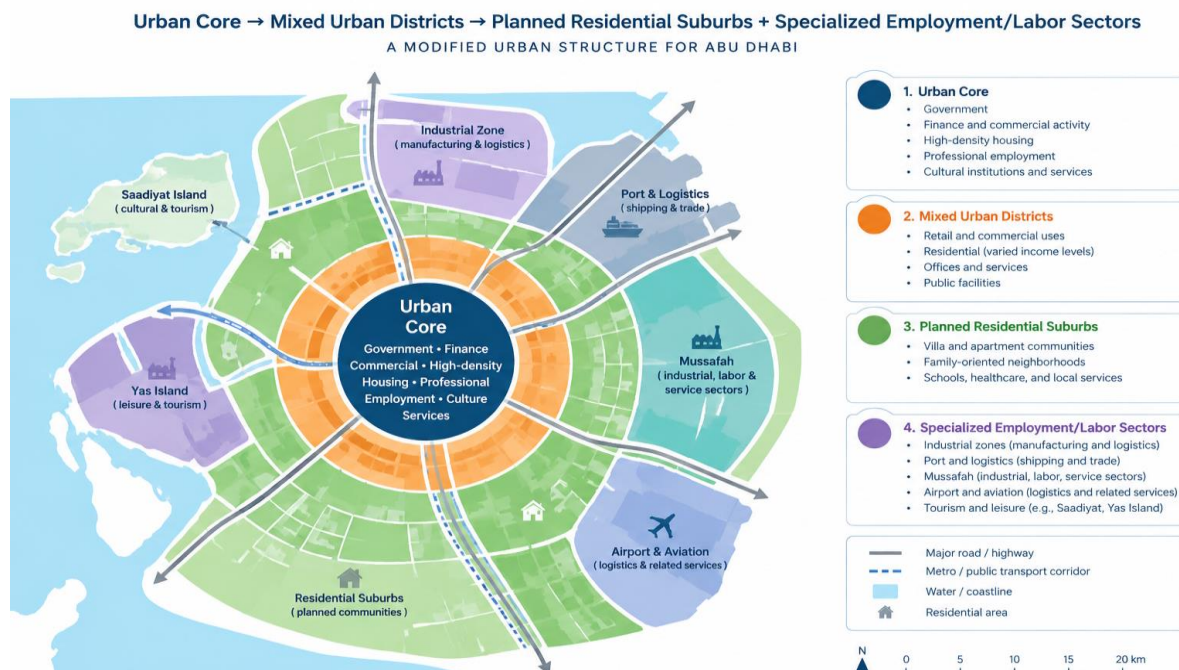
The urban area of Abu Dhabi has much population aggregation that exists outside the island, including places like Mohammed Bin Zayed City and Mussafah. According to SCAD, the population clusters of the Abu Dhabi area include Mussafah, Al Danah, and Mohammed Bin Zayed City. This clearly shows the shortcomings of the radial pattern: the outer city is not just a lower-class commuter area.

8. Mussafah and the Spatialization of Labor Inequality

Mussafah: Industrial and Residential Differentiation

The case of Mussafah stands out as one of the clearest cases which show how classical urban spatial models need significant revision in their application to Abu Dhabi. The presence of

industries, logistics, business centers, workers' accommodation, infrastructure, and affordable housing forms a unique spatial layout of the area that does not correspond to the simplistic classification of urban spatial models. Mussafah has become an important place of residence for blue-collar workers, drivers of taxis, security guards, construction workers, and service sector employees who work in the area. Construction workers are located in Mussafah Sanaiya, while service sector workers live in areas like Mussafah Shabiya. This shows how much importance is given to employment location in the formation of spatial layout of the area. From the Burgessian perspective, Mussafah can be seen as an outer industrial and more affordable residential zone outside of the central urban core. However, such an analysis would be wrong since it is impossible to describe the position and socioeconomic characteristics of the area by its distance from the CBD. Mussafah's development has happened due to the interplay of such processes as land use and industrial zoning, labor market organization, housing arrangements, transport infrastructure, and employment geography. The concentration of certain occupational groups within the area is due to the combination of the location of their workplace and residential location, which has been further enforced by the industrial zoning and infrastructure planning. Thus, this is another example of planned spatial differentiation, where economic activity, labor market conditions, housing provision, and policy decisions determine the spatial layout of the area. This suggests that Abu Dhabi's spatial inequality is better represented as:



9. Abu Dhabi and Citizen Housing

Another feature of Abu Dhabi is the importance of state-sponsored housing among citizens. According to research on Abu Dhabi's urban development, neighborhoods planned for Emirati citizens make up more than fifty percent of the urbanized area in the emirate. The fact is theoretically crucial. Residential segregation according to the Burgess theory is mainly caused by the market and social mobility. But in Abu Dhabi, the process of housing allocation also depends on the citizenship of people.

Thus: Citizenship becomes an institutional variable in the geography of urban inequality.

It is radically different from the American tradition of the concentric-zone theory.

10. Dubai's Urban Morphology and the Sector Model

Dubai provides an example of another urban morphology that helps to understand the importance of adjusting classic models of urban areas to the unique spatial development of Gulf cities. While the development of Abu Dhabi was based on the formation of a relatively compact urban center located on an island that turned out to become the center for the administrative, economic, and institutional life of the emirate, Dubai has expanded its area over a much larger metropolitan space. The urban development of the city has been based on a network of highways and corridors of transportation, development of big real estate projects, economic zones, suburban communities, waterfront projects, and economic districts. Instead of a simple pattern of concentration of socioeconomic functions in relation to one central business district and their changes along radial distances, Dubai has developed with many centers and directional corridors of development. Transportation infrastructure has been used as a means of expanding residential and commercial areas, while master-planned developments have created new centers of employment, housing, tourism, financial activity, logistics, and leisure. The spatial structure of Dubai is characterized by the special relationship between accessibility, development of land, investments, and economic specialization of the city. High-value housing and commercial projects have appeared in selected transportation corridors and waterfronts of the city, while industries, logistics, and labor-intensive activities have formed in other selected strategic locations in relation to transportation infrastructure, ports, airports, and employment centers. Economic zones and economic districts have become important factors of the formation of distinct employment and investment centers, making less informative the model based on the distance from one single urban center. Similarly, planned suburban communities and waterfront developments have brought about the formation of new residential neighborhoods.

As a result, the Sector Model provides a particularly useful analytical entry point into the examination of Dubai because it raises the question of how routes and development corridors play a role in determining the direction of urban growth and the locations where socioeconomic activities take place (Hoyt, 1939). It is a useful framework for analysis in understanding the reasons behind the location of certain forms of development along certain corridors and how accessibility, land value, employment opportunities and investments determine differentiated urban sectors. Nevertheless, just as the application of the Burgess Model to Abu Dhabi was not meant to be taken in a literal way, the Sector Model also cannot be blindly applied to Dubai. Modern Dubai is not a naturally developing industrial city whose development relies on market mechanisms. Its urban form has been largely determined by government planning, investments in infrastructure, land use policy, international investments, master planning and large scale real estate developments. Therefore, the Sector Model is most useful as an analytical tool in studying the directional and corridor based urban differentiation in Dubai, whereas the classical assumptions behind it need to be altered in order to reflect modern development realities of Dubai.

11. Dubai as a Sectoral City

Urban planning in Dubai has been heavily influenced by major transport corridors. These corridors have played a significant part in dictating the direction, form, and intensification of urban growth. Unlike other cities, Dubai has not grown equally in all directions from the center but in long sectors along transport corridors. Such development is consistent with the sector model of urban development, which says that cities develop along transportation routes and create sectors. Sheikh Zayed Road is one of the major corridors that have played a vital role in the development of Dubai. It is a major transportation axis connecting North to South in the city. This has led to the concentration of high-rise commercial buildings, hotels, offices, luxury residential areas, and business districts. Areas with good road access and proximity to employment centers have seen increased land prices and intensive development. Accessibility on the corridor has enabled the development of major urban centers outside the traditional historical center of Dubai.

Other major arterial highways have helped in the development of other residential, commercial, industrial, and mixed-use developments. Roads linking different parts of the emirate have decreased journey times and thus making land along these roads attractive. Infrastructure development has seen the development of new residential areas and business

centers farther from the traditional urban center. The Dubai–Abu Dhabi corridor is another major development corridor. It links Dubai to Abu Dhabi and supports the movement of people, businesses, goods, and services. The development along and around this corridor has seen the development of residential communities, logistics centers, industries, commercial centers, and infrastructure. The Dubai–Al Ain corridor has encouraged development towards the interior of the emirate. Improved connectivity by roads has made areas far from central Dubai more accessible for residential, industrial, logistics, and commercial purposes. This shows one of the characteristics of the sector model that once a particular direction is opened by the development of the transportation network, urban development follows this corridor and does not spread in all urban areas. Airport-related corridors have helped in the development of Dubai's.

12. Luxury and High-Income Sectors

The global-city development strategy of Dubai has led to the creation of large pockets of high-value real estate development throughout the emirate. In contrast with other cities in the world, Dubai has adopted a polycentric approach to the development of its cities rather than depending on the traditional central business district alone. Some examples of such development are Downtown Dubai, Dubai Marina, Palm Jumeirah, Emirates Hills, Jumeirah, Business Bay, among others. The examples show that there are various other elements that drive land value aside from accessibility to traditional CBDs. While being close to an established place of business and commercial activity does play a key part in determining land value, other elements that affect land value include the quality of infrastructure, waterfront and beach frontage, architecture, facilities provided in such developments, connection to international cities, environment, security, exclusiveness of the project and general attraction of the development. This implies that locations far from the historical CBD can also be developed into sites having very high land values depending on the kind of facilities available there. For instance, Downtown Dubai is one of the most prominent centers of business, living, tourism and entertainment due to the existence of iconic buildings, luxurious shopping outlets, hospitality services and recreational centers. Similarly, Dubai Marina and Palm Jumeirah are examples of developments that have created additional value on account of their water and beach frontage. On the other hand, some of the elements of Emirates Hills and Jumeirah developments that add value are the element of exclusivity, prestige and quality of the project. In the same manner, Business Bay is a case where business activities of the city have been extended beyond the traditional CBD. The creation

of these high value nodes is just an indication of the process through which Dubai has been transformed from being a monocentric city into a polycentric metropolitan area. Through the adoption of master planning, the city has managed to develop its economy and attract domestic and foreign investments. This means that land value of the city depends not only on accessibility but also on prestige, quality of development and facilities provided among others. Such a scenario defies typical theories of urban land value which consider distance from the central business district (CBD) to be key. In Dubai, the connection between distance and land value is dictated by the strategic aspects of particular development projects. A location can have a significant land value premium even if it is quite far from the CBD because of the presence of better amenities, unique urban settings, improved transport networks, and participation in international economic and tourist activity. Hence, Dubai serves as a vivid demonstration of how globalization, strategic urban planning, master development projects, and lifestyle investments could redefine the land value distribution in a fast-developing city. Waterfront locations, prestige, infrastructure, branding, investments, and planned amenities generate areas of extreme land value away from the CBD. This research confirms the idea by Hoyt that urban development can be directional as well as concentric.

13. Middle-Class Housing Inequality

It would be a mistake to view the urban segregation in Dubai in purely binary terms as one between wealthy and poor people. An intermediate category of expatriates includes professionals and middle-class people who are actively involved in the economic activities of Dubai, but whose housing expenses might be quite high. In the study of Alawadi et al. on the housing environment in Dubai, multiple types of housing were detected and significant housing affordability issues among middle-class residents were revealed. According to their study, merely 23% of housing units, amounting to only 7% of total housing floor space, were affordable to the middle-income category of people that was examined in this research. The reason why this information is relevant is that:

High-income global residents → middle-income professionals → lower-income migrant workers

These groups might reside in completely separate areas of the city and face entirely different situations regarding access, housing quality, and access to employment opportunities.

14. Labor Housing and Peripheralization

The case of Dubai illustrates the intricate connection between the labor market and urban spatial structures. The process of rapid economic change in the city is based on the employment of a well-differentiated workforce of migrants who perform various functions in the construction industry, hospitality, retail, transport, domestic service, maintenance, logistics, and other branches. Nevertheless, the geographical location of the workforce within the city does not necessarily coincide with the places where the labor of the workforce is economically valuable. Poorer migrant workers have traditionally been residing in labor accommodation, residential clusters, and industrial areas, while wealthier professionals, investors, and business elites have access to prestigious residential areas and strategically important developments.

In such a way, the spatial segregation of workers in relation to places of their labor can be perceived as functional peripheralization of the population, when workers are geographically situated peripherally in relation to the economic and symbolic centers, although they are functionally necessary for these centers. In other words, the physical presence of workers and their economic contribution is detached. A worker may live in an industrial or peripheral area but spend a great amount of time working in central business districts, luxury hotels, shopping malls, residential complexes, construction zones, and tourism-related projects. The global city thus needs labor that is geographically situated peripherally in relation to the places of production of its globality.

This leads to what can be called a spatial paradox of global-city development. The very workforce, which enables the functioning and development of the global city, may lack access to its highly valuable residential areas, amenities, services, and symbolic environment. Globalization therefore brings benefits unevenly to the society and urban space. High-value developments and relatively low-cost residential areas are simultaneously present in the city.

It thus implies a much more complex process than mere physical segregation along physical space boundaries. It includes at least four aspects of socio-economic inequalities. The first is the aspect of occupational segregation. Occupational segregation occurs when workers are clustered in some certain occupations and sectors within the hierarchical differentiation with regard to the income level, the skills, nationality and migration status. Construction, cleaning, domestic, hospitality service occupations etc. might imply lower wages and fewer residential choice opportunities, while professional and managerial occupations would give better chances to access high-value urban space. The second aspect of inequality relates to housing segregation. Housing markets provide spaces based on the buying power and thus the poorer

the worker is the less choices he has. Spatial clustering of relatively affordable or employer-provided accommodation can thus increase the existing inequalities among different social groups. Meanwhile, residential developments of prestige serve not only as places of residence, but as indicators of social status, exclusiveness and economic position. The third aspect is the income inequality as it directly impacts the spatial distribution of population. Income differences lead to differences in the housing quality, choice of neighborhood and access to private services and proximity to employment centers. Thus, urban space becomes one of the mechanisms of reproducing inequalities and geographically displaying them. The fourth important aspect is the mobility inequality in a city where people are forced to commute and employment centers are spatially scattered. Long commute time and necessity of employer transportation or public transport usage for those who live farther from employment centers would imply different consequences for different groups of people. High-income population will be able to neutralize the consequences of being located far from the employment centers due to having cars, flexible work schedule or convenient neighborhoods.

Last but not least, the differentiation of Dubai by migration status becomes an additional spatial differentiation factor. The population of Dubai features migrants that differ significantly by their economic positions, legal status, occupations, and available resources. Migration status influences income and occupation in terms of the housing provision, employment situation, and participation in the urban economy. Therefore, the spatial organization of Dubai cannot be accounted for solely based on income; there is a need to take into account the socio-economic aspects that characterize a highly internationalized labor market. The above-mentioned factors prove that the urban spatial organization of Dubai features the integration and separation created by globalization. Groups are economically interdependent since the functioning of highly valued commercial, residential, tourism and service environments is impossible without a variety of labor force. However, they may experience the spatial differentiation in the place where people live, in the quality of housing, in their access to amenities and mobility within the city. In this way, the urban spatial organization of Dubai is characterized by the specific kind of uneven spatial integration when different populations participate in the same metropolitan economy but do not experience the city in the same way. This approach to the study of Dubai is necessary in order to understand Dubai not only as the global city, but also the city with its problems. The production of globally competitive urban space implies not only iconic buildings, luxury real estate and international investments but also labor for the construction, operation, cleaning,

maintenance, security and servicing of these spaces. In this connection, it is crucial to recognize the geography of labor as the integral part of the geography of land value and urban development. The spatial differentiation of high-value consumption and production spaces and low-income residential areas proves how the formation of global city creates economic integration, spatial differentiation and unequal access to urban opportunities.

15. Comparative Analysis: Abu Dhabi versus Dubai

The comparison demonstrates that the two cities share structural features but organize them differently.

Table 2. Comparative interpretation through classical urban models.

Analytical dimension	Abu Dhabi	Dubai
Classical model with strongest explanatory value	Concentric Zone Model	Sector Model
Urban core	Strong and compact	Historically important but increasingly polycentric
Expansion	Radial/planned outward expansion	Corridor-based and directional
Citizen housing	Strong influence	Strong influence
Labor accommodation	Strong peripheral concentration	Multiple specialized sectors
High-income development	Central and selected peripheral districts	Strongly concentrated in prestige corridors and master-planned areas
Middle-income pressure	Rental and accessibility differences	Particularly pronounced affordability challenges
Transport influence	Important	Very strong
Waterfront effect	Important but limited relative to Dubai	Major determinant of land value
Polycentric development	Emerging	Strong
Spatial inequality	District/micro-scale differentiation	Sectoral, corridor and enclave differentiation

16. The Concentric Model in Abu Dhabi

16.1 Abu Dhabi as a State-Mediated Modified Concentric City

It seems that there is some validity in applying the theory proposed by Burgess to explain the spatial structure of Abu Dhabi. In terms of the classic model, centrality, accessibility, population density, and land uses are interrelated in a specific way, as the differences in land uses, in residential characteristics, in employment activities and in development intensities become evident along the gradient from the center to the periphery of the urban core. There is

no doubt that Abu Dhabi Island's central locations are characterized by intensive business, administration, institutions and high-value land uses, whereas the outer locations include more specialized residential, industrial and peripheral land uses. Still, the spatial structure of the city is quite unique and does not fit into the picture drawn in the classic model by Burgess. The current spatial structure of Abu Dhabi reflects not only the influence of land market competition, but also the impact of such factors as citizenship, housing policy, planning regulations, industrial zoning, infrastructure development and migration patterns. They alter the relationship between the distance to the CBD and residential and land use outcomes and Abu Dhabi should not be seen as concentric rings, where land uses are driven mainly by land market competition for accessibility.

First of all, the citizenship alters the typical residential sorting process driven by the market mechanism. The theory of Burgess implies that households and enterprises compete for urban space through market competition, and that the differences in income and land affordability define the spatial segregation of social groups. Abu Dhabi presents an example of violation of this assumption since the citizens of Emirate may use housing support programs offered by the state and have land and residential benefits unavailable for migrant residents. Thus, the housing allocation and residential opportunities are defined by the institutional status, in addition to the income and market purchasing power. It follows that residential location in Abu Dhabi cannot be understood only in terms of the conventional income/distance from the urban center link. Two families having equal economic assets can have different residential prospects depending on their nationality and access to the housing schemes sponsored by the state. On the other hand, there may be citizens living in spacious and well-placed housing which contradicts the rule that lower land prices at further distances from the urban center should influence residential location. Thus, in this case, the state becomes an intermediate factor between an individual family and the urban land market. First, industrial zones create specialized outer regions which do not fit into the logic of concentric rings offered by Burgess. For instance, Mussafah is a perfect example. While it may represent a peripheral residential area of low-income families, in fact, it works as a major industrial, commercial, logistics, and employment center. In this way, the area illustrates that urban growth does not necessarily lead to homogenous rings with decreasing land value and socioeconomic status.

The significance of Mussafah can be seen in its relation to residence and employment. Certain industries and occupations can be located at the periphery of the metropolitan area due to their need for large land parcels, special infrastructure, road connectivity, storage facilities, and distance from highly valued residential and commercial zones. It shows that

peripheral zones can have significant economic value even without the characteristic features of the central city in terms of land value or symbolic significance. Peripheral zone, thus, does not necessarily act passively receiving activities from the central zone but becomes an independent node in the metropolitan structure.

Third, segregation in Abu Dhabi is present on several spatial scales. Concentric model suggests thinking about social differentiation mainly at the scale of large urban zones or rings. Nevertheless, Abu Dhabi reveals that segregation and demography can occur at smaller scales of space. Various social groups can live in various buildings, houses, floors, compounds, or residential complexes in the same larger zone. In this way, two communities can be close geographically and be still segregated socioeconomically and socially. It is possible to infer that the analysis of urban segregation in such cities as Abu Dhabi cannot be done solely based on distance from the city center and the extent of neighborhoods' geographical area. At micro-level, segregation may have an impact on people's lifestyle, quality of housing, privacy, accessibility, and social interactions within a limited geographical area. Therefore, the presence of different socioeconomic groups in one district does not mean that there is spatial integration. On the contrary, the built environment itself reflects the social differentiation through housing form and tenure, etc. One more weakness of the Burgess model has to do with the issue of transportation and infrastructure. In contemporary Abu Dhabi, there are well-developed road networks, urban expansion, and the prevalence of auto-dependency. Thus, accessibility becomes multidimensional and cannot be evaluated through mere geographical distance from the city center. It is still possible for a place to be very accessible despite being far from the traditional center thanks to the existence of highways, bridges, arteries, and connection to other employment centers.

Finally, it is important to note that urban expansion in Abu Dhabi was greatly impacted by planned development. Unlike the rather organic process of development that took place in the context of the original Burgess model, in Abu Dhabi there are parts of the city landscape that were formed through planning and investment into infrastructure. Residential communities, industrial zones, commercial and institutional areas, and transportation routes were planned accordingly. Consequently, the city features a combined structure of concentration and polyconcentration. It is still important for the high-order commercial, administrative and institutional uses, but additional centers of employment and services appeared outside the core. Industrial zones like Mussafah, suburban centers and carefully thought out development programs form additional centers of concentration. Thus, Abu Dhabi does not represent either a monocentric structure or a decentralized structure. Instead, the city could be considered as a

metropolitan structure where there is a dominant core coexisting with peripheral and secondary nodes. Considering this interaction, it becomes clear that it is necessary to incorporate the power of the state directly into the analysis of the urban spatial structure. The state controls the distribution of lands using zoning, infrastructural, housing, land allocation, development regulations and strategic planning policies. Citizenship makes people differently eligible for participation in these policies. Then, migration and income influence the geographical distribution of the population which is not a citizen.

Thus, the spatial structure of Abu Dhabi is produced through the interaction of market mechanisms, state intervention, citizenship, migration, planning and accessibility.

The conception of the state-mediated modified concentric city could be used in order to understand this structure. "Modified" refers to the fact that the urban spatial pattern does not fit the theoretical rings proposed by Burgess. "Concentric" indicates that centrality, accessibility, density and distance are still influential factors in the distribution of land use and urban activity. Finally, "state-mediated" highlights the role of the government policies in the formation of the spatial pattern, which would be otherwise created by the market competition. Therefore, the example of Abu Dhabi does not prove that the model proposed by Burgess is useless but shows the conditions when its explanatory potential decreases. The model could be helpful in recognizing general spatial relations of the urban core to surrounding territories, but it should be complemented by the knowledge about state-led development, differentiation according to citizenship, specialized zoning, transportation networks, migration and micro-segregation. Thus, Abu Dhabi becomes a good example of the situation when classical models of the urban structure could be retained as analytical frameworks but should be reconsidered and adjusted in accordance with the peculiarities of the institutional and socio-economic environment. In this respect, the spatial structure of Abu Dhabi could be considered as a state-mediated modified concentric city with emerging polycentric characteristics.

17. The Sector Model in Dubai

17.1 Hoyt's Sector Model and Dubai's Sectoral Urban Development

In terms of explanatory power, Hoyt's sector model works better in describing the process of Dubai's spatial development because it has been shaped by transportation axes, infrastructure development, land use planning and massive development projects initiated by private and state actors. Unlike the classical concentric model, Dubai did not develop by spreading evenly outwards from one central business district. It expanded along certain axes which

linked the old urban core with new commercial, residential, tourism, industrial, airport and logistics centers. As a result, there were sectors characterized by certain development directions and land uses.

This model works better in case of Dubai because it states that urban land use does not necessarily expand in concentric circles from the CBD. It tends to spread along the lines of major transportation routes and other axes of accessibility. When developing into certain direction, the land use of the sector can expand beyond the central area up to the outskirts of the city and at the same time be still attractive for investments due to accessibility and other locational advantages. Dubai's development is an example of that process, but taking into account the city's highly-planned nature and globalization it needs to be modified.

It can be seen from Dubai's urban landscape that there are distinct sectors related to certain economic and social activities. There are sectors of luxury residential development, financial and business activities, tourism, industry, logistics, airport development, labor accommodation and middle-class rental housing. All this differentiation is based on the difference in land requirements, accessibility, investment opportunities, infrastructure, environmental amenities and distance to employment centers. An example of the luxury residential sector is the areas such as Palm Jumeirah, Dubai Marina, Emirates Hills and others. They are specialized residential environments characterized by significant investment in infrastructure, landscaping, leisure facilities, retail and hospitality. These areas could not be formed only because of their proximity to the CBD. They are characterized by highway connectivity, water front access, planned amenities, foreign investment and prestige of the location.

The third example of sectoral development is found in the financial and business sector. In Dubai, the commercial functions have expanded from the traditional CBD to other commercial areas such as Business Bay among others. These areas are linked to the rest of the metro system through major transportation routes. Therefore, commercial development has followed strategic accessibility corridors rather than staying in the original CBD. As such, there are multiple centres contributing to the metropolitan economy of Dubai through commercial development.

The tourist sector is also unique in its nature. Dubai has made efforts to create specialized tourist environments that have hotels, entertainment, shopping, waterfronts, cultural sites, and leisure amenities. Such development has been done in highly accessible transportation corridors and coastal locations. The clustering of such investment shows that the development of a land use pattern can result from strategic investment and global demand

and not just from the normal development process. Hence, the tourist sector represents sectoral development of the metropolitan system through functional specialization. In addition, there are industrial and logistics sectors of development in areas that are accessible through major transportation routes and have large parcels of land. The locational requirements for industrial and logistics activities differ from those for luxury residential and commercial development. This is because the former requires access to major roads, ports, warehouses, and other special types of infrastructure. As such, the industries and logistics facilities have developed along transportation corridors that are peripheral to the city because the lands are appropriate for such development.

The development of Dubai International Airport and the activities relating to the airport is another proof of the sector development model. Airports themselves create their own spatial effects by attracting hotels, logistic facilities, office buildings, transportation activities, warehouses, and other airport-related activities. Therefore, an airport itself becomes a very important generator of urban development and has effects that expand in all directions and through transportation networks and commercial corridors that become specialized development axes. The other aspect of the spatial organization of Dubai is the distribution of labor accommodation and poorer residential neighborhoods. The distribution of lower-class migrant laborers in Dubai was traditionally shaped by such factors as the availability and price of housing, location near employment centers, the presence of planning restrictions, and employer-provided accommodation. Such types of neighborhoods are traditionally developed in relation to industrial, construction, logistics, and service-sector jobs. As a result, there is a spatial pattern that connects residential neighborhoods with certain occupational functions. Thus, this shows the close interconnection of social and economic geography.

Middle-income rental housing is yet another element of the spatial organization of Dubai. Such housing segment has an intermediary position in the hierarchy of housing types in Dubai, being located between expensive residential developments and inexpensive labor accommodations. The distribution of this type of residential housing is driven by affordability, employment options, transportation connectivity, and proximity to developed residential and commercial areas. Expansion of middle-income rental communities can take place along transportation corridors due to improved accessibility. This is additional proof of directional expansion of urban space.

The study of the urban morphology of Dubai thus reveals a variety of residential types instead of simple concentric arrangement. The housing stock of Dubai includes high-rise apartments, gated villa communities, luxury waterfront developments, traditional low-rise

neighborhoods, mixed use developments, employer-provided accommodation, labor camps, and middle-income rental neighborhoods. All those types of housing are related to various income segments, occupations, migration backgrounds, tenures, and lifestyles. The spatial distribution of different types of housing is determined not only by distance to the CBD but also by a number of factors including transport connectivity, land availability, planning policies, investments, etc.

It should be noted that infrastructure serves as a spatial multiplier for Dubai. Infrastructure improvements such as highways, bridges, metro links, airports, seaports, and other constructions do not merely improve accessibility to existing areas but can be used to actively develop new spaces. After the transport corridor is developed, it is possible to exploit accessibility to develop residential, commercial, hotels, shopping, industrial, and other kinds of developments along the corridor. This phenomenon follows the approach adopted by Hoyt regarding the directional expansion of urban sectors. Yet Dubai proves that the original sector model has to be updated to take into account the current scale of urban planning and its purposeful nature. In the original sector model by Hoyt, development of sectors took place thanks to interaction of land market, transport arteries and urban development. However, in Dubai, many development corridors were purposely planned and actively advertised by the state and big investors. Development of sectors is thus not only the result of the activity of the land market but also a consequence of purposeful activities of infrastructure construction, zoning, incentive programs and master planning. Furthermore, the role of global investments in creating sectorial differentiation should be mentioned. Global investors are interested in particular areas due to their accessibility, prestige, profitability, touristic potential and visibility. Consequently, iconic developments create new sectors of development that do not follow the classic core-periphery paradigm. Once particular sector is established with a certain function or market niche, future development continues to strengthen sectoral specificity of the area. Investment in luxury housing, for instance, will bring there additional facilities like retail, hotels and entertainment. The sectoral approach also allows explaining the connection between land value and accessibility. Land situated along major transport arteries is highly valuable due to its possibility to connect residents, businesses, tourists and investors with different parts of the metropolitan area. Nevertheless, the impact of accessibility on the land value is not always similar. Different types of accessibility are valued differently and the value of a particular site depends on its specific form of accessibility and the functions it can perform. Thus, high road accessibility will be more

profitable for logistics, while waterfront accessibility will be a driver of luxury residential and touristic development.

In conclusion, it can be said that Dubai is a polycentric metropolis with a developed system of sectors of development rather than a city built according to concentric rings approach. The sector model by Hoyt is relevant for this case as major transport and investment corridors guide the development of sectors. However, Dubai transcends the sector model in terms of the influence of global capital, state planning, master planning, international migration, touristic policies and major infrastructure projects. It can thus be observed that the evidence indicates that Hoyt's sector model has significant explanatory power in the case of Dubai, although it should be viewed through the lens of a globalized and planned urban economy. The spatial structure of Dubai is the result of the interplay between growth direction, transportation corridors, land use specialization, social stratification, and global investment. It thus means that Dubai is a kind of modified sectoral metropolis in which transportation infrastructure and investment have led to development corridors beyond the CBD. Nevertheless, not even the sector model is enough since Dubai exhibits polycentric features. Downtown Dubai, Dubai Marina, Business Bay, airport areas, free zones, and employment centers are the examples of specialized nodes. Dubai is therefore more of a: **sectoral-polycentric global city**.

18. Beyond Burgess and Hoyt: Institutionally Mediated Sectoral Urbanism

The core theory of this paper is that neither of the two classical models adequately explains the case of the UAE. For the urban areas of the UAE, it is important to have a model that takes into account the following four factors:

1. Market forces

Market value of real estate, investments, employment and rent determine residential location.

2. State intervention

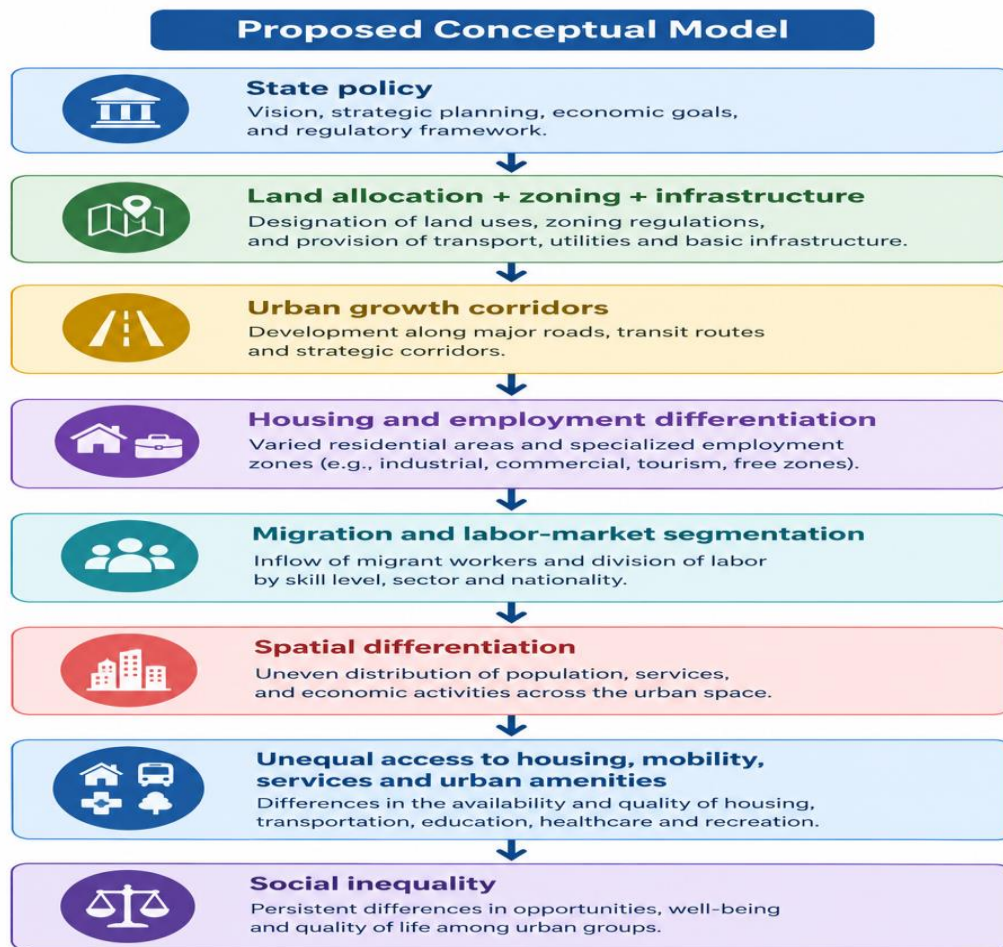
Distribution of land, planning for infrastructure, citizens' housing and planning of towns determine urban form.

3. Migrations and labor market

Professional and migratory status determines the options of residence.

4. Transport and mobility

Highways, metros, public transport and commute distance affect employment and residential location. These four aspects work together and lead to sectoral urbanism.



This model extends classical urban ecology by recognizing that spatial differentiation is not generated solely through ecological competition.

19. Policy Implications

The analysis has several implications for urban planning in the UAE.

19.1 Expand affordable housing across the metropolitan region

Affordable housing should not be concentrated exclusively in peripheral areas. A more socially integrated approach would distribute affordable housing across employment-accessible districts.

19.2 Integrate housing and transportation planning

It is important to note that housing policies and transportation policies should be viewed as related facets of urban planning as the distribution of housing in cities affects the accessibility of transport routes and jobs. The placement of low-income earners at long distances from economic centers may increase commuting distance and cost, especially for people without access to private cars and who rely on public and/or company transport. Increased distance

commuting may also be responsible for higher energy costs and environmental stresses. Additionally, longer commutes may also create more stress for commuters and decrease time spent with the family and others, as well as making such people more vulnerable to transport disruptions and increases in mobility costs. This issue may be especially relevant for people from low-income families whose transportation costs constitute an increased share of their disposable income. Consequently, policies aimed at providing low-cost housing may increase existing social disparities if not accompanied by policies on the provision of proximity to employment centers and transport.

19.3 Increase mixed-income development

Mixed-income neighborhoods can help achieve reduced spatial segregation between people belonging to different socioeconomic classes through the creation of residential heterogeneity and better opportunities for interaction of various classes of people living in the same geographical region. Nevertheless, good mixed-income planning needs to encompass not only the physical presence of various types of housing within the same geographic location. The efficient integration of heterogeneous socioeconomic classes can be achieved through the creation of joint spaces and facilities that would stimulate social interaction and equal participation in urban life. It is also necessary to provide access to an efficient transportation network connecting various residents with workplaces and other regions of the city and also to distribute education facilities, healthcare facilities, retail outlets, recreational facilities, and pedestrians' infrastructure in such a way that all residents could have easy access to them. Therefore, mixed-income development should not be regarded as a mere housing policy but as a policy of social and spatial integration.

19.4 Improve pedestrian accessibility

According to the research carried out about Abu Dhabi and Dubai, automobile-oriented urban planning practices have led to lower pedestrian mobility and higher dependency on private means of transport. This trend can lead to mobility constraints for those residents who lack regular access to cars as well as increasing commuting distances, traffic problems, energy use, and other negative effects. Future urban planning practice in the country should take a more holistic approach to mobility and pay attention to the development of pedestrian mobility, efficient public transportation, shaded pedestrian paths, interconnected neighborhoods, bike paths, and proximity of residential quarters and everyday services. With the climate of the UAE, the latter one is especially important for promoting walking through the year-round period. Also, it is possible to make less use of private cars and facilitate access to basic services by linking residential buildings with educational institutions, retail spaces,

healthcare providers, recreational facilities, and public transport. This step will help to build not only sustainable mobility but also to achieve social inclusion and provide access to employment and services for representatives of various social groups.

19.5 Measure inequality spatially

A potential way forward for improving spatial-equity planning in the context of national and local planning authorities is the creation of a system of neighborhoods-level indicators that reflect not only socioeconomic characteristics but also access to important urban amenities. Indicators of interest might include measures of housing affordability, rent-income ratios, mean commuting times, transit accessibility, accessibility to parks and other recreational amenities, proximity to educational institutions, healthcare accessibility, mean household income, and employment structure. If ethical and legal considerations allow, demographic indicators such as national origin or citizenship of the residents of neighborhoods could also be used in the aggregate to look at possible indicators of spatial inequality without any discrimination and stigma. Creation of a multidimensional indicator system will allow planners to detect neighborhoods with housing, mobility, access to amenities, and socioeconomic disadvantages. It will also allow for an evidence-based comparison of neighborhoods over time, which will give policymakers a means to direct their investments in infrastructure, affordable housing, transportation, and other services. Such an approach will help build a firmer empirical basis for spatial equity planning.

20. Implications for Urban Theory

Here is the theoretical lesson of the UAE case. Classical urban theories were created under specific historical circumstances. Burgess looked at an industrial city, which was characterized by large-scale immigration, industrial occupations, and market competition in housing. Later, Hoyt paid attention to the impact of transport and directionality. The UAE cities of today have similarities with the cities of the past in some features but are radically different institutionally.

The UAE shows us that:

Urban form emerges due to the interactions of markets, state, infrastructure, migration systems, and culture. Therefore, the classical theory should not be rejected. On the contrary, it should be de-centered and modified. The best theoretical framework is:

Not Burgess OR Hoyt

But:

Burgess + Hoyt + state institutions + migration + mobility + Gulf urbanism.

21. DISCUSSION

21.1 Comparative Analysis of Urban Inequality in Abu Dhabi and Dubai

Comparing Abu Dhabi and Dubai reveals that while inequality is embodied in the spatial structure of the city, it cannot be accounted for merely by means of physical structure. The interaction between urban form and state planning, land allocation and use policies, housing policies, migration, labor market structures, transport infrastructure, and investment patterns leads to the emergence of differentiated urban environment. Both cities underwent rapid urbanization and economic changes, but despite this similarity, the different spatial forms resulted in distinctive residential differentiation and unequal access to urban resources. Therefore, traditional urban models like Burgess's Concentric Zone Model or Hoyt's Sector Model can offer useful insights for analysis, but both need to be adjusted to account for the complexity of modern UAE urban environment. However, Abu Dhabi lends more credence to the concentric model of urban form modified by certain factors. The central urban core of the city consists of many governmental institutions, commerce, professionals' employment, cultural centers, services and highly dense housing. With the expansion of urban area towards mainland regions, differentiated residential zones, industrial zones, and places of employment emerged. Nevertheless, unlike the traditional model, this development does not follow the pattern of concentric circles, where social status systematically changes according to the distance from the center of the city. Housing programs sponsored by the government for the citizens, residential communities, land allocation and employment zones played a significant role in determining the distribution of the population and activities in the city. For instance, the case of development of the Mussafah district shows how industrial zoning, employment geography, labor accommodation, and transport infrastructure can lead to the emergence of a specialized urban zone not just created due to the distance from the central city.

It seems that the urban form in Dubai shows even stronger sectoral and corridor characteristics. The metropolitan expansion of Dubai has been largely influenced by highways, coasts, investment corridors, employment areas, free zones, and huge master-planned projects. Transportation infrastructure has facilitated rapid development along certain directions, whereas waterfront projects and upscale real estate development have resulted in sectors that include luxury housing, tourism, business, and valuable real estate. Simultaneously, middle-class residential zones, industrial areas, and labor settlements have appeared due to affordability and employment access issues, land-use regulations, and proximity to major transportation links. All these factors have resulted in significant spatial differentiation of high-value residential areas, middle-class neighborhoods, specialized

economic zones, industrial areas, and labor-oriented settlements. As a result, the urban structure of Dubai looks more appropriate for the directional and corridor development than for concentric pattern. Nonetheless, the modern metropolitan structure of Dubai goes beyond the scope of explanation offered by classical Sector Model. In other words, the urban area does not consist of economic activity concentrated only in one CBD. Rather, there are several specialized economic nodes associated with finance, tourism, logistics, aviation, technology, media, commerce, and real estate. Every node produces its own concentration of employment and attracts residential, business, and service activities. Large infrastructure projects and master-planned development projects have facilitated the emergence of economic centers quite far away from the traditional CBD. Therefore, the city of Dubai should be treated as an example of sectoral, corridor, and polycentric urban development.

In summary, the two cases illustrate different aspects of the concept of Gulf urban fragmentation. In Abu Dhabi, urban fragmentation is closely related to the combination of centrality, state-supported housing, industrial specialization, and migration. Compact central island of Abu Dhabi contrasts with planned mainland housing zones and specialized industrial areas, and distribution of migrant population is very much linked to employment and housing opportunities. In Dubai, urban fragmentation is more about development corridors, global investments, transport infrastructure, specialized economic nodes, and migration.

However, despite the differences between the two cities, there is one thing in common. Social inequality is not only spatially produced but also spatially reproduced. The place of housing, employment opportunities, transportation facilities, services, and amenities affects opportunities that residents have to access employment, education, mobility, networking, and high-quality environment. Proximity to employment hubs reduces the cost of mobility and provides better opportunities to access economic opportunities. Conversely, the remoteness of the area and poor connection to transportation facilities lead to additional mobility costs in terms of time and money. Differences in housing conditions, infrastructure of the neighborhood, recreational facilities, and services affect the distinction between different socioeconomic classes. Urban inequality means not just difference in household income but also inaccessibility to various urban facilities and opportunities. This is especially true in case of the United Arab Emirates since the cities of this country are simultaneously cosmopolitan and differentiated. Citizens and expatriate populations, representatives of different nations, occupations, and socioeconomic backgrounds live together in Abu Dhabi and Dubai making them extremely diverse metropolitan cities. However, diversity does not

mean spatial integration. Rather, different population groups can have different residential environment based on income, occupation, housing facilities, citizenship, workplace, and connection to transportation. Thus, cosmopolitanism and spatial differentiation are not mutually exclusive characteristics in the metropolitan system. Multiple nationalities and cultures existing in a city do not mean the absence of social and spatial differences since some aspects of urban life can reproduce these differences.

Cosmopolitanism and segregation can be contradictory since these aspects are part of the same urban system where the organization of space plays the key role. The same economic and infrastructural processes which made Abu Dhabi and Dubai global cities also led to the differentiation in land use, housing, employment, and mobility. Global investments can make the development of the city valuable while simultaneously promoting the segmentation of residential markets. Infrastructure can increase the connectivity of the city while producing different levels of accessibility for different population groups. Migration can add to the cosmopolitanism of the city while labor-market segmentation and housing conditions can lead to the spatial concentration of particular occupational groups. This comparison, therefore, implies that the urban inequality of the UAE should be approached in a different manner from the way classical urban theories have been used. Burgess theory explains the relevance of centrality and different urban zones of Abu Dhabi, while Hoyt theory explains directional and corridor-like development in Dubai. On the other hand, polycentric urbanism concept explains the existence of more than one specialized center in the UAE cities, especially in Dubai. These models should be combined with knowledge of state-sponsored urban development, migration, labor markets, housing policies, foreign investments, and infrastructure-oriented spatial restructuring in order to better understand the formation of spatial structures of the UAE cities. In other words, the urban spatial structure formation is a result of interaction between market forces and state institutional interventions.

In conclusion, the UAE cities of Abu Dhabi and Dubai present two different but related cases of urban fragmentation in the Gulf region. This is based on differences and similarities that exist in the urban morphologies, development processes, spatial planning, among other things, in the two cities. While Abu Dhabi presents an example of traditional fragmentation, Dubai is an example of more modern urban fragmentation. In general, the UAE case reveals that urban growth does not necessarily lead to spatial equality of the urban spaces. On the contrary, urban growth can bring about both new opportunities and unequal access to housing, transportation, urban amenities, employment, and services at the same time.

22. CONCLUSION

The process of rapid urbanization in the UAE has resulted in creation of several vibrant and globally integrated cities. Abu Dhabi and Dubai illustrate how economic globalization, state-driven development, migration, infrastructure development, and urban redevelopment can change the face of urban space relatively quickly.

In this paper, the Concentric Zone Model by Burgess and the Sector Model by Hoyt were used to analyze the relationship between urban development and urban inequality in the two cities. The findings of this analysis show that Abu Dhabi fits better into a modified version of concentric interpretation, due to the significance of its small, compact central part and further expansion. However, it should be noted that modifications are necessary due to state-sponsored citizen housing, industrial employment zones and micro-segregation. While Dubai fits better into a modified sector interpretation, due to the impact that transportation corridors, waterfront development, investment zones, and specialized economic districts had on its urban development, yet polycentricity becomes increasingly significant.

Thus, the main conclusion is that both models fail to explain contemporary urbanization in the UAE without taking into account specificities of Gulf cities. The UAE example shows that conceptual transition from classical urban ecology to sectoral urbanism mediated by institutions is required. Under this concept, urban inequality arises due to the interaction of:

state planning → land allocation → infrastructure → housing markets → labor markets → migration → accessibility → spatial inequality.

This analysis has wider implications for urban theory in contexts beyond the UAE. Rapidly urbanizing cities in other parts of the Gulf also experience similar dynamics in terms of large numbers of immigrants, state control, international capital inflows, and differential real estate markets. The UAE thus makes an interesting place to rethink classic urban theory outside the West and in the context of rapid globalization. Above all, the most crucial takeaway from this analysis is that urban inequalities do not merely emanate from living conditions, but are generated by the institutions which structure where and how one lives.

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