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# Urban Planning in Dubai; Cultural and Human Scale Context

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*The rapid urbanization of Dubai and regional Middle Eastern cities presents challenges with respect to the traditional local city fabric and the advent of modern high-rise towers. There is a strong need for project stakeholders to consider cultural values, local environment, human scale, and existing historical urban fabric in their approach to addressing project requirements, which, in most cases, call for "iconic high-rise buildings" ignoring basic and fundamental conditions in producing sustainable buildings forms and comfortable usable spaces. Developer companies and building regulations should address social and community needs for well-planned and comfortable urban spaces – balanced with project development financial benefits and return. High-rise, though rooted in local*

*culture, is not always the answer for local residential needs. Land use zoning and urban plans should consider comfortable diversified building heights, open spaces, and socially mixed development briefs to encourage value integration between locals and expat residents.*

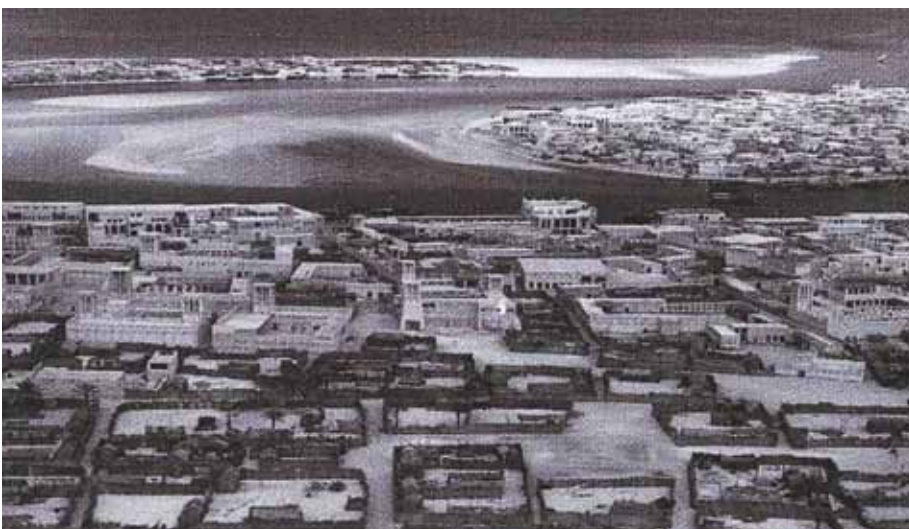
Over the last 15 years, Dubai has emerged as one of the world's fastest growing cities. It has been associated with the desire to build tall buildings as a statement of modernity, globalization, and economic prosperity, which leads to a rapidly growing population. This expansion has caused many environmental and urban planning challenges.

On the 25 km journey along the six-lane Sheikh Zayed Road, a commuter typically witnesses variant building heights, unusual building tops – tapered, twisted, and tilted forms that reflect, rightly or wrongly, developers' power – and the architects disregard of site specificity. This built form is exacerbated with the introduction of flyover intersections, overhead transit rail, and tram networks to address congested traffic challenges. Therefore the big question is how Dubai can harness its growth aspirations to transform regional and international urban planning leadership into a successful prototype of an urban environment that reflects the integration of its culture and socioeconomic realities.

## Urban Shifts in the Gulf Region

In the 1970s, the rate of urban population growth was very rapid in the Gulf region. Under these conditions, the pressure for change led to the importation of Western technology to achieve immediate and sweeping transformations. Speed, sufficiency and quantity operated as the ruling parameter, and a relative transitional period was avoided; while historically such transitional periods have enabled cultures and their values to evolve, expand, and strengthen their own identity. The result has been internationally styled buildings based on the latest technology introduced into an essentially traditional environment.

In Middle Eastern cities, the bulk of vernacular architecture is being restrained due to the belief that its cultural, symbolic, and economic patterns are inferior to new



living patterns and concepts of space allocation – which introduce their own symbolism of technology – and new urban management policies divorced from human scale and traditional organic city fabrics. Towns and cities that once evolved to the vibrations of an inner rhythm that determined their forms are now destroyed, disemboweled, or surrendered to development systems and transportation demands that have little concern for human scale and urban environment. Moreover, new planned “car cities” have become centers of population relying on the latest roads and traffic systems.

#### Dubai 2020 - Urban Master Plan

Since 1950, Dubai’s population has grown about 100 times to 1.9 million inhabitants (2010 estimate) – with UAE nationals making up only 17% of the population – while its urban fabric extended rapidly approximately 400 times.

The population forecast for 2020 is 2.8 million people, per a medium growth scenario. Until recently, rapid urbanization was not dictated by population growth, but it was economically driven by attracting foreign investment and activities aiming at developing a sustainable economic hub.

Dubai, reflecting the Sheik’s futuristic development vision, has committed vast areas for developing mega urban projects (cities within a city), some of which are planned to house over 1 million inhabitants. The Tourism Plan is aiming to attract 15



Opposite Top: Dubai skyline 1940. Source: Dubai Municipality  
Opposite Bottom: Dubai skyline 1950. Source: Dubai Municipality  
Top: Dubai Skyline 1970. Source: Dubai Municipality  
Bottom: Dubai Skyline in 2011 with developments from 1970 circled in red. Source: Dubai Municipality



**Dubai Masterplan 2020**

million tourists each year, and is expected to rise to 20 million in the year 2020. The socio-cultural composition is an array of over 100 nationalities with various lifestyles, religions, and ethnic backgrounds.

Dubai Municipality, the planning authority since 1950, commissioned the preparation of the following plans:

- The mid 1980s comprehensive Development Plan prepared by Doxiadis
- The mid 1990s Structure Plan prepared by Parson-Harland Bartholomew & Associates for 2012 Horizon
- The 2003 plan that amended the Structure Plan prepared by Dubai Municipality for 2012 Horizon
- The Dubai 2020 Urban Master Plan prepared from 2010-2012 by the Dubai Urban Planning Committee in conjunction with the services of AECOM.

The latest plan focuses on the environmental challenges and the socio-

economic transformation as the key to managing future urbanization (Dubai Municipality 2012).

### Planning & Development Authorities

Development approval was carried out by Dubai Municipality until 2000. Approval authority functions of mega developments were given to government linked bodies such as:

- Nakeel
- Jebel Ali Free Zone/Ports, Customs Free Zone Corporation (PCFC)
- Dubai Technology, Electronic Commerce and Media (TECOM)

Semi-public developers led by Emaar, Nakheel, Dubai Holding, Dubai Land, and others set up their project development guidelines to govern third-party clients who are mainly investors with limited or no managerial or technical capacities. Although this resulted in an expedited review and approval process for the ambitious private developments, the focus concerns the projects' technical and safety details standards, while the urban design and

related cultural qualities are not considered as major criteria for project approvals and building permits. Hence the quality and buildings design regulations – including urban guidelines, effective Emirate-wide – are still needed to govern and control new development plans to ensure city-wide harmony. To monitor, enhance, and control these regulations, the contribution and input of a specialized urban design manager at this early stage of development is essential to (a) set up as part of the consultant scope of works and the urban project requirement in the projects' design brief, and (b) to undertake the urban quality check at an early stage of the design to ensure compliance with the set urban design requirements.

### Issues & Direction: 2020 Masterplan

In decentralizing the Dubai Municipality approval process, there is a general lack of coordination between agencies responsible for the provision of community facilities, as there is no one single body responsible for this on a city-widescale. This has resulted in a delay for providing facilities in new residential developments and further impacted traffic loads on roads in other areas (for schooling, leisure, etc.).

Opposite: Dubai 2020 Urban Masterplan.

Source: Dubai Municipality

Bottom: The Lagoons Masterplan. Source: Hill International

Throughout the last 15 years, new housing development projects have been directed towards the luxury or the upper-end market sectors, which are generally comprised of large apartments or villas. Furthermore, the market undersupplied affordable housing within or adjacent to these developments to address the demands of the expat majority.

The focus on boosting tourism numbers has taken attention away from city and community development; facilities and public open spaces in tall buildings zones are often filled with additional buildings, favoring increased sellable plots to the provision of community facilities in order to maximize developers' return. An example is Jumeirah Beach Residence (JBR), with minimum community open

spaces and impacted traffic capacity roads. This pattern can be seen in the master planning and design of the Lagoon, which was one of many mega development projects management undertaken by Hill International during 2005-2008. The Lagoons were planned with an objective of creating a modern luxury, mixed-use destination centered around seven pearls (islands). The economics dictated that more plots be sold, and thus plot sizes for high-rise buildings became smaller, making building footprints less efficient and increasing the levels of podiums and basements. Plots for open spaces and facilities were sacrificed to make way for developable land. This increased Gross Floor Area (GFA) resulted in added pressure and demand on traffic, infrastructure, and services.

The emergence of high-rise developments has resulted in a segregation of the population. Whereas a majority of expatriates with smaller family sizes or singles reside in the high-rise clusters (such as Business Bay, Downtown, Dubai Marina, etc.), the local Emiratis, with larger typical family sizes, prefer to live in bigger, culturally traditional homes. This creates a city with mini clusters of people who are segregated by socio-economic and urban form. This is a serious concern that needs to be addressed and managed through balanced urban planning utilizing mixed land uses, controlled building heights, balanced density, and adequately integrated communal and recreation spaces.

The economic downturn from 2008 to 2011 hit the property market, resulting in deserted



Right: Marina Bay Sands development in Singapore.  
Source: Philip Oldfield  
Bottom: Marina Bay's attempted replica – Shams Gate  
in Abu Dhabi. Source: Aldar Properties



***“In Middle Eastern cities, the bulk of vernacular architecture is being restrained due to the belief that its cultural, symbolic, and economic patterns are inferior to new living patterns and concepts of space allocation – which introduce their own symbolism of technology – and new urban management policies divorced from human scale and traditional organic city fabrics.”***

high-rise blocks that dominate the urban landscape. This was Dubai's pronounced property cycle of boom, slump, and recovery. Dubai has since put into place certain financial provisions to mitigate against significant boom-bust cycles, resulting in a relatively stable property market since 2013.

#### **Added Value of Project Management**

Project management companies have been active in the regional construction market during the last 20 years; however, their role has been undermined by developers and considered limited to construction management.

On the contrary, project managers can play a major role in supporting developers by setting up plans for the procurement of early studies on the socio-economics, environment, heritage, and sustainability of the local market. Those studies are essential to the preparation of a sound project brief. Such comprehensive plans will control the involvement and the work of master planners, architects, and contractors from the initiation of the project to its completion. Hill International has applied the same approach in managing some mega regional

developments such as The Lagoons (Dubai), Palm Jumeirah (Dubai), Al Birdie (Libya), King Abdullah Financial District in Riyadh, and Failaka Island (Kuwait).

Unfortunately, in Dubai, some development projects have been marketed to high level developers, who normally take a short cut in order to increase the pace of the development process. This usually comes in the form of an international design consultant with a readymade design vision formed without engaging the project manager to perform the pre-development feasibility studies. Shams Gate (Reem Island, Abu Dhabi) is one of Hill International's tall building projects that was awarded based on the client's set vision and approved master plan. The development includes three towers, which are connected by a common roof structure. This design is an imitation of Marina Bay Sands (Singapore); however, it replaced the Singapore tower roof structure, which is a vibrant urban space with fantastic views, with a set of duplex apartments on the top floors.

Bringing in project management early in the feasibility studies stage for a strategic

decision process is an essential requirement for a sound development. Embarking on a simple design approach rather than “twisted buildings,” could still achieve targeted financial return, controlled costs, and quality building performance objectives with 20-25% cost savings.

#### **Understanding Local Regional Urbanization and Architecture**

“The city is the integration and harmony between time, space, and human being, and its identity lay in the relationships of these elements.” – Dr. M.Makiya (1914-2015)

Urban planning is a human need whereby planning requires achieving the balance and excellent amalgamation between four aspects and needs, namely environmental, spiritual, social, and economic. None of those should be compromised in successful urban planning ethics, which are shared between all religions and philosophies. Urban design is the knowledge core which collates and integrates technology and art, creating and organizing the built environment to achieve social function, comfort, and visual preference for the city society. It aims to establish the visual impacts of urban

Top: The Yemeni Shibam Towers. Source: Akram Ogaily

Bottom: The Yemeni Shibam Towers modern day replica in Al Badia, Festival City Dubai. Source: Akram Ogaily

Opposite: Baghdad Rail Station (1947–1951). Source: Akram Ogaily



components through consistent building forms and experiences.

### High-Rise and Urban Development:

High-rise buildings emerged as a feasible economic solution to provide more space in dense old cities such as Chicago and New York, where these buildings are statements of modernity, globalization, and prosperity, and carry a notion of pride and major achievement as symbols of capitalist power. There are a number of such towers in Dubai which are iconic monuments such as Burj Khalifa and Emirates Towers. However, the city skyline now is “diffused” by innumerable mediocre tall buildings built next to other well planned and executed skyscrapers.

With urban population growth, it is clear that even traditional urban form addresses society’s need for taller buildings, where form identity emerges from within its region and culture. The first tall buildings in the 16th century from the Yemeni Shibam are a living example of traditional high-rise buildings. “The Manhattan of the Desert” – listed by UNESCO as one of the oldest World Heritage sites – can be considered a record of sustainable planning and traditional building design in tower houses. Its functional design, materials, and construction techniques are an expression of traditional Arab culture, and this is reflected in builders’ skills, as well as the creation of a built environment in harmony with man and the concept of environmental unity. The Al Badiya residential development in Dubai is a successful modern representation inspired by Shibam.

### History, Events, and Their Impact on Development in the Region

The Middle East region witnessed its first Western architecture influence following the First World War. In Iraq, for example, a new architectural era (from 1915-1923) was introduced by three English architects, including H.S. Mayson (1892-1960) and G.M.



Wilson (1887-1965), who had major input on Indian Islamic architecture in Delhi and became the public works manager in the first Iraq Government in 1921. Their major public and institutional buildings – including the Baghdad Rail Station (1947-1951) and Al Basra Airport (1931) – reflected the influence and integration of Classical English architecture and local Indian and Iraqi brick building architecture. G.P. Cooper, the 3rd British architect, worked in India and Iraq, inspired by local vernacular. He designed and supervised, in collaboration with G.M. Wilson, the Kings Shrine (1934-1936) and College of Engineering (1937). Similar period building designs can be seen in Kuwait, Bahrain, Jeddah, and Muscat. The above attempts are associated

with the return of the first Arab groups of planners and architects graduating from different Universities in the West, mostly from the UK. Dr. Al Sultani (2014) argues that following the 1930's period, two main design movements appeared in Local architects' works. The first considered urban planning and local and environmental specificity theory in building architectural design, which is found in Dr. Makiya's works in the region; the second considered art as the architectural base, which can be seen in Chaderchi's works. Others who graduated from US universities were close to the architectural engineering mode.

Hence, the 1930s witnessed the move from the traditional gated organic fabric cities in

the Arab world to new expansions based on master plans of wide, straight roads and big side plots with new building guideline forms and setbacks – considered as the first shift to change local environmental urban planning and social structure.<sup>1</sup>

The 1950s and 1960s witnessed major movements by governments and internationally renowned architects to undertake the design of public institutional buildings. For example, in Iraq, architects such as Le Corbusier, Alva Alto, Gio Ponti, Jose Louis Siert, and Walter Gropius influenced local architects in adopting the design process, and produced contemporary buildings based on the local environment.



1: Dr. M. Makiya (1914-2015) studied architecture and planning in Liverpool and got his Phd in Civic Design at Kings College, Cambridge in 1946. He founded Makiya Associates in 1955 and was elected as Chief of the Iraqi Artists Institute. He is the founder of the Architectural Department in Baghdad University 1959-1971 and was the executive member of the Aga Khan for Architecture works as consultant to UN in 1967. He left Iraq and set up his practice in London, Bahrain, Muscat, Kuwait and Dubai. He left a legacy of 40 years of planning and architectural design projects reflecting his philosophy in intellectual employment of traditional planning and design into modern theory and design technology into his produced contemporary buildings designs (Althuwani 2013).



### Technology and Its Effects on Tradition

The recent rapid urbanization of the region has lacked a transitional period; while historically such transitional periods enabled cultures and their values to evolve, expand, and strengthen their own identity. Under these conditions, the pressure for change is such that ideas cannot evolve gradually as they did in the past, but are imported from the outside, mainly from the West. The result has been internationally-styled buildings and cities introduced into an essentially traditional environment. These criteria made Western technology attractive, but what has often emerged has been a typology that is rigid and industrialized with little relevance to the Arab environment and its vast heritage. Moreover, new cities that have become centers of population rely primarily on technology and the creation of artificial environments to sustain their existence.

Consider the Dubai Marina zone: in traditional middle eastern cities, places of worship (Masaajid or Mosques) were part of the city fabric and are viewed culturally as important community and communal spaces, the domes and minarets being dominant features in the cityscape. In contrast, the Marina mosque is dwarfed by

the surrounding towers, and is insufficient for the number of worshippers.

Thus, urban enquiries explore theology, philosophy, sociology, history, and economics, which all have a tangible impact on the urban environment. Planners and architects are not the only people responsible for the rapid transformation of the city, as politicians, municipalities, developers, speculators, and contractors all play a significant role. The introduction of tall buildings and technology into the region is a reality from which there is no retreat, transforming life and living patterns. However, measures should be taken by local municipalities in improving the planning and design regulation in city zoning, focusing on balanced mixed land uses and restricted residential building heights, let alone provisions of adequate community spaces.

A strong and locally experienced urban designer in a project manager's team is essential to set up the guidelines in project development to address urban design requirements and monitor design consultant's deliverables to ensure compliance with urban criteria and environment.

### Building for the Future

Different approaches have been employed to address these challenges, illustrating how the integration of modern technology into a traditional culture has been misunderstood. One approach is to ignore the past completely and to impose an international style of architecture more suited to other environments in an attempt to portray symbols of growth, prestige and progress, resulting in architecture and environments barren in spirit – planned, ordered, and compartmentalized in the nature of an industrial Western society, undermining the traditional culture.

The opposite approach has been to retreat into the past and to emulate forms that are indicative of the great heritage of Islamic architecture. Some designers have attempted to use superficial outer forms and immediately apparent features such as the dome or arches to establish an Islamic identity in a surface-level attempt to identify to traditional buildings, which in reality owe their existence more to the international styles than to the inspiration of local culture.

There are good design examples in the region where international and Arab

Opposite: The Dubai Marina is shown near the Arabian Gulf (including a glimpse of the Palm Jumeirah Islands), with Jumeirah Lake Towers in the foreground. Source: Hill International

Bottom: The Dubai Marina mosque dwarfed by surrounding towers. Source: Akram Ogaily

***“There are good design examples in the region where international and Arab architects have attempted to create significant building designs reflecting sound understanding of local environmental conditions and culture integrated in contemporary building forms and technology.”***

architects have attempted to create significant building designs reflecting sound understanding of local environmental conditions and culture integrated in contemporary building forms and technology. Good examples can be found in Dubai’s Old Town and Souk al Bahar. However these zones are currently bisected by a large circular boulevard; this can be addressed through creative pedestrian links creating open community space in order to bring back an organic fabric.

Dubai’s first tower was the 1979 World Trade Centre building on Sheikh Zayed Road designed by John Harris. it can be considered a sustainable design long before the emergence of sustainability codes because it is a functional performance office building representing the right approach in addressing local environmental and cultural conditions. The structure is a simple concrete frame with well-studied openings and precast concrete screens responding efficiently to Dubai’s climate. The image of this building with the adjacent glassed residential buildings is an urban design case which could be considered in arguing





Left: A view of the main boulevard in Downtown Dubai separating the Old Town and Souq Al Bahar developments. Source: Akram Ogaily

Opposite Top: Towers over time: World Trade Center, 1970, and World Trade Center, 2008. Source: Akram Ogaily

Opposite Bottom: The Cayan Tower merging into the Dubai Marina cityscape - losing its iconic stature. Source: Akram Ogaily

the issue of rationalization of tall buildings' design responses to local climate.

In comparison, consider the CTBUH award-winning Cayan Tower "as one of the best high-rise buildings." David Gianotten, Juror, OMA, stated, "The building presents itself differently from every angle through its dynamic form, making it an exceptional eye catcher." Sir Terry Farrell stated that "the intelligent helical design of the Cayan Tower responds to very specific and challenging local conditions..." (Wood, Henry & Safarik 2014). Contemporary images illustrate that the tower is now just one of many tall buildings in the Marina – losing its majestic iconic building stature if designed for a different site condition.

### The Case for Appropriate Urban Planning

Dubai has become a city with a fragmented urban fabric. Tall buildings in today's market focus on the objective of maximizing the profitable multiplication of the value of ground encouraged by building regulations. This results in tower typologies isolated from the urban fabric, exacerbated by the owner/developer's objectives to maximize saleable areas on account of quality of use.

It is paramount that towers be designed in an urban context whereby they provide all amenities for social activities. As buildings get taller, more ground-level urban space needs to be considered. Ignoring community facilities makes for unpleasant living conditions. Good designs exist in major development projects whereby collectively planners/architects are involved in buildings' architectural and urban design. This is in contrast to poorly functioning isolated towers designed in different forms and materials.

"The concept of interaction between international and traditional urban and aesthetic values should occur in a climate which permits the investigation of all possibilities that can be used towards exploring social and environment advantages of new cities" – Chaderchi (2000).

A new approach is to seek an understanding of the essence of the regional local architecture, as distinct from its forms. The introduction of modern technology into the Middle East is a reality from which there is no retreat, transforming living patterns and habits. Style in architecture has, throughout

history, been determined by the prevailing knowledge of building materials and technology.

The forms that evolve from this approach would, in consequence, have a regional identity, a sense of continuity, and relevancy in terms of an Arab and Islamic society. Ideally, the doctrine of unity in multiplicity, so relevant to architecture, evokes through the architect inner rhythmic vibrations that create harmony through forms that are a reflection of regional identity, human scale, creative technology, and continuity.

Studies are needed to assess road hierarchy, modes of transportation, and related streetscapes to avoid post-development transportation projects that compromise urban spaces, such as the case with out-of-scale Dubai Metro stations in terms of size and form. It is clear that reducing the boldness of some main roads across the inner city fabric through improved median landscaping, adding more greenery, and bridging others in specific and well-studied locations could accommodate social activities and play grounds that improve urban interaction. Pergolas, awnings, and





side shaded arcades all are characteristics of the Orient or countries with an oriental heritage, like Spain.

With the opportunity of major project development in Dubai, the onset of the 2020 master plan, and attempts to achieve the Sheik's dynamic vision for a "Global City Culture" coinciding with the World EXPO2020, major efforts are needed from the market chain to address challenges, strengths, and resources in emerging processes to facilitate the realization of the vision; the challenge is not to create sustainable places but to make the places sustainable.

#### Final Notes

As the trend of developers' appetite to maximize their return through increasing sellable plots and emergence of high-rise buildings continues, urban planning and human socio-cultural needs represent major challenges to be addressed in future cities and developments.

Development stake holders have tangible roles to play and contribute to improving the shape of future cities that can be summarized as follows:

1. Municipalities: Develop sustainable and appropriate urban management policies, building regulations, and control of new developments to safeguard the quality of environment and retain the vital human scale. Urban planning and design works should be undertaken following approved city plans in considering plot areas and subdivisions planned for defined height limits and proportionate urban communal space between buildings, using façade treatments and materials in consideration with building orientation
2. Developers: To be forced to provide appropriate interaction between community facilities and green/public areas within buildings, be it via incentives such as a density bonus plans. To engage project managers at the feasibility stage to assist in developers' strategic decision and project briefs that ensure balanced economic, environmental, and socio-cultural returns.
3. Project Managers: To work as the developer advisor on developing feasibility studies on the economics, environment, and socio-cultural realities of the specific locality. It is equally important to educate developers on the advantages of applying project management systems throughout the project development.
4. Planners, Architects, and Engineers: To engage experienced design leaders to undertake in-depth studies on environment, culture, and urban site specificity prior to considering buildings plans and forms. Working closely with the project managers to address an analysis of project planning and design
5. Educational Institutions: Offer university programs and courses on urban planning and sustainability issues to raise social awareness amongst the next generation – coupled with outreach programs supported by the local government.

Opposite & Right: The Dubai Metro stations occupying urban spaces between buildings and Sheikh Zayed Road.  
Source: Akram Ogaily



There are no packages of answers to the above issues, but a significant development would be a greater pooling and coordination of resources and ideas.

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