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Publication Date

2015

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Planning Abu Dhabi:
From *Arish* Village to a Global, Sustainable, Arab Capital City

By

Alamira Reem Bani Hashim

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

City and Regional Planning

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Elizabeth S. Macdonald, Chair

Professor Michael Southworth

Professor Greig Crysler

Summer 2015

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Abstract

Planning Abu Dhabi:
From *Arish* Village to a Global, Sustainable Arab Capital City

by

Alamira Reem Bani Hashim

Doctor of Philosophy in City and Regional Planning

University of California, Berkeley

Professor Elizabeth S. Macdonald, Chair

The overarching objective of this research project is to explore and document the urban history of Abu Dhabi, United Arab Emirates. It is organized as a comparative study of urban planning and design processes in Abu Dhabi during three major periods of the city's development following the discovery of oil: (1) 1960-1966: Sheikh Shakhbut Bin Sultan Al Nahyan's rule (2) 1966-2004: Sheikh Zayed Bin Sultan Al Nahyan's rule; and (3) 2004-2013: Sheikh Khalifa Bin Zayed Al Nahyan's rule. The intention of this study is to go beyond a typical historical narrative of sleepy village-turned-metropolis, to compare and contrast the different visions of each ruler and his approach to development; to investigate the role and influence of a complex network of actors, including planning institutions, architects, developers, construction companies and various government agencies; to examine the emergence and use of comprehensive development plans and the policies and values underlying them; as well as to understand the decision-making processes and design philosophies informing urban planning, in relation to the political and economic context of each period. The project is informed through archival research, spatial mapping, and key informant interviews. It attempts to uncover the underlying foundations of the development of Abu Dhabi by situating the city within a theoretical framework that engages the debates and writings of several theorists on globalization, oil economies in the Arab Gulf, urban governance and planning institutions, and urban design.

To Baba Zayed, for believing in a woman's right to an education.

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Acknowledgments

They say it takes an army (whoever “they” are). They weren’t kidding. Completing this PhD dissertation would not have been possible without the support and guidance of my committee members at the University of California, Berkeley: Elizabeth Macdonald, Michael Southworth, and Greig Crysler. I have appreciated our meetings and discussions over the years, and I am grateful for their close read of my drafts and their thoughtful critiques of my ideas – these only served to strengthen my work and I am a better academic because of them.

As a recipient of the Distinguished Student Scholarship, I am grateful to my country for providing me with the opportunity and financial support to pursue my academic goals. I would like to thank Dr. Ali Al Arri and Ziad Mahafza for their unwavering support, and especially Marwan Khasawneh for his advice, understanding and mentorship.

I extend my most heartfelt gratitude to my informants. I hope they know how invaluable their input has been to this dissertation. I would also like to thank Abu Dhabi Company for Onshore Oil Operations (ADCO) for granting me access to a valuable selection of photographs, many of which appear in this dissertation; the National Archives (previously known as the National Center for Documentation and Research) for their help in obtaining archival information as well as some notable images that have enriched this dissertation; the Abu Dhabi Urban Planning Council (UPC) for access to documents and plans; Abu Dhabi Systems and Information Center (ADSIC), particularly Khawla Al Fahim, Jorge Merritt, Mahmoud M. Jaafar and Fatema Al Awadhi, for their assistance in obtaining building heights information and other maps; Abu Dhabi Tourism and Culture Authority (ADTCA), particularly Omar Al Busaidy and Jaafar Al Shateri, for their support; the Earth Sciences Library at the University of California, Berkeley for their assistance in scanning several large maps of Abu Dhabi that I unearthed there; and the National Library in Khalifa Park for allowing me to spend hours upon hours poring over their selection of books and official documents on Abu Dhabi, and keeping me well caffeinated, even when they were not yet open to the public in 2013.

I am especially indebted to Dr. Yasser Elsheshtawy and Ann Wimsatt for their generosity both with their time and with their sharing of information related to my dissertation. I appreciate meeting with Yasser to discuss my dissertation proposal

several times and his enthusiasm for my research topic. And although I have never met Ann in person, I have looked forward with fondness to our email exchanges, her constant encouragement and her comments on the ARABICON and Takahashi parts of my draft (Chapter Five). My friend and mentor, Dr. Arman Farahmand-Razavi, also deserves a special shoutout. Arman selflessly tolerated reading through the early drafts of my chapters and I very much enjoyed our meetings over coffee/lunch/dinner to discuss these. I am especially grateful for his enthusiasm over my work and his insistence on its significance. I am also thankful beyond words to my friend “Kimmie Choo,” for her close read of one of my chapters to corroborate the information I presented, and for wholeheartedly supporting me through the last push of this journey. My brother Omar Al Suwaidi also deserves recognition for coming through for me on some of the maps for later years, therefore saving me so much agony. A special thanks also goes to James and Jenny for attending to my neuroses, answering all my questions and reading through my work.

I was always surrounded by so much love. The love of my friends and family got me through the grueling experience of a doctorate program and helped me endure the painstaking labor of writing a dissertation. My army of supporters include (in no particular order): Jana, Tamara, Dan, Hani, Rasha M, Tereza, Saima, Miriam, Booty, Sasan, Rany, Fadi, Marissa, Hanan, Jacob, Kelly Ann, Hassen, Dena, Ingrid, Norma, Rudayna, Michael Becker, Nayla, Sura, Sonya, Rasha G, Ladi, Zaynab, all of my in-laws, and my sister Noor. If I missed anyone, it was unintentional. Each person has contributed to my success in his or her own way; regretfully, it would be too lengthy to recount them here. I hope it suffices to say that I am forever indebted to each and every one of them for keeping me centered, for cheering me on, and for keeping the faith when I grappled with self-doubt. With love, I overcame.

The greatest love of all is the love of my parents, Taha and Eman. It is difficult to limit my gratitude for them to a few lines, because their support is certainly immeasurable. I am grateful for my father who was readily available to help me with anything and everything related to my dissertation, and who constantly reminded me he was there for me. He played an integral role in bringing this dissertation to completion. Both my mother and father provided me with a strong sense of security, believed in me, and encouraged me to keep going. I attribute my success to them and I hope I have made them proud. I also hope I finally made my mom dance.

I feel blessed to have shared this journey with my partner in adventure, wanderlust and life: my husband Arsalan. It could not have been easy being married to a PhD candidate – he surely deserves an award. It was his love, his patience, his time, his wisdom and his motivation that helped me to use this experience to grow and inspired me to continue working on becoming the best version of myself. And if the moral support wasn't enough, Arsalan showed great interest in my work and discussed my ideas with me along the way, reassuring me that I was on the right track. He was also instrumental in helping me to bring this dissertation to completion, tirelessly dealing with the image placement and computer programs that frustrated me and that

left him sleepless for countless nights. How lucky I am to have had his hand to hold through it all. I love you, RC.

Finally, I am blessed to have had the opportunity to write this dissertation between my two homes – the UAE and California. The spirits of both places live through this work – especially Berkeley, Los Angeles and Joshua Tree – as do the spirits of Goa, India; Black Rock City, Nevada; Ibiza and Barcelona, Spain; London, UK; Lisbon and Porto, Portugal; Beirut, Lebanon; Istanbul, Turkey; Mirbat, Oman; and the Empty Quarter, Arabian Desert.

The spirit of my late grandfather, Dr. Omar Abbas Al Ayedrous, also lives through this work. He inspired me in many ways, and without knowing he did so. He was a writer and a thinker, and my fondest memories with him as a young girl involve me sitting on the carpet in his little home office in Al Ain, gazing around in admiration at his floor-to-ceiling bookshelves, and falling in love with not only books (I am a serious collector and have an insatiable hunger to read), but also with the idea that I too will one day write a book.

And here it is. My pseudo-book.

Alamira Reem
Abu Dhabi/Dubai, UAE
August 2015

Chapter One: The Construction of an Urban Past

“‘Ours is a long story, Abu Othman.’

‘Long. How much longer?’

‘Trust in God, man. All is well with the world.’

‘God only knows,’ he laughed sadly. ‘Hope for the best. No one can read the future.’”

- Abdelrahman Munif (1989) *Cities of Salt*

Modern tales of Arab Gulf cities have left the notorious desert behind. In their place lie stories of glorified urban and architectural triumphs, powered by foreign and local investment, tourism and trade. The contemporary Arab Gulf city is described as having transformed from “rags to riches” (Al Fahim 1995) and from “sand to silicon” (Sampler and Eigner 2003), and is frequently referred to as an “instant city” (Basar 2003; Bagaen 2007; Moustafa, Qawasmi and Mitchell 2008).

The fallacy, however, behind these kinds of dualisms and descriptions is twofold: First, they suggest that prior to the discovery of oil, these desert cities were barren land, stripped of any kind of vegetation and lacking any signs of life. The premise underlying these descriptions is akin to the theory of *tabula rasa*, implying that development took place from scratch.¹ Second, they imply that these cities turned into sprawling metropolises overnight. Such connotation “evokes a sudden transformation from nomadic origins, characterized by constant movement, to an urban entity. These depictions underlie a certain dismissal: they are not ‘real’, but rather artificial creations fuelled by wealth generated from oil.... They lack layers of history, which shape and characterize traditional settlements” (Elsheshtawy 2008a). Although cities in the Arab Gulf underwent development in a compressed period of time (in comparison to Western cities), they are not, and have never been, devoid of history or life.

The central misunderstanding, as Andrew Wheatcroft (1982) points out, lies in the word “desert.” The Arab Gulf, historically known as Arabia, was equated with a string of pejoratives such as “Forsaken, Abandoned, Uninhabited, Unpeopled, Desolate, Lonely, Uncultivated and Unproductive, Barren, Waste” (ibid.). “In fact,” he writes, “virtually nowhere was the country *desert* in this absolute sense...this barren land sustained a few cities and many towns, a profusion of nomadic tribes, and considerable internal trade” (Wheatcroft 1982; emphasis in original). Moreover, the history of Arab Gulf cities is not defined by wealth generated from oil, which is a relatively recent discovery. These desert cities were in fact occupied by thousands of tribes for thousands of years, and throughout the years, a multitude of political, economic and social factors have impacted the transformation of the Arab Gulf city from a small desert village into a global entrepreneurial city competing on the world stage. In other words, the cities

¹ *Tabula rasa* is the terminology used in architecture and urban planning meaning “blank slate.”

did not exist in a political and economic vacuum; rather, they are the result of a very purposeful vision of the power elite and their exercise of political will to lead their cities towards progress and modernity, and later, into the top echelons of the global economy. These local and external elements have, in turn, resulted in monumental changes in the cities' urban form.

To date, Dubai has perhaps occupied the most attention in the media and other circulated materials on the urban development of the Arab Gulf region, which is not surprising, given that its unique urbanity and bold architectural projects are a curiosity for many.² This may also be due to the fact that Dubai has been “positioning itself as a gateway between the newly emerging centers of the East and the West, a ‘crucial staging post in the shift in economic power from the West to emerging Asia, ...” (Elsheshtawy 2010). Its mode of urbanism is a response to this positioning, prompting scholars, practitioners, policymakers and journalists from around the world to attempt to understand, and at times challenge, the mode of urbanism employed. Dubai's metamorphosis is frequently hailed an Arab success story, and it has also become a source of great influence in the region – to the extent that the so-called Dubai Model has become an actual term, connoting the exportability of its particular mode of development (Koolhaas 2010; Elsheshtawy 2010). Critiques of the model include a series of references to spectacle – “Disneyfication,” Las Vegas and hyper-reality, and “the city as theme park” (Lyne 2003; Schmid 2006; Davis 2007; Dudley 2007) – descriptions that have rendered Dubai artificial and superficial; as well as allegations that Dubai's urbanism perpetuates urban segregation and inequality, and is relatively unsustainable (Eleishe 2004; Bagaeen 2007; Ali 2010; Bani Hashim, Irazabal and Byrum 2010). Nevertheless, despite its critics, the Dubai Model has been eagerly replicated in neighboring Arab Gulf cities and countries like Lebanon and Morocco (Elsheshtawy 2010).

But while most Arab Gulf cities have simply chosen to reproduce the Dubai Model, the city next door has been quietly devising its own plans, and slowly coming out of its neighbor's shadow, to manifest its role and stature as a capital city and to effectively compete on the world stage for investment, tourism and trade. Abu Dhabi, capital of the United Arab Emirates since 1971, is currently undergoing a massive urban transformation that largely contrasts with the mode of urbanism found in Dubai. It is this emerging Arab city that is the focal point of this research.³

There are many reasons why it is timely to pause and reflect on Abu Dhabi at this critical moment in its life history. The death of Sheikh Zayed bin Sultan Al Nahyan, ruler of Abu Dhabi from 1966 until 2004 and president of the United Arab Emirates since 1971, coupled with changes in real estate and property laws, as well as economic diversification strategies, has brought with it massive transformations to the emirate's

² For example, Dubai boasts the world's largest mall, Dubai Mall; several manmade islands in the shapes of palm trees and the world; the world's tallest building, Burj Khalifa; numerous master planned communities like The Greens, Jumeirah Beach Residences, The Gardens, and others; as well as countless iconic buildings like the world's tallest twisted tower, Infinity Tower.

³ Abu Dhabi is the capital and the second most populous sheikhdom in the United Arab Emirates (the most populous being Dubai), and also the capital city of Abu Dhabi emirate, the largest of the UAE's seven member emirates.

landscape. In an effort to expand the city's economic base, nationals were permitted to sell government-granted land and a form of foreign ownership was introduced,⁴ moves previously prevented by Sheikh Zayed to counter real estate speculation (Elsheshtawy 2008a). As a result, several new real estate development companies emerged with ambitious plans of varying scales for new construction and redevelopment within the City of Abu Dhabi and its surrounding islands. Unregulated, it was a free-for-all market for these private companies whose proposals were expected to reach build-out in ten to twenty years (Alahbabi 2009). This troubled the Abu Dhabi government, as the former general plan for the city, prepared in the later 1980s, was not able to accommodate the type of growth and development that was being considered (Abu Dhabi Urban Planning Council 2007a). Authorities were worried about having the same explosion of unmanageable growth as Dubai, and "watching the quality of their [citizens'] lives diminish dramatically in one generation" (Hutchinson 2009). Although awed by the success of Dubai's property market, the leadership in Abu Dhabi was clear in its desire to develop in a more controlled manner. Abu Dhabi wanted to transform itself, but it did not want Dubai's traffic, over-scaled projects and frantic development (Macdonald 2007); therefore, it became imperative to find a way to regulate and guide the city's urban expansion.

Since 2007 there has been a political will to regulate and direct the growth of the city, and in effect, a long-term vision for the city was created. That year, the Urban Structure Framework Plan, originally known as Plan Abu Dhabi 2030 but now renamed Plan Capital 2030, was created to act as a blueprint to guide the evolution of the city between 2007 and 2030. Key principles of the urban planning process are expressed in the plan, stating that Abu Dhabi will be a "contemporary expression of an Arab city" and will continue its practice of measured growth to reflect a sustainable economy. It will also manifest its role and stature as a capital city, and will respect and be shaped by the natural environment. Furthermore, "Abu Dhabi's urban fabric and community infrastructure will maintain and enhance the values, social and cultural heritage of the Arab community" (Abu Dhabi Urban Planning Council 2007c).

The current planning scene in Abu Dhabi is interesting to say the least: New projects have been constructed or are underway; the city is slowly expanding from the Island into the mainland, the hinterlands and surrounding islands; and government agencies like the Abu Dhabi Urban Planning Council (which is under the guidance of Larry Beasley, Vancouver's renowned former planning director, and his consultants) are working together with the public and private sector to design this livable and sustainable version of the Emirati city. At the same time, those planning Abu Dhabi continue to grapple with the unusual conditions created for urban planning and design when there is a high proportion of non-nationals compared to Emiratis, and who have certain restrictions placed on them that limit their integration into society. This means that issues of identity, development and planning participation are complicated. Similar to Dubai, the global and entrepreneurial aspirations of Abu Dhabi have also depended upon the global flow of labor and resources, and this has created an uneven social

⁴ During Sheikh Zayed's reign, land ownership in Abu Dhabi was restricted to UAE nationals.

geography such as large spectacular developments that cater to tourists and luxury villas catering to high-income residents, surrounded by increasingly impoverished residential neighborhoods or satellite labor camps (Krupar and Al 2010). Abu Dhabi's urbanism is also critiqued for being unsustainable, despite efforts to implement the principles of Estidama (the city's equivalent to LEED) and the establishment of the Masdar Initiative for renewable energy exploration. Indeed, the massive growth taking place in the context of both a marine and desert ecology poses certain challenges.

As of this writing—eight years after the original Plan 2030 was released—the plan is undergoing an update. Several domestic and international influences necessitated its revision; these ranged from the impact of the global financial crisis to the increased emphasis on Emiratization as an underlying policy.⁵ As a result of these factors, the rate of growth in the emirate was largely affected. For example, numerous development projects that were once approved or in the planning stages have been changed, delayed, or postponed altogether. Also, land use supply has not matched demand, leading to a general oversupply of some land uses and an undersupply of others. These and many other issues have required that planners and major decision-makers in Abu Dhabi return to the drawing board, in order to explore new strategies for the way forward.

Accordingly, Abu Dhabi's emerging urbanity makes for a significant study, particularly as it is currently engaged in a long-term planning process to help guide its development in a more controlled way. Dubai is considered both a model city and a cautionary tale, which has offered those engaged in long-term visioning and planning in Abu Dhabi a new instance of reflection and an opportunity to selectively build on the Dubai experience, reconfiguring some of the foundational elements of the Dubai Model in new and innovative ways, or, in some instances, disposing of these elements altogether. Abu Dhabi thus emerges as a valuable counterpoint from which to read alternative dynamics of urban development and urbanization in the Arab Gulf region.

1.1 Aims of the Research Project

The overarching objective of this research project is to explore and document the urban history of Abu Dhabi, United Arab Emirates. The study is organized as a comparative analysis of urban planning and design processes in Abu Dhabi during three major periods of the city's development, each corresponding to the vision of a different ruler: (1) 1960-1966: Sheikh Shakhbut Bin Sultan Al Nahyan; (2) 1966-2004: Sheikh Zayed Bin Sultan Al Nahyan; and (3) 2004-2013: Sheikh Khalifa Bin Zayed Al Nahyan.⁶ The intention of this study is to go beyond a typical historical narrative of sleepy village-turned-metropolis, to analyze the different approaches of each ruler to

⁵ Emiratization is the process of employing national citizens in the public and private sector.

⁶ While the period of Sheikh Khalifa bin Zayed Al Nahyan's rule does not end in 2013 (Sheikh Khalifa is still the Ruler at present), the study period ends in 2013 to reflect the first evaluation of the current plan for Abu Dhabi, which was created in 2007. The plan has been undergoing an update since the end of 2013, and because the update has not yet been published as of this writing, it was decided to cap the research study that year.

development; to investigate the role and influence of a complex network of actors, including planning institutions, architects, developers, construction companies and various government agencies; to examine the emergence and use of comprehensive development plans and the policies and values underlying them; and to explore the spatial manifestations of these elements while keeping in mind the political and economic context of each period. The study is guided by the following central question:

How did the different visions and planning approaches of each of the three rulers, as well as their consultants and advisors, affect urban space?

Complementarily,

- How and why did Abu Dhabi's urban form change over the three different periods?
- During each period, what kind of planning system was in place, and how did the design process work?
- What kinds of plans were drawn up for Abu Dhabi, and how did these evolve over time? How was the design style influenced, from who/where? What theoretical models informed planning? How is this linked to global and regional influences? Did the values underlying these plans change, and if so, how?
- What was the role of urban governance and who were the various players involved?
- What factors have contributed to the change in orientation of the urban planning culture of Abu Dhabi between the mid-to-late 1990s and today?
- What are the economic factors driving this urban growth? To what extent do these policies relate to the globalization of the world economy and the flow of capital? How are culture, identity and heritage challenged or refashioned to respond to local as well as global conditions?

These questions may be translated into the following themes that then find their expression in each of the main chapters of this study (Chapters Four, Five, Six): Vision of rulers; urban governance and role of planning institutions; plans of experts; and urban morphology.

To this end, my project is a morphological study as well as an inquiry into design processes and planning institutions. Anne Vernez Moudon (1997) considers urban morphology to be the study of the form of human settlements and the process of their formation and transformation. By examining the patterns of its component parts and the process of its development, one can begin to understand the spatial structure and character of a metropolitan area, city, town or village. In other words, urban morphologists analyze a city's evolution "from its formative years to its subsequent transformations" (ibid.). Here, urban morphology approaches the city "not as artifact but as organism, where the physical world is inseparable from the processes of change

to which it is subjected. The focus is on the physical world as the result of dynamic social and economic forces” (Moudon 1997; emphasis in original). Moudon lists three purposes for the study of urban form via urban morphology. These are: (1) Descriptive or explanatory purposes, concerned with the questions of how and why cities are built; (2) Prescriptive purposes, focused on how cities ought to be built; (3) Assessment purposes, studying the impact of past design theories on city building (distinguishing between “design ‘as idea’ and design ‘as practiced’”) (ibid.). The focus of this project reflects the first purpose.

1.2 Existing Literature and Contribution

Having outlined the general scope of the research project, a comprehensive look at the literature on Abu Dhabi is necessary at the outset, insofar as it aids in situating the research object within a specific context from which to study it. Overall, most of the information concerning Abu Dhabi appears to be included in sections of volumes that cover the history and society of the Trucial States⁷ or the United Arab Emirates (e.g. Al Sayegh 1997; Kazim 2000; Kechichian 2000; Al-Abed et al. 2005; Heard-Bey 2004[1982]; Al Sayegh 2006) or the Arab Gulf as a whole (e.g. Zahlan 1998; O’Sullivan 2008). Abu Dhabi is also featured in the accounts of previous British political agents in the Gulf (e.g. Hawley 1970; Henderson 1988) as well as the travel writings of Jonathan Raban (1979) and Wilfred Thesiger (1991[1959]), who describe their experiences in “Arabia.”

There are only a small number of books on Abu Dhabi that are neither “a pictorial tour” of the city (e.g. Codrai 1992; Facey and Grant 1996; Codrai 2001; Fairservice and Hellyer 2003; Explorer Publishing 2009) nor a guidebook to it (e.g. Nasr 2009; Alsaloom 2010; Explorer Publishing 2011). In his autobiography, *From Rags to Riches: A Story of Abu Dhabi*, Mohamed Al Fahim (1995) recounts the city’s past and his experiences growing up amidst its rapid urbanization. Similarly, Jo Tatchell (2009) gives a personal account of Abu Dhabi’s transformation, tracing its history prior to and during her family’s move to Abu Dhabi in the seventies, and presents its evolution through her recent visit after having been away for almost twenty years. Michael Cameron Dempsey (2014), in his book *Castles in the Sand*, describes his experience as a city planner in Abu Dhabi from 2009 to 2011 in narrative form.

Another book, *Early Days in Abu Dhabi: The Origins of ADCO 1936-1971* (Hellyer 2001), is a publication by Abu Dhabi Company for Onshore Oil Operations (ADCO). It is no coincidence, then, that the text is largely centered on the oil and gas sectors and

⁷ The word “trucial” refers to the fact that the rulers of the states on the southern coast of the Gulf had since 1820 signed several treaties with the British Government of India. The Qasimi (pl: Qawasim) tribal confederation, a fierce rival of the significant Bani Yas tribe of Abu Dhabi, were suffering from the decline of pearling and therefore attacked and captured British fleet in order to get hold of supplies. To protect its interests in the Gulf and the Indian Ocean, the British Government of India mounted an attack on the Qawasim’s headquarters in Sharjah and Ras al-Khaimah. The defeat of the Qawasim, and an agreement called by the British the “General Treaty for the Cessation of Plunder and Piracy by Land and Sea,” signed in 1820, ushered in an era of relative maritime tranquility. This was followed by the 1853 “Perpetual Maritime Truce” agreement, after which the term “Pirate Coast” gave way to “Trucial Coast.” The sheikhdoms whose rulers had signed the 1853 agreement became known as the “Trucial States” (and in some British documents as “Trucial Oman”), an epithet that survived until 1971 when they were all united to create the federation of the United Arab Emirates. See Rabi, Uzi (2006). “Oil Politics and Tribal Rulers in Eastern Arabia: The Reign of Shakhbut (1928–1966)” in *British Journal of Middle Eastern Studies*, v.33 n.1: pp.37-50 and Heard-Bey, Frauke (1997). “The Tribal Society of the UAE and its Traditional Economy” in Ghareeb, Edmund (ed.). *Perspectives on the United Arab Emirates*. London: Trident Press.

how these have played an important role in the city's development. Of particular interest to me are the fascinating photographs included in the book, which showcase Abu Dhabi in the past.

The National Centre for Documentation and Research (NCDR) in Abu Dhabi also sponsored some well-researched publications on the city. For example, the book *Qasr Al Hosn: A History of the Rulers of Abu Dhabi 1793-1966* (Maitra and Al-Hajji 2001) provides a thorough account of the various rulers of Abu Dhabi island since its foundation as the main base of the Al Bu Falah tribe in the late 18th century. As well, the book examines the history of the Al Hosn Palace, analyzes aspects of British policymaking, and presents a window into the socio-economic conditions of Abu Dhabi. The NCDR also published two books on Sheikh Zayed bin Sultan Al Nahyan, namely Jayanti Maitra's (2007) *Zayed: From Challenges to Union* and Graeme H. Wilson's (2013) *Zayed: Man Who Built a Nation*. Furthermore, the Emirates Center for Strategic Studies and Research (ECSSR) recently published *With United Strength* (2013), and with the aforementioned NCDR books, these add to the large repertoire of Sheikh Zayed biographies written over the years in both English and Arabic.

In *Abu Dhabi: Oil and Beyond* (2009), Christopher M. Davidson pays close attention to the roles of the ruling dynasty and city officials in Abu Dhabi's growth. Davidson does a remarkable job at detailing the changing political and economic system of the city, and he lays out some convincing potential challenges to Abu Dhabi's political and economic success (including pressure with regards to human rights and persistent underperformance in the education sector, for instance).

David Heard (2011) presents the story of the 1930s oil explorations in Abu Dhabi from the perspective of Petroleum Concessions Limited (PCL), an associated company of Iraq Petroleum Company (IPC). It later became known as the Abu Dhabi Petroleum Company (ADPC) – this is where Heard spent most of his working life – and then handed over to the Abu Dhabi-based operating company, Abu Dhabi Company for Onshore Oil Operations (ADCO), in 1979. Using ADPC archival files as primary sources of information, Heard recounts the activities of and challenges faced by some prominent employees of PCL who were the first oil men to come to the Trucial Coast. *From Pearls to Oil: How the oil industry came to the United Arab Emirates* (Heard 2011) also portrays the relationship between the tribal sheikhs and the British Government.

In her book, Linda Low (2012) – a former employee at the Department of Economic Development in Dhabi – documents the economic policies and growth process in Abu Dhabi. She follows its journey of economic development, examining its diversification from a resource-based to a twenty-first century knowledge-based economy and society.

Another notable piece on Abu Dhabi exists in the form of a chapter titled "Cities of Sand and Fog: Abu Dhabi's Global Ambitions" (Elsheshtawy 2008a) within an edited book. Here, Elsheshtawy investigates the city's urban development from 1761 to the present. This is conducted in a general manner, with the aim of providing an overview,

and he moves from the macro to the micro by presenting an in-depth examination of two case studies – the Central Market project and the Saadiyat Island cultural development, which he presents as “spaces of exclusion” (ibid.).

Salma Samar Damluji’s edition *The Architecture of United Arab Emirates* (2006) also offers a few short, informative chapters on Abu Dhabi’s urban landscape, which discuss its architecture and town planning in the past and present. While the book does provide the reader with a great amount of useful information, being published in 2006 means that it does not cover the current wave of planning and development and it is therefore outdated.

Three books offer short essays on Abu Dhabi. *AlManakh 2: Gulf Cont’d* (2010) is a collection of essays and interviews on urbanism in the Arab Gulf and the pieces specific to Abu Dhabi touch on an array of topics including sustainability and the new pearl rating system (Al Qassimi; Heid; Soppelsa and Mallen), Masdar City (Abbas), plans for 2030 (Alahbabi; Khoubrou), cultural institutions (Azimi) and the Yas Island development (Greiling), as well as the evolution of the Corniche, Abu Dhabi’s main waterfront (Al Ayedrous). On the other hand, *Superlative Emirates: The New Dimension of Urban Design* (2011) is first and foremost a design atlas of unique projects in the UAE, albeit a non-comprehensive one. With photographs, infographics and concise summaries of projects, the book also contains brief essays on identity, imagery and iconic architecture (Katodrytis) in addition to sustainability (Moustafa) in Abu Dhabi. And while *Reconsidering Jane Jacobs* (2011) is not as a whole particularly focused on Abu Dhabi, the UAE or the Arab Gulf, Rudayna Abdo and Geoffrey M. Batzel’s piece “Planning the Modern Arab City: the Case of Abu Dhabi” provides some insight into the current wave of planning and development in Abu Dhabi as well as the main drivers and politico-institutional mechanisms behind it.

Several scholarly articles on Abu Dhabi can be found in various well-established academic journals. Christopher M. Davidson’s pieces have discussed federal politics, the role of Abu Dhabi in the international system, and its economy (Davidson 2006; 2007 respectively). Uzi Rabi (2006) wrote a piece on the reign of Sheikh Shakhbut, Abu Dhabi’s ruler from 1928-1966, giving a clear and concise account of tribal leadership, oil politics, and British interests in the region during that time. Yasser Elsheshtawy has written two prominent articles on Abu Dhabi: The first article examines identity and tradition in Abu Dhabi’s built environment, and uses the Central Market as a case study (Elsheshtawy 2008b). His second piece studies the notion of “tabula rasa” in the Arab Gulf, using the case of the Saadiyat Island cultural development in Abu Dhabi and placing it within what he calls the city’s “urban imaginary.” The aim of this article is to elaborate “on the role of global cultural networks in developing these projects and how this serves the larger political purpose of creating a new Middle East, replacing the region’s traditional centers” (Elsheshtawy 2009). A more recent article by Davide Ponzini (2011) also covers large-scale development projects and star architecture in Abu Dhabi’s Saadiyat Island, while reflecting on “the absence of democratic politics.” Last, I have contributed two articles on Abu Dhabi: one investigates the influences of the Vancouver planning model on Abu Dhabi’s plans for 2030 (Bani Hashim 2011), while

the other discusses place branding in Abu Dhabi using Saadiyat Island as a case study (Al Ayedrous Bani Hashim 2012).

While there is no doubt that all of the aforementioned readings have added significantly to my research on Abu Dhabi and shaped my understanding of it, my exhaustive review of the literature revealed the gaps and allowed me to identify how my research may humbly contribute to Abu Dhabi's historiography.

On a more general note, with the exception of only a handful of the sources cited above, current and timely information on Abu Dhabi is limited to articles in the news. That is, a big portion of the circulation and dissemination of images and representations of the city is a result of the discourses constructed from a journalistic point of view rather than from a scholarly point of view. Also, very few studies have dealt with the urban environment of Abu Dhabi, namely those by Yasser Elsheshtawy (2008a; 2008b; 2009), Rudayna Abdo and Geoffrey M. Batzel (2011), and a select number of pieces by the Abu Dhabi Authority for Culture and Heritage (ADACH) (e.g. Chabbi and Mahdy 2011a, 2011b). Of these, Yasser Elsheshtawy is arguably the only contemporary writer who has attempted a substantive urban discourse by tying it to a larger theoretical framework. Furthermore, while Al Fahim (1995) and Tatchell (2009) describe the historical transformation of the city, there is a lack of scientific rigor in their work. For example, although Tatchell bases her book on personal observation, interviews and archival research, these methods are not conducted within the parameters of academic scholarship, but rather fulfill journalistic ends. Moreover, while she accurately describes the changing landscape of the city and attempts to discuss the meaning of Emirati identity today, throughout the book Tatchell emphasizes that her focus is on the cultural aspect of the city's future plans, namely the development of Saadiyat Island and its museums. The same can be said about Dempsey's (2014) book, even though he includes a bibliography. While his insights on the planning process in Abu Dhabi in the recent era are invaluable, they only cover two years and are very much intertwined with his own beliefs and his personal experiences elsewhere. It is rather surprising that no in-depth urban history of Abu Dhabi has yet been written, and that no empirical research has been conducted on the topic. This study aims to fill this academic dearth. It is also rare to come across scholarly literature on Abu Dhabi that is written in the English language by an Emirati national. Of the texts cited above (mine not included), Mohamed Al Fahim's (1995) book is the only one that provides a local account. Muhammad Morsy Abdullah (1978) wrote a rich and detailed modern history of the UAE, but did not focus on any city in particular; therefore, specific information on developments and urban growth in Abu Dhabi is limited. The same can be said about Fatima Al Sayegh's distinguished works on history and politics in the UAE (Al Sayegh 1997; Al Sayegh 2006). Similarly, my late grandfather (Al Ayedrous 1986) wrote his PhD dissertation on the society of the UAE, which remains unpublished. Further, while there are certainly some prominent Emirati writers tackling urban, regional and international affairs – for example, columnists Sultan Saood Al Qassemi and Mishaal Al Gergawi – their contributions are generally limited to the media. Hence, exploring Abu Dhabi through my lens as a national may provide a critical local perspective, particularly on its

built environment, planning processes and the interplay of various institutions and stakeholders.

More specifically, my study aims to build on the aforementioned scholarly writings on Abu Dhabi. These can be grouped in two camps: The first camp outlines the political and economic system in Abu Dhabi, both in the past and present (Maitra and Al-Hajji 2001; Davidson 2006; Rabi 2006; Davidson 2007; Maitra 2007; Davidson 2009; Heard 2011; Low 2012; Wilson 2013; ECSSR 2013). This includes an account of the ruling family, the tribal structure, aspects of British policymaking, oil-based and non-oil based economic development, and modern politics in Abu Dhabi. The second camp foregrounds the themes and issues surrounding Abu Dhabi's urban environment, albeit at either a very basic macro-scale or at a micro-scale that symbolizes the manifestation of the larger process of urbanization (Elsheshtawy 2008a; Elsheshtawy 2008b; Elsheshtawy 2009; Abdo and Batzel 2011; Ponzini 2011). My research lies at the intersection of both camps, building on the literature by synthesizing how urban development in Abu Dhabi unfolded via the intricate political and institutional framework and through the processes of modernization and globalization. My account of Abu Dhabi aims to advance the field of research beyond the core arguments already made in the literature, by highlighting the role of the various players involved in planning the city and defining how the political, administrative and especially the planning institutional mechanisms more specifically affected urban space.

1.3 Research Design and Methods

The objective of this section is to explain in detail the methodology used in this research project. A statement of purpose opens the section, followed by a depiction of the study region, and then an explanation of the criteria used for the selection of periods to be comparatively investigated. The strategy of inquiry is discussed next, providing a detailed account of the data collection and analysis procedures.

Study Region

My research is particularly concerned with the Abu Dhabi Metropolitan area, which lies within the Capital region (Figure 1.1 and 1.2). Most of Abu Dhabi city is located on the island itself, but it has many suburbs on the mainland, for example: Khalifa City A, B and C (now renamed Khalifa City, Zayed City and Shakhbut City); Mohammed Bin Zayed City; Al Raha Beach; Al Bahia City A, B, and C; Al Shahama; Al Rahba; *Bein Al Jisrein* or "Between Two Bridges" (also known as al-Maqta'); Masdar City; Baniyas; and Mussafah Residential. It also encompasses several surrounding islands, such as Yas Island, Reem Island, Al Maryah Island, Lulu Island, and Saadiyat Island.

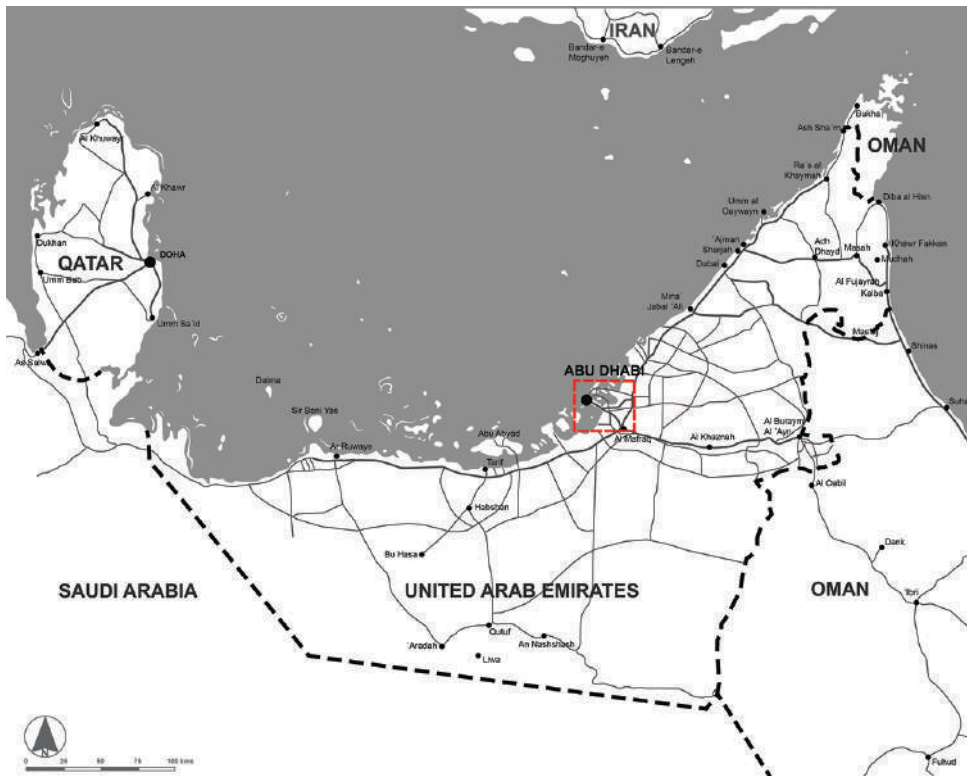


Figure 1.1: The United Arab Emirates in context

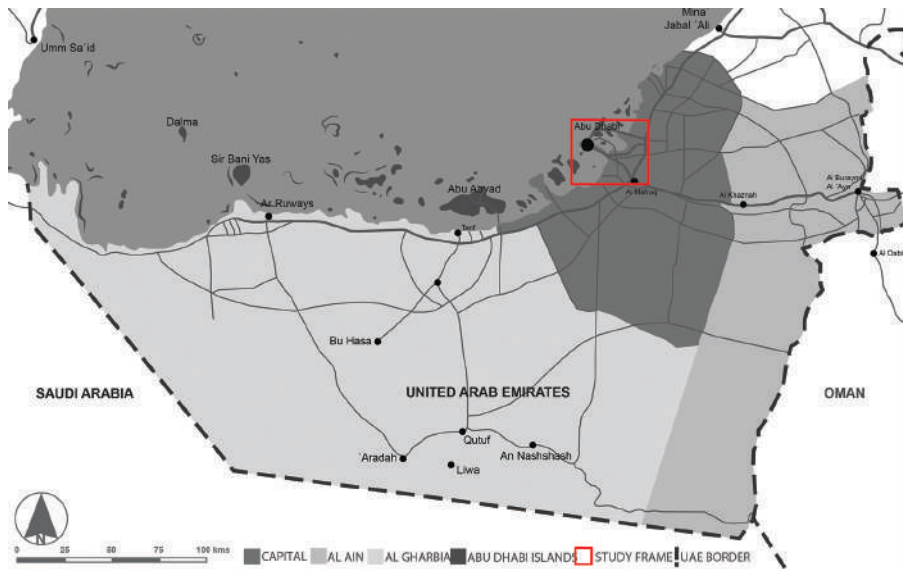


Figure 1.2: Abu Dhabi Emirate and its regions

Periods of Observation and Criteria for Selection

The year 1960 – the year that oil was discovered in commercial quantities in Abu Dhabi – marks the beginning of this study. From that point, Abu Dhabi’s urban history is divided into three distinct periods that are framed around the leadership of the three different rulers who have been in power since 1960: Sheikh Shakhbut Bin Sultan Al Nahyan (1960-1966), Sheikh Zayed Bin Sultan Al Nahyan (1966-2004), and Sheikh Khalifa Bin Zayed Al Nahyan (2004-2013). This framework is built upon the premise that each ruler had his own vision, philosophy and approach to the development of Abu Dhabi, which in turn resulted in specific spatial configurations of the city. Notably, each leader’s approach largely influenced the direction of planning policy, acting as a major catalyst or inhibitor of urban growth and the transformation of the built environment. The culture of planning itself in Abu Dhabi also varied during these periods, although the reliance on outside or international experts to plan the city remained significant.

More explicitly, the three periods of observation that structure my inquiry are:

(1960-1966) Sheikh Shakhbut bin Sultan Al Nahyan’s rule: This period opens with the discovery of oil in commercial quantities in 1960, which occurred during the reign of Sheikh Shakhbut, ruler of Abu Dhabi since 1928. It illustrates the relationship between Shakhbut and the British government, whose presence in Abu Dhabi since the early 1800s is defined by their coastal protection of the Trucial States as well as their handling of the Trucial States’ foreign affairs. This period continues with very little change in Abu Dhabi despite the influx of oil wealth, and the struggles of the British government in persuading the sheikh to facilitate development on the island. The period ends with the peaceful, yet strategic, deposition of the sheikh by his family and people.

(1966-2004) Sheikh Zayed bin Sultan Al Nahyan’s rule: This period begins with the replacement of Sheikh Shakhbut by his brother, Sheikh Zayed. It is a period of massive urban growth and modernization, the creation of a government apparatus, the establishment of the United Arab Emirates federation, and phases of urban renewal and expansion. By the 1990s and early 2000s development was stabilized, and the period comes to a close with the passing of Sheikh Zayed in 2004. This period is divided into five phases, 1966-1967, 1968-1973, 1974-1977, 1978-1988, and 1989-2004.

(2004-2013) Sheikh Khalifa bin Zayed Al Nahyan’s rule: Following the death of Sheikh Zayed in 2004, Abu Dhabi’s development took a different turn under the administration of his son Sheikh Khalifa. With the appointment of the new ruler, this period has seen a change in real estate and property law that has allowed land speculation (a move that was highly resisted by Sheikh Zayed). This period includes the building boom brought about by these changes, the diversification of the economy away from its reliance on hydrocarbons, oil and gas, major government restructuring (including the establishment of a new planning authority), the articulation of Vision 2030, the 2008 global financial crisis, the strengthening of Emiratization policies, and a

renewed focus on regional planning, security and national housing. This period is divided into two phases: 2004-2008 and 2008-2013.⁸

Data Collection and Analysis Procedures

While this research project is, in essence, qualitative, the conceptual framework guiding it emerged from the three-phase mixed methods approach I used to examine Abu Dhabi: archival research, key informant interviews, and spatial mapping exercises, described in detail below.

1 Archival Research

The initial phase of data collection and analysis was archival research of primary and secondary documents. Primary archival sources at the National Library were especially helpful for understanding Abu Dhabi's early urban history. Specifically, these included the *ARAMCO Reports on Al Hasa and Oman (1950-1955)*, *Development Plans of the GCC States (1962-1995)*, *Annual Records of the Gulf (1961-1963)*, and *Records of the Emirates (1820-1971)*. These include letters and reports written by British political agents, officers or residents in the Gulf and the Foreign Office in London, as well as letters by the tribal sheikhs (both in Arabic and translated in English). The majority of these documents were compiled by Archive Editions and the Public Record Office in the UK. I was also able to obtain archival images from Abu Dhabi Company for Onshore Oil Operations (ADCO), one of the oldest operating oil companies in Abu Dhabi,⁹ and from the National Center for Documentation and Research (NCDR) in Abu Dhabi.¹⁰

My research has also made use of a number of complementary sources. These include a few historic maps gathered from the Earth Sciences and Map Library at the University of California, Berkeley as well as official planning documents (e.g. plans, projects, policy reports, legal documents) linked to the local urban development process of all three periods. I also collected and analyzed the content of official planning documents from the National Library, the NCDR, and the Abu Dhabi Urban Planning Council (UPC); the two former entities carry reports dating back to the late 1960s from government agencies like the Abu Dhabi Municipality as well as the old Public Works Department, while the latter provided me with more recent planning-related material. Other documents include relevant informational pamphlets and marketing publications from real estate development companies, architecture firms, and other government bodies that have had an influence on the development of the city. Related printed materials and online resources readily available to the general public were also gathered, including information on official websites and local print media like

⁸ See footnote 6.

⁹ ADCO was previously known as Abu Dhabi Petroleum Company, and prior to that was called Petroleum Concessions Limited (PCL). PCL was an associated company of the former Iraq Petroleum Company (IPC) – the historic oil power in the Middle East – and began working in the Gulf/Trucial Coast in 1936. See Heard, David (2011). *From Pearls to Oil: How the Oil Industry Came to the United Arab Emirates*. Dubai: Motivate Publishing.

¹⁰ The entity is now known as the National Archives.

newspapers and magazines. Of notable mention are two local newspapers that devote significant space to urban policy issues, *The National* and *Gulf News*. The UPC also produces quarterly bilingual magazines and informational brochures, which I was able to access. All of these resources proved to be important elements of archival research with which to track the “official” discourse about urban policy and interventions in Abu Dhabi.

2 *In-depth Interviews with Key Informants*

The second phase of carrying out my research involved interviewing key informants. I conducted in-depth interviews with key actors and stakeholders linked to Abu Dhabi’s urban development in all three periods, which allowed me a unique insight into the process that I otherwise would not have gained from perusing archival records alone.

I conducted confidential interviews with 40 people, returning to some of them multiple times. These included a wide range of public and private actors and stakeholders who have been involved in different plans and programs, in different agencies, departments, organizations, and institutions; and who participated at different times and junctures of the development process within the large time span covered in this study. These actors – many of whom I established productive relationships with during my several internships and participation in conferences and workshops – include, among others, former and present public officials or heads of public departments, as well as professionals in public-private agencies or semi-government agencies. Interviewees also included representatives of real estate development companies, planners, architects, construction contractors, an archaeologist, an environmentalist, and a representative of an oil company who held a geologist position – essentially, actors who dealt with a range of urban issues in Abu Dhabi. These interviews were balanced by interviews with local academics. Some of the interviewees were Abu Dhabi nationals while others were expatriates.

The interviews followed the protocol of the Center for the Protection of Human Subjects. Prior to conducting the interview, I provided each informant with an informed consent form, which presented a brief background on the research project and myself, and included a confidentiality statement. Reassurance of anonymity was important for this research project, as it allowed for a more open discussion between the informants and me.

To establish their perspective on events, I asked the interviewees to share their personal experiences about events in which they had been engaged or which they had directly witnessed. Subjects ranged from rulers’ personalities, planning influences, and policy issues to specific projects such as the development of the Capital District on the mainland. In my interviewing, I tried to stay away from controversial subjects, although in all cases I kept the interview process as open-ended as possible. I also kept a list of questions to which I could turn if the interviewee expected further questioning. This allowed the interview to be somewhat semi-structured, but I never interrupted when an

interviewee was talking. I was careful to allow all the time necessary for the interviewee to reflect on visions, projects, processes and actors, as this led me to gather some interesting anecdotes and unique pieces of information.

When conducting the interviews, I tried to establish rapport with the informants and to put them at ease. The objective was for them to feel free to be as candid with me as possible. I also assured the informants at the beginning of the interview that their input would help provide a richer description and analysis of Abu Dhabi's urban morphology and the mechanisms that shaped it, and that there were no wrong answers. On all occasions, I recorded responses to the interview questions by taking notes. Most of the time, I was also able to record audio with the interviewees' explicit consent, which allowed me to transcribe direct quotes. I was cognizant of the quality of the rapport as well as any external factors that may have influenced the interview responses (e.g. geopolitical events that may have caused some expatriate employees to watch their words for fear of consequences if they broached subjects that are not officially supposed to be talked about). Overall, I believe I was successful in gaining the interviewees' trust and I am confident that they were very frank with me.

During the exploratory phase of my research in 2009, I had the opportunity to talk with a few public officials and government employees, as well as some local academics, who acted as key informants. This allowed me to refine my research questions and define a list of key actors to interview in-depth at a later stage. I returned to many of them four years later, and it was informative to compare their current views with what we had discussed in the past. These first-person stories allowed me to gain a more comprehensive view of planning, politics, and "ways of doing" things in Abu Dhabi since the 1960s.

3 *Spatial Mapping and Urban Morphology*

In the third phase of fieldwork activities, I carried out several spatial mapping exercises in order to examine the city's urban development and form. Spatial mapping, in which building footprints, streets, spaces, land uses, and the like are mapped as accurately as possible, is often used in the study of urban form, and provides a concise way to depict the urban fabric (Moudon 1997).

I attempted to conduct systematic spatial observation of the urban interventions that concern this research project. While the inaccessibility of specific data layers (due to security concerns) restricted me from utilizing a geographic information system (GIS) to undertake the spatial analysis, my access to some historic maps as well as Google Earth images provided a sufficient and detailed foundation for the creation of the maps found in this study. Complementarily, my access to full documentation of plans and projects, as well as the methodical recording of older and newer interventions by means of archival images, personal photographic records, and detailed analysis of implemented plans and projects greatly enhanced this exercise and allowed for extrapolation and cross-reference of information.

Based on the availability of data, I was able to examine Abu Dhabi's changing urban form by examining key interventions during each of the following years: 1969, 1974, 1980, 1990, 2003, 2006, 2009, 2011 and 2013. The spatial mapping analysis took place at the City scale, which corresponds to the scale 1:1000 meters and captures the study frame of this project, Abu Dhabi Metropolitan (see Figures 1.1 and 1.2). For each period, the exercise at the City scale involved the mapping of built-up areas, circulation network, green areas, and land reclamation. I also created building heights maps for the years 1969, 1974, 1980, 1990, 2003 and 2013, to show how these changed between decades.

The spatial maps I created concisely depict Abu Dhabi's urban fabric and enabled me to conduct systematic spatial observation of significant urban interventions. By means of comparative analysis, these maps allowed me to assess, fifty years after the discovery of oil, the basic imprint of these transformations to the city's landscape.

1.4 Limitations

The range of resources from which I drew to produce this study was intended to provide the greatest possible amount of accuracy and insight. However, as with any historic review of this scale, there are limitations.

First, most of the archival records of the Trucial States, the first period reviewed in my study, are the product of foreigners (mainly British) who came to the Arab Gulf for a few years in the course of their careers and reported on events as they saw them. Many, if not all, of them depended on translators for their written communication with tribal rulers and their civil servants, which alone lends itself to some bias. Illiteracy was also rampant in the region at that time, leaving little room for records written by Abu Dhabians. Thus, I have had to rely on British records of the Emirates (e.g. Archive Editions and Foreign Office Records) as primary sources, although local historic records would have greatly enriched this account.

For the period surrounding Sheikh Shakhbut's regime as well as the early period of Sheikh Zayed's reign, a considerable amount of planning-related information was either destroyed by the Municipality or was left undocumented. From the 1970s onwards, record-keeping frequently involved handwritten, loose paperwork. Only in the early 2000s, when the Abu Dhabi government announced its aspirations to become one of the top governments in the world, did the significance of databases become appreciated. Despite this, however, it was still difficult to gain access to information. Perhaps, as some of the government employees I interviewed indicated, the decentralization of planning and the emergence of several new governing bodies created competition amongst these regulatory agencies in which information became a protected resource. Acquiring GIS layers and specific project information, which would have significantly added to my spatial mapping exercises, was especially problematic. As a result, I had to create all of the morphological maps included in this report from scratch by overlaying and tracing the different maps I managed to obtain. Towards the

end of my data collection procedures and research tasks, the Abu Dhabi Systems and Information Center (ADSIC) generously helped me obtain some information from the Municipality, which was otherwise a challenge. It was a small (and late) victory, but nonetheless helpful for my building heights analysis.

Finally, as a voice from within the local culture, there may be some limitation regarding whether I have sufficient critical distance as a researcher. I would argue that the questions posed in this research project are not the result of a long-distance, detached inquiry from the object of research, but the result of my long-time personal relationship with the city. The construction of the research object has been informed by my direct experience as a citizen and resident of Abu Dhabi. I witnessed firsthand the changes in Abu Dhabi's built environment as a result of changing rulers, policies and economic strategies, particularly during the latter period of Sheikh Zayed bin Sultan Al Nahyan's rule and the ensuing period under Sheikh Khalifa bin Zayed Al Nahyan. My family lived in one of the oldest residential areas in Abu Dhabi along the city's main waterfront, the Corniche. The residential compound belongs to the Abu Dhabi Company for Onshore Oil Operations Ltd. (ADCO) where my father was employed for over thirty years. ADCO, which was previously Abu Dhabi Petroleum Company or Petroleum Development (Trucial Coast), a subsidiary of Iraq Petroleum working on oil production in Abu Dhabi, had built the compound for its oilmen and their families in 1966.¹¹ In 2014, almost 25 years after watching the city grow from my bedroom window, my family moved into our newly built home in Khalifa City. Our move illustrates the changes that took place in Abu Dhabi over the last decade, such that urban development expanded from Abu Dhabi Island onto the mainland.

I was also directly involved in the early years of the Abu Dhabi Urban Planning Council (UPC), first as one of the first eight employees in 2007 and subsequently as an intern on the development review and urban design teams in 2008 and 2009. These allowed me to gain some critical insight into the planning system and culture that was slowly coming to life in Abu Dhabi. During my time at the UPC, I attended meetings with developers or other government bodies like the Department of Transport; reviewed several project proposals; conducted a site analysis of and contributed to the redesign of the city's main waterfront (the Corniche); collaborated on the design guidelines for another historically important waterfront area (al-Bateen); and attended many of the design projects and program workshops. These provided me with access to firsthand information about the creation and implementation of numerous projects, as well as to the voice of "experts" and related discourses about city-making, planning, and urban design in Abu Dhabi.

I would argue that my role as an Emirati researcher, rather than impede or weaken my analytical position, has added value to my research project. As an insider, I was able to gain access to documents and informants more easily than if I had been an outsider. This is because many informants expressed that they were keen on seeing Abu Dhabi's urban history written by an Emirati national and were therefore forthcoming with

¹¹ The compound was redeveloped in 1997, but still retains some of its main features like the Falcon Club, clinic and swimming pool.

information that may not have been provided otherwise (to outsiders). Many were also prompt to refer me to others to interview, either providing me with contact information or making calls and setting up meetings on my behalf. Many informants, particularly those who have provided insight on the last era under study, were also familiar with me and felt comfortable to discuss matters openly with me, giving me some critical perspective that might have been otherwise obscured. This was especially the case when the informant was a non-national. In other cases, I was cognizant that there may have been external factors influencing some interview responses, as described in the methodology section above, but I am confident that I gained the interviewees' trust due to my status as an insider. At the same time, I understand that my role as an insider-researcher may lend itself to some bias and raises questions about validity. I am aware that my position as an Emirati national writing about Abu Dhabi elicits concern about 'objectivity' and my ability to disentangle my own voice from those of the participants. Indeed, at times I have found myself confronted with role duality, as I struggled to balance my insider role and researcher role. As an Emirati planner who is familiar with the research setting and with some of the informants, it is was a challenge to analyze the data from solely a researcher's perspective, but through constant reflection I attempted to reduce this issue. Also, it is common knowledge that some issues are taboo and critique of those in positions of power may lead to unfavorable consequences. Although I stayed away from getting into depth about controversial topics, I make mention of some of them (e.g. labor camps, and the issue of Abu Dhabi comprising a large proportion of expatriates and the larger issues around this) throughout the dissertation, if only to show that I am aware of them, and to provide a stepping stone for future researchers interested in pursuing these topics. Additionally, I attempted to analyze the three regimes by presenting facts and allowing the historical accounts to speak for themselves, through a narrative built up from careful documentation of the actions and statements of the officials and experts involved, including those presented by my informants. This was difficult to achieve in the more recent era, one reason being that outside of the state-controlled media, there is not enough information on the current leadership – whatever material I discuss in relation to this is gathered from official speeches, official websites and official documents. While I try to analyze these to the best of my ability, I may have unintentionally lost my own voice and become an advocate for the ideological frameworks represented. To remedy this, I rely on the critiques drawn out by my informants with regard to implementation of plans and policies, and attempt some critical reflection of my own. Throughout the dissertation, I try to balance respectful treatment of my subjects with thoughtful critique and analysis.

1.5 Structure of the Dissertation

Following the Introduction Chapter, Chapter Two presents the overarching questions and conceptual framework guiding my research. Chapter Two begins with a review of the concepts organizing my study. In this major section, I not only situate my research within and describe my contribution to the literature, but I also introduce some

of the larger themes and fields that serve subsequently as lenses through which I explore Abu Dhabi's urban history.

The study draws from theories in three major, interrelated fields. These are: (1) Arab Gulf oil cities, urban modernity and globalization; (2) urban governance and planning institutions; and (3) urban design. The first field is split into two strands: one looks at the oil cities and urban modernity while the other places the Arab Gulf within the current discourse on global cities and globalization. The second field informs the research by engaging the history of planning theory and practice to evaluate the "ways of doing" planning in Abu Dhabi. Finally, the third field looks at the major theories and trends in urban design, from modernist principles to progressive urbanism, and how these influenced design styles in Abu Dhabi.

The remaining chapters of this study are essentially structured into three parts. Chapters Three, Four, Five, and Six focus specifically on Abu Dhabi's urban history, tracing the emirate's origins from its slow development despite the advent of oil wealth, to its race towards modernization, and finally reflecting on its efforts to balance its global aspirations while maintaining an Emirati identity. Chapters Four, Five, and Six emphasize the rulers' visions during each period, seeking to understand how the various visions and decisions affected the development process in Abu Dhabi, including how the experts' plans iteratively and cumulatively affected urban form.

Chapters Three, Four, Five and Six are written in a chronological sequence to allow for a clear and coherent recounting of Abu Dhabi's urban history. Chapter Three reviews the city's origins in 1761, including how it got its name. It also describes how the ruling sheikhs maintained the tribal system, and how the *Bedu* depended on the fishing and pearling industries to survive. The chapter then provides a background of the oil interests in the region, paying particular attention to the role of the British government and the events leading up to the discovery of oil.

Chapter Four explores Abu Dhabi's development (or under-development) after the onset of oil wealth. It pays close attention to Sheikh Shakhbut's approach to and attitude towards development -- which involved maintaining the status quo -- as well as his relationship with foreign consultants, British political employees, and his own family members. Two major plans are subject to analysis in this chapter: the John R. Harris Plan (1961) and the Abu Dhabi Consultants Plan, drawn up by Sir William Halcrows & Co and Scott & Wilson and Kirkpatrick (1962). Abu Dhabi underwent very little development during this period, leading to Sheikh Shakhbut's eventual replacement by his brother, Sheikh Zayed.

Chapter Five looks at the sudden transformation of Abu Dhabi from a provincial desert backwater to a green, modern city. It taps into the vision of Sheikh Zayed bin Sultan Al Nahyan, who led the city's modernization, greening and nation-building efforts. Zayed set up a completely new state apparatus, including the Planning Council. The chapter covers the various global and regional events that took place during Zayed's rule; for example, the British withdrawal from the region, the federation of the

United Arab Emirates, and the 1973 oil boom to name a few. In terms of urban development, this period saw both vertical and horizontal expansion, phases of urban renewal, and several different planning directors and consultant plans for the city. Five development plans are evaluated in this chapter: the ARABICON plan (1967); the Japanese-American planner, Katsuhiko Takahashi's plan (1968); the plans of Abdelrahman Makhlouf, a United Nations Development Programme planner and son of the Grand Mufti of Egypt (1968); and the WS Atkins & Partners Overseas' Comprehensive Development Plan for Abu Dhabi (1990-2010).

Chapter Six reviews the emergence of new real estate development companies that pushed ambitious plans of varying scales for new construction and redevelopment in Abu Dhabi, following the 2005 change in real estate and property law. It then examines the major government restructuring that took place under the authority of Sheikh Khalifa bin Zayed Al Nahyan and the Crown Prince, Sheikh Mohammed bin Zayed Al Nahyan, whose vision for the emirate included controlled growth, economic diversification, and global competition. One major plan is scrutinized in this section: the Urban Structure Framework Plan or Plan Abu Dhabi 2030, later renamed Plan Capital 2030. The arrival and influence of Vancouver's Larry Beasley and his ideas for progressive urbanism, the foundation of a new planning body, the Abu Dhabi Urban Planning Council, as well as the ensuing global financial crisis, reprioritization of goals and further government restructuring are examined. In addition, the city's focus on sustainable urban development and stakeholder participation in planning the emirate are explored.

The concluding chapter offers a summary of the main chapters and provides a comparative analysis of the three rulers and their visions, as well as the government and planning apparatuses that were set up in each period, the different plans of the foreign consultants, and the urban morphology of Abu Dhabi. It then offers some reflections on planning and urban development in the emirate, presenting thoughts about the challenges of trying to implement western planning practices in a non-western country with cultural traditions and political structures far different from those of the western democracies in which the planning practices developed; the type of development taking place; the continued reliance on imported labor and the social inequalities that have evolved; and finally the challenge of attempting sustainable urban development in a desert environment. Despite these challenges, I stress that a newfound appreciation for urban planning has seeped into the public consciousness, and that this interest ought to be captured and directed through education and training programs across the emirate. Human resources are a huge problem in Abu Dhabi, which is why foreign experts are frequently consulted. By building up the planning experience of the indigenous population, I argue that only then it becomes possible to imagine what an Emirati city balancing globalization and tradition might look like. Finally, I reflect on my contribution to the literature on Abu Dhabi and on my position and limitations as an Emirati researcher with insider perspective.

Chapter Two: Situating Abu Dhabi

At the broadest level, this research project engages with different theoretical strands of research on urban development and the situation of the Arab Gulf city within that discourse. More specifically, this study aligns with research on oil cities and urban modernity, globalization, planning institutions, urban governance and urban design. In this major chapter, I cite the work of scholars that have shaped debates in the field generally and my thinking in particular; in doing so, I not only situate my research within and describe my contribution to the literature, but I also introduce some of the larger themes and fields that serve subsequently as lenses through which I explore Abu Dhabi's urban development history.

The chapter is divided into three sections. The first deals with the research on oil cities of the Arab Gulf and the impact of oil exploration and production on urban modernity. It also examines the position of Arab Gulf cities within the global city discourse. The next section explores the evolution of planning institutions and planning ideologies from the rationalist model to one based on communicative action, which falls in line with the paradigmatic shift in urban governance from "government" to "governance" (e.g. Jessop 1995) and "managerialism" to "entrepreneurialism" (Harvey 1989). Finally, the last section explores some of the most influential movements and theories of urban form and design, particularly those that have had a significant impact on planning Abu Dhabi.

2.1 Oil Cities, Urban Modernity and Globalization

The literature on Arab Gulf cities may be categorized into two camps that serve to organize this section. The first presents the idea of oil wealth as the catalyst and the British Empire as the agent for urban transformation in the Gulf. Drawing on critical debates about globalization, the second camp focuses on the role of cities in the global political economy since the 1970s, and how cities in the Arab Gulf fall into this discussion.

Oil and Urban Modernity

The emergent field of research on oil development in the Middle East in general, and the Arab Gulf in particular, is steadily growing. A comprehensive look at the

literature reveals two things: First, readings on the urbanization of the Arab Gulf typically present oil as the principal agent of urban transformation, and second, cities and urban environments are presented as the primary setting in which oil modernity unfolded (Fuccaro 2013). The discussion on oil urbanization is also generally framed around two major ideas: the oil city as an accessory of state power and the British Empire as an agency of development.

Notably, the growth of the oil city is attributed to the forces of the oil economy and the international market, and its urban environment is believed to have developed as a state enterprise in which the state played an authoritarian role, enforcing and regulating urban expansion. Oil revenue thus emerges as a “tool of statecraft” (Fuccaro 2013), such that infrastructure-led oil development symbolizes progress and civilization with the state as the main driver (Ramos 2010; Fuccaro 2013). In other words, modernization – the assumed universal path to progress – is associated with nation-building. Fuccaro points out that one of the implications of these interpretations has been the creation of a dualist paradigm of urban change that has pitted the “traditional” town against the “oil/modern” city. Indeed, numerous studies on the Arab Gulf cities compare their pre-oil, tribal nature with the oil-era processes of urban development, emphasizing the creation of new industrial towns and the distribution of public housing and services (e.g. Daghistani and Lee 1981; Al-Hathloul and ur-Rahmaan 1985).

Oil urbanization in the Arab Gulf is also associated with the British Empire in the 19th and early 20th centuries. During that time, Great Britain established a treaty system with many local rulers in the Arab Gulf, and although the Gulf cities were never colonized like other areas of the Middle East, the presence of a Political Agent or Political Resident in places like Bahrain, Dubai and Abu Dhabi, for example, largely influenced development there. Moreover, several foreign companies (mainly British, because they controlled who did business in the Gulf) signed oil concessions in the Arab Gulf, and their establishment in the region also shaped much of the early development of the area. In Chapters Four and Five, I discuss how the presence of British political representatives as well as the early oil companies influenced the planning of Abu Dhabi.

Taking as my point of departure Nelida Fuccaro’s review of studies on oil urbanization in the Arab Gulf (Fuccaro 2001, 2013), I am better able to situate my research on Abu Dhabi within the larger body of this literature: Fuccaro argues that the historical impact of the discovery and exploitation of oil has been under researched, that there is a lack of attention devoted to urban spaces, societies and cultures, and that the scholarship on the Arab Gulf “has tended to display a problematic relationship to scale, giving precedence to tribe, state, and British Empire as the principal analytical tools to understand historical change” (Fuccaro 2013). Moreover, she claims that only in the last few years have a handful of studies investigated the first decades of oil development from an urban perspective and with a focus on questions of modernity (ibid.). In fact, it can be argued that Fuccaro’s seminal 2009 publication, *Histories of City and State*, which examines the relationship between oil and urbanization in Manama, Bahrain, was the first of its kind, and a string of rich urban histories of individual Gulf cities followed

closely after (mainly in the doctoral work of scholars across a range of disciplines)¹² (Damluji 2013). Furthermore, Fuccaro argues that although several studies have been concerned with describing and interpreting changes in urban morphology, these tend to be mostly empirical and descriptive, with little effort to link empirical evidence to broad theoretical frameworks (Fuccaro 2001).

With the above in mind, it is hoped that my study of Abu Dhabi will add to the growing list of studies that attempt to uncover the “rich and textured” (Fuccaro 2013) urban experience of oil development in the Arab Gulf. In Chapters Four and Five specifically, using the lens of oil and urban modernity, I attempt to highlight the development of urban forms in Abu Dhabi at the onset of oil wealth and throughout the 1960s, particularly in relation to the specific visions of the rulers and the plans that were drawn up for the city.

Globalization and the Gulf

There are varying views on the concept of globalization: some scholars claim that it is a unique phenomenon (see for e.g. Marcuse and van Kempen 2000) while others argue that it not new but rather a historical continuation of international trading processes (e.g. King 1991; Abu Lughod 1995; Hirst and Thompson 1996). Other arguments draw from both ends of this spectrum, agreeing in essence with the historical component of globalization while at the same time maintaining the uniqueness of contemporary processes (see for e.g. Friedmann and Wolff 1982 and Brenner and Kiel 2006).

The term “globalization” itself is complex and lends itself to several definitions, each highlighting its different aspects whether economic, social or otherwise. Popular accounts refer to globalization as the intensification of the global flows of goods and services, facilitated by communication, transportation and information technology, that tend towards a homogenous world society (e.g. Castells 1996; Marcuse 2006). Others define globalization as compression of time and space, such that the acceleration of economic activities leads to the elimination of spatial barriers and distances (e.g. Harvey 1989). Some regard globalization as the intensification of global social relations, such that events in one part of the world have instantaneous effects on distant locations (Giddens 1990).

Perhaps the most cited reference on this topic is Saskia Sassen’s key text, *The Global City: New York, London Tokyo* (1991), in which she argues that global financial flows bestow new command center roles to global transaction networks. Sassen’s research on New York, London, and Tokyo demonstrates how these cities have become leaders in a global economy by emphasizing their increasing specialization in advanced

¹² See Al-Nakib, Farah (2011). *Kuwait City: urbanisation, the built environment, and the urban experience before and after oil (1716-1986)*. PhD dissertation, School of Oriental and African Studies; Alissa, Reem (2012). *Building for Oil: corporate colonialism, nationalism and urban modernity in Ahmadi, 1946-1992*. PhD dissertation, University of California, Berkeley; Damluji, Mona (2013). *Petroleum’s Promise: The Neo-colonial Imaginary of Oil Cities in the Modern Arabian Gulf*. PhD dissertation, University of California, Berkeley.

producer and financial service industries, including banking, advertising, accounting, insurance and consulting. Her work provoked a series of responses across the social sciences, but for the purpose of this study, I am interested particularly in the ways in which globalization impacts the shape of cities.

The spatial impact of cross-border flows has resulted in what many scholars are calling the Global City, where financial services are concentrated and which acts as a command and control center for the rest of the world. Others refer to this as a *globalizing* city, recognizing that cities engage in globalizing processes in different ways and that local agents shape and interact with global processes as well (Marcuse and van Kempen 2000; Brenner and Kiel 2006). In the global or globalizing city, space is transformed to mostly cater for a consumerist society and transnational migrants (Sassen 1991). According to Yasser Elsheshtawy, the most visible manifestation of the global city is the transformation of the city center where offices, hotels, luxury housing and upscale shops and restaurants have displaced low-income residents (Elsheshtawy 2010). Peter Marcuse (2006) suggests one outcome of the globalizing city is a variety of (sometimes) overlapping residential cities like the luxury city with luxury housing in isolated areas (resulting in what scholars have referred to as protected enclaves or 'fortress cities') or the suburban city with single-family housing in the outer city. He also suggests that "divisions in the residential city are roughly paralleled by divisions in the economic city", the latter including a city of unskilled work and the informal economy (ibid.). These spatial patterns have led to discussions around the notion of urban inequality and social polarization – a favorite subject for research in global city theory. Furthermore, in the global or globalizing city, architecture and urban projects (such as art galleries, conference centers, sports stadia, and so on) have become tools to market the image of the city and to encourage investment and tourism – the Guggenheim Museum in Bilbao is a prime example of this (I discuss this last point in more detail in a later section, *Governance and the Entrepreneurial City*).

Several scholars have pointed out that the majority of global city research tends to favor urban theory that comes from the most developed countries in the West (Short et al 2000; Robinson 2002). Short *et al* propose that these writings are "guilty of doing 'bad geography' by only examining one or two representations of globalization" (Short et al 2000). Contemporary research and writings on globalization have attempted to bridge this well-defined gap, by studying globalization features from a wider sample of cities and regions (e.g. Scott 2001; Olds 2001; Miranda 2008; Elsheshtawy 2010). Most relevant to my discussion, a relatively recent text aptly titled *Globalization and the Gulf* (2006) is novel in its attempt to tie in the discussion on global cities with the cities of the Arab Gulf. John W. Fox, Nada Mourtada-Sabbah and Mohammed al-Mutawa argue that traditional society directs aspects of globalization in this region, and they characterize how the Arab Gulf cities have adopted capitalist modes of production and market themselves as postmodern and thus as attractive to visit and invest in. Abdulkhaleq Abdulla argues that "the Arab Gulf states are catching on with the various forms of globalization quite unevenly: Some Arab Gulf states are responding more enthusiastically, while others are clearly hesitant to receive globalization at full strength" (Abdulla 2006). According to some contributors to the book, the United Arab

Emirates stands out as the most globally embracing of the Arab Gulf states, and the city of Dubai is perhaps the most widely discussed city in this regard, especially given its reputation as a regional financial, cultural and service hub.

What makes the Arab Gulf cities especially interesting and unique is that they are run by a “newly enriched social order who see capitalism, quite shrewdly, through the eyes of persons raised by parents who experienced the tribal life” (Fox, Mourtada-Sabbah and al-Mutawa 2006). Political and cultural globalization is also perceived by the rulers of these relatively conservative Arab city-states as “an unwanted intrusion and a menace to deeply held social values,” while at the same time they regard it as essential to development (Abdulla 2006). Moreover, the opening up of these cities to the world has resulted in rapid population increase, primarily from the influx of expatriate laborers needed to build the cities. This, in turn, has made the nationals of Kuwait, Qatar and the United Arab Emirates minorities in their homelands (Khalaf 2006). Sulayman Khalaf (2006) writes that most Gulf cities have evolved as urban centers where multiple functions are performed, such as managing all aspects of the “political economy” of oil wealth, “which itself is encapsulated within the global capitalist economy and culture.” They are dominated by transnational corporations and propelled by “flexible accumulation of capital,” and have become “sprawling urban fields in which forces and scenes of globalization continue their flow” (ibid.).

Within the Arab Gulf region, Abu Dhabi offers a unique response to globalizing forces – it is a setting where one can observe the tensions of modernity and tradition, as well as an experimental ground for the creation of policies and guidelines to design a livable and sustainable version of the Emirati city. This research project aims to situate Abu Dhabi within the “global space of flows” (Castells 1996), and hopes to contribute to the discussion on urban transformation and what is new and different about contemporary urbanism, focusing particularly on how globalization impacts the shape of Arab Gulf cities. This is especially relevant to the discussion in Chapter Six.

2.2 Planning Institutions and Urban Governance

While early global cities research was mostly concerned with the economic consequences of global city hierarchies as a result of global financial flows (Sassen 1991), later theorizations put also more emphasis on governance issues (e.g. Borja and Castells 1997). This project addresses two specific strands of research within the literature on urban governance: The first is concerned with planning cultures and institutions, examining the paradigmatic shift from the rational model of planning to a more participatory and collaborative model today. This research is philosophically aligned with the objectives of the social learning and radical planning traditions that acknowledge a strong, mutually informing relationship between theory and practice.

Moreover, the notion of inviting outside expertise to advise on planning processes is one of the organizing themes of this research. In fact, the idea of urban models has constituted a longstanding interest for many different planning traditions –

the notion of rational models and master plan interventions being at the heart of the rational-technocratic planning paradigm (Miranda 2008).

The second strand of research touches on Marxist and neo-Marxist debates and approaches to urban governance, examining the ways in which capitalism is connected with urbanization processes in general and with urban politics, institutions and governance in particular. The “entrepreneurial city” theme together with the regulation approach and the state rescaling thesis are central to the discussion and analysis of urban and regional governance initiatives since the 1990s (Ramos 2010). These initiatives are characterized by public-private partnerships; the redirection of state power to the urban scale; as well as intensifying inter-urban competition (Castells 1996; Harvey 1990; Sassen 1991; Ren 2008). Along with the shift to a post-industrial economy, the form of urban governance also changed from managerialism to entrepreneurialism (Harvey 1989). These changes occurred with a property boom that was fuelled by global capital – and some would argue neoliberal economic policies. In turn, these shifts have resulted in a change in the cities’ urban form (Elsheshtawy 2008a).

Together, these debates and writings on planning institutions and urban governance provide background and context for understanding the design processes and planning systems that have shaped the urban landscape in Abu Dhabi, from the establishment of Abu Dhabi’s first town planning department and the emergence of the first master plan, to the current wave of progressive urbanism.

Planning Institutions

It is difficult to engage in a discussion that traces the historical development of planning institutions without going over the history of planning theory, as the two are inextricably linked. I do acknowledge, however, that many scholars argue there is a theory-practice gap (e.g. Taylor 1998; Brooks 2002). Indeed, this appears to be the case in rapidly urbanizing societies where future plans need to be modified every so often to cope with development pressures, so that theory always lags behind practice (Salah-Ouf 2007). Nonetheless, planning theory is important to our understanding of planning practice, as it is “what planners need when they get stuck; another way to formulate a problem, a way to anticipate outcomes, a source of reminders about what is important, a way of paying attention that provides direction, strategy, and coherence” (Forester 1989).

Several strands of planning theory emerged between 1960 and the 1990s. These can be simplistically categorized as such (borrowing from Brooks (2002)): (1) rational planning or comprehensive rationality; (2) incrementalism or incremental planning; (3) advocacy planning; and (4) communicative planning or planning as communicative action.¹³

¹³ It is important to note that as new planning approaches came to the fore, earlier ones also continued. Later approaches did not completely supplant earlier ones.

Rationality is arguably the most pervasive or dominant paradigm in planning practice (Brooks 2002; Teitz 2007). Rationality is typically tied to the modernist project which emerged from ideals and assumptions associated with the eighteenth century Enlightenment in Western thought, which rejected 'irrational' tradition, myth and religion (Harvey 1989) and advocated reason (and human knowledge) as the primary source for legitimacy and authority. According to Brooks (2002), perhaps the earliest expression of the idea of rationality in planning can be traced back to the 1950s and 1960s, when large-scale computer-based models of land use and transportation were developed to provide the data needed to "forecast and control the future of cities" (Wegener 1994, quoted in Brooks 2002 p.87). Later, modernist or rational planning became the international norm, "applying reason to urbanization through decision-making perceived as technical (not political) by a state assumed to be neutral" (Hobson 1999). Planning was a top-down endeavor, because planners were considered to have a "comprehensive perspective that allowed them to recognize the 'overall public interest'" (ibid.). In other words, planners were seen as experts and the state was considered representative and therefore working in the common good. As such, planners sought to create a more holistic prescription for the future through the creation of the comprehensive or master plan. They later adopted the concept of strategic planning (taken from corporate planning), although Brooks argues that it is "simply one more entry in the long line of rationality-based strategies that have been packaged for use by planners" (Brooks 2002).

Several scholars largely questioned the rational planning model. For instance, Charles Lindblom, who drew on pragmatism, introduced the concept of incrementalism as early as 1959 (Lindblom 1959). Lindblom "suggested that in most situations, planning has to be piecemeal, incremental, opportunistic, and pragmatic, and that planners who did not or could not operate in these ways were generally ineffective. In short, Lindblom presented a model of the 'real world' planning as necessarily 'disjointed' and 'incremental,' not 'rational' and 'comprehensive'" (Nigel Taylor 1998, as quoted in Brooks 2002). In this approach, decision-makers carry out their analyses and evaluations serially, and problems are dealt with separately even if they yield adverse consequences, because it is believed things can always be fixed in the next iteration (Brooks 2002).

Incrementalism, like rational planning, was met with criticism and the planning profession continued to see the emergence of major movements during the 1960s and 1970s. One of the most influential movements during that time was advocacy planning, made popular by lawyer-turned-planner Paul Davidoff in his article "Advocacy and Pluralism in Planning" (Davidoff 1965). The central idea or theme of this movement is that the planner engages in the political process as an advocate of interest groups that are not adequately represented in standard planning practices (Brooks 2002; Teitz 2007). Planners in this camp tend to search for justice and equity in planning, and they prepare "plural plans" rather than relying upon a "unitary plan" developed by a single agency (Davidoff 1965).

By the late 20th century, communicative action theory was “beginning to dominate the field” (Innes 1995). Drawing on Jurgen Habermas’s (1984) concept of communicative action, planning academics such as John Forester (1989), Patsy Healey (1992) and Judith Innes (1995) proposed that collaborative, communicative planning could deal more effectively with the challenge of continuous change. Judith Innes (1995) writes,

Technological change and globalization of economies require professionals who can both see the big picture and creatively respond to a rapidly changing context. Under these conditions collaborative, communicative planning is proliferating in its applications. This ‘post-modern’ planning involves making connections among ideas and among people; setting in motion joint learning; coordinating among interests and players; building social, intellectual and political capital; and finding new ways to work on the most challenging tasks.

Planning as communicative action, or the New Institutionalism (Teitz 2007), views the planner’s role as that of facilitator, negotiator and/or consensus-builder. This is very different from the top-down approach of the rational planning paradigm.

Accordingly, one can posit that planning moved from being a centralized activity to a decentralized one and that it developed from being a public service commissioned by the state for the people to being a community-based activity with minimal state intervention (Salah-Ouf 2007). It can also be argued that its views shifted from modernist to postmodernist (Brooks 2002; Innes 1995), and that its contemporary counterpart recognizes planners deal with “wicked” problems as opposed to tame ones (Rittel and Webber 1973), suggesting an abandonment of the concept of rationality altogether (although Teitz argues that rationality remains a powerful theoretical organizing concept for urban and regional planning practice (Teitz 2007)).

Another way to look at the development of planning practice is by looking at the history of Western planning itself. Ahmed M. Salah-Ouf (2007) presents five themes for planning transformations that occurred between 1898 and 1998, and these are: (1) The birth of the garden city movement; (2) its extension into regional planning; (3) the attempt to create ideal modernist cities; (4) the shift from top-down to grassroots planning; and (5) the attempt to forge a “freewheeling” entrepreneurial style of urban regeneration. Salah-Ouf claims that the newly developing communities in the UAE might be “getting the sparks of the last three evolutionary stages simultaneously: modernism, grassroots planning, and the entrepreneurial style” (Salah-Ouf 2007).

The case of Abu Dhabi makes an interesting contribution to the understanding of planning institutions in rapidly urbanizing societies. Although a planning apparatus was not established until the 1960s, and despite the fact that Abu Dhabi did not go through any of the planning trends of the early 1900s, it did eventually adopt the ideas of the modernist movement, whereby a top-down rational approach to planning led to the first master plan of Abu Dhabi. This was followed by a series of master plans, and also created a reliance on “experts” in planning the city. More recently, planning in Abu

Dhabi is influenced by the entrepreneurial style of urban regeneration, as land speculation led to the proliferation of new large-scale developments across the city. The public participation efforts of the New Urbanism movement, known as *charrettes*, also played a key role in the development of Plan Abu Dhabi 2030 (I discuss the New Urbanism movement in a separate section below). In Chapters Four, Five and Six, I examine the development of planning institutions and practice in Abu Dhabi, highlighting the roles of various agencies involved in planning and the different decision-makers and stakeholders during each period.

Governance and the Entrepreneurial City

In parallel with the paradigmatic shift in planning theory and practice, a shift from “government” to “governance” has also been noted (e.g. Gordon et al. 2004; Jessop 1995). According to Yasser Elsheshtawy, “the term ‘urban governance,’ formerly equated with urban management, has come to be understood as both government responsibility and civic engagement. Generally, it refers to the processes by which local urban governments, in partnership with other public agencies and different segments of civil society, respond effectively to local needs in a participatory, transparent and accountable manner” (Elsheshtawy 2010). Similarly, Gordon et al. define the notion of ‘urban governance’ as “a particular concern with strategic objectives, often expressed in terms of competitiveness, cohesion and sustainability (rather than routine service delivery),” and “forms of active cooperation cutting across public-private and geographical borders” (Gordon et al. 2004). In short, this shift from ‘government’ to ‘governance’ signaled a theoretical shift from thinking of the city as an “organic equilibrium” to thinking of the city as a “product” linked to the broader historical movement of industrial capitalism (Miranda 2008).

Contemporary governance has been a rapidly growing area of interest in Marxist and neo-Marxist research over the last decade, which sees the rising importance of cities and regions as part of a broader state rescaling capitalist restructuring movement (Jessop 1999). The impetus behind this scholarly interest can largely be attributed to David Harvey’s (1989) influential paper on the shift from managerialism to entrepreneurialism in late capitalism, in which Harvey examined the transition from a ‘managerial approach’ to urban governance in the 1960s to an ‘entrepreneurial’ one in the 1970s and 80s. He identified that this new entrepreneurialism is characterized by the central role of public-private partnerships, the speculative nature of the projects undertaken, and a shift away from concerns of collective consumption to the political economy of place (Harvey 1989; Sadler 1993; Broudehoux 2007). In other words, entrepreneurial cities actively participate in economic development and growth, rather than focus on the local provision of services, facilities and benefits to urban populations (Krupar and Al 2010; Hall and Hubbard 1998). Urban entrepreneurialism is thus largely based upon the manipulation of the urban landscape, wherein a shift away from state-led/financed development and urban managerialism has occurred, and “global inter-urban competition for resources, spurred on by new communication technologies and flexible organizational forms, has encouraged cities to develop cultural opportunities,

recreation, education, and entertainment as a way to attract capital” (Vale 2001; Krupar and Al 2010).

This shift from managerialism to entrepreneurialism is associated with several broad structural forces. These include economic restructuring in both developed and developing countries; the emerging global financial system; the weakening of the nation state; the redirection of state power to the urban scale; as well as intensifying inter-urban competitions (Castells 1996; Harvey 1990; Sassen 1991; Ren 2008). It is also associated with the transformation of the industrial city during the political shift towards neo-liberalism (Eisenschitz 2010; Harvey 2005). Here, common trends include the displacement of a manufacturing-based economy by an information-based economy as well as the increase in service employment (Castells 1996). Moreover, there has been a switch in “regimes of accumulation” (Amin 1994) such that the major capitalist nations which were previously dominated by “Fordist” regimes (based on mass production and consumption and the welfare state) have moved towards a “post-Fordist” regime that involves “very high mobility of capital from sector to sector and place to place (‘flexible accumulation’)” (Fainstein and Campbell 2002). This occurred with a property boom that was fuelled by cheap and ample credit as well as financial deregulation, a process overseen by a local governance that is more business-oriented and entrepreneurial and which reflects the twin forces of privatization and globalization (Eisenschitz 2010; Sassen 1991).

Accordingly, cities become “sites of policy experimentation where urban space is ‘mobilized’ in the name of ‘market-oriented economic growth’” (Miranda 2008). Coupled with that, the entrepreneurial city is increasingly engaged in place marketing and branding activities as means of enhancing its competitiveness (Greenberg 2000; Ward 1998; Kearns and Philo 1993; Broudehoux 2007; Bani Hashim, Irazabal and Byrum 2010). The last quarter of a century has seen an explosion in the practice of place marketing and promotion, where many towns, cities, regions and nations are frenetically branding themselves so as to ensure that the tourist gaze falls upon them (Ward 1998), a process linked to the massive growth in global tourism. Advertising space is purchased in billboards, newspapers, tourist magazines and specialized trade journals; written material is distributed in the form of brochures, fact packs or pamphlets; videos, websites and often, novelty items such as pens, t-shirts and mugs with images of the city (or in cases like Melbourne or Abu Dhabi, the city’s landmark/logo) are created to stimulate further interest of the potential visitor or business investor and to market the city through its tourists by dissemination of souvenirs (Burgess 1982; Jensen 2007). Press releases and media broadcasts are also used to deliver an urban image, particularly because civic leaders can use them to promote a favorable impression while challenging and expunging detrimental ideas that might exist about the place (Burgess 1982). Similarly, city officials often try to attract feature films and television series to shoot episodes in their city with the hope that such depictions of the city will draw the attention of mass media audiences (Krupar and Al 2010). Other common marketing strategies involve the promotion of a city’s “unique experiential qualities” through the making of tourist maps, and the organization of heritage trails or themed tours (ibid.).

The rise of branding has also become the key focus and driver of much design practice (Julier 2006). According to Gospodini, throughout the history of urban form, major city design schemes have been mostly an outcome of economic growth of cities and countries; however, a “reverse procedure” has taken place in the last decade or so, in which urban design and architecture “appears to be consciously ‘used’ as a means of economic development of cities in the new competitive milieu” (Gospodini 2002). City design then emerges as a tool that many places use to boost their image and identity and ensure a certain type of branding (Banerjee and Loukaitou-Sideris 2011). This has typically involved the transformation of cities from environments that had negative meanings associated with declining, smoky industries to the positive image of parks, hotels and modern office complexes (Lang 2011). The revitalization of central business districts and decaying inner-city neighborhoods, as well as the deindustrialization and privatization of abandoned waterfronts, have rebranded cities and made them attractive places for investment (Lang 2011; Gospodini 2002)

Most often, cities engage in the construction of one or more landmarks or iconic structures that will imprint an image of the city on the world’s consciousness (Holcomb 1999). According to Braviel Holcomb, these structures function as “symbolic shorthand for [the cities’] identities” (ibid.). In their influential book *Learning From Las Vegas* (1977), Robert Venturi and Denise Scott Brown had encouraged architects to conceive of buildings as ‘billboards’ and to concentrate on their exterior surfaces in conveying certain messages through “the choice of materials, historicist quotation in design details and/or their allusion to other imagery” (Julier 2000). Similarly, Crilley (1993) argues that the external appearance of buildings function like advertisements: “The public are spectators of a two-dimensional presentation of the city; the exteriors of buildings act as ‘triumphal displays’ of its historical, commercial and cultural resources” (ibid.).

According to Anne-Marie Broudehoux (2007), a few ‘signature’ or ‘trophy’ buildings designed by the world’s leading architects like Frank Gehry, Norman Foster, Daniel Libeskind, or Zaha Hadid count for a great deal, especially in cities bidding for attention and investment on the world stage. Frank Gehry’s Guggenheim Museum in Bilbao, Spain, for instance, spearheaded unprecedented development and tourism in the previously dismissed place in the north of that country, in a strategy now widely acknowledged and replicated as the “Bilbao Effect.” In an article titled “Architecture as Branding: Mega-projects Development in Beijing”, author Xuefei Ren (2008) discusses how the local government in Beijing attempted to use mega- projects and signature designers to create a new global image for urban regeneration, to rebrand and reposition Beijing in the global economy. ‘Starchitects’ and corporations are increasingly playing a role in the development of these mega-projects and thus in the production of what Anna Klingmann (2007) terms ‘brandsapes’.

Following the death of Sheikh Zayed in 2004, Abu Dhabi engaged in major urban and economic restructuring, adopting an entrepreneurial approach to urban governance by broadening the domain of local political action beyond local government to include a whole new range of private and semi-public agents. As I note in Chapter Six, the

leadership summoned 'starchitects' like Jean Nouvel and Sir Norman Foster to design signature buildings in Abu Dhabi, teamed up with big brand names in healthcare and education (e.g. Cleveland Clinic and New York University) and permitted land speculation in order to effectively compete on the world stage to attract attention, capital, upper-class residents and tourists.

2.3 Theories of Urban Form and Design

To theorize urban form in Abu Dhabi, this research project will reflect on three significant urban planning movements, namely modernist urban design, the New Urbanism movement, and sustainable urban development. These urban planning ideologies have exerted the strongest influence over urban form in Abu Dhabi. Understanding the impact of the application of these contemporary theories in Abu Dhabi requires understanding the unique context of the historic Arab-Islamic city.

The Arab-Islamic City

The literature covered in this section is central to my understanding of the way in which the cities in the Arab Gulf, and in particular Abu Dhabi, developed historically. Utilizing key texts such as *The Arab City: Its Character and Islamic Cultural Heritage* (1981), *History of Urban Form Before the Industrial Revolutions* (1994), *Urban Form in the Arab World* (2000), and *Traditional Domestic Architecture of the Arab Region* (2003), among others, this section seeks to review the settlement patterns of the Arab, Arab-Islamic or Islamic cities of the Middle East. For simplicity's sake, and to avoid the debate about which cities qualify as Arab, Islamic and/or Middle Eastern, I will use the terms interchangeably throughout.

The discussion of urban form in Arab-Islamic cities generally refers to the influence of the principles of Islam, climatic conditions, physical factors like geography, as well as the availability of materials in shaping urban patterns. To Muslims, "Islam is at the same time a religious tradition, a civilization and...a 'total way of life'" (A T Welch 1985, quoted in Morris 1994 p.372). A.E.J. Morris explains that although Islam did not prescribe formal architectural or urban concepts, it did outline behavioral standards for Muslims to follow that in turn generated associated physical patterns (Morris 1994). Specifically, the teachings of the holy Quran, the ways of the Prophet Muhammad, and the formation of Islamic law (*Shari'a*) played a central role in conditioning the structure of the built environment (Serageldin and El-Sadek 1981; Bianca 2000; Ragette 2003). Some of these ideas relate to the "five pillars of faith," which include prayer, almsgiving and pilgrimage to the *Ka'aba*, as well as to Islam's emphasis on community matters and its concern for social harmony and ritualized living patterns. The mosque, for example, is fully integrated into the social life and architectural fabric of the town, fulfills comprehensive civic functions, and is usually surrounded by markets. Residential quarters are designed for privacy, such that houses are built close together, forming inward-oriented units that are protected against visual intrusion from the street. Street

networks are kept to the minimum, solely providing the required connections to the main city gates and central markets and ensuring selective accessibility to private quarters. Furthermore, the orientation towards Mecca defines the location of mosques, and the ornamental language of Islamic art becomes an integral part of built form in that it “could actually transform and transfigure a building, lifting it, as it were, into a realm where physical laws are virtually suspended and the structure becomes transparent for a more ethereal reality behind the material appearance” (Bianca 2000). These are but some of the major expressions of Islamic principles in the built environment. In Chapter Four and Five, I attempt to investigate the extent to which Islamic ideas have in fact influenced the design of Abu Dhabi.

Morris identifies three types of Islamic cities: existing cities that grew organically; existing cities of planned Graeco-Roman origins; and new cities that were founded in conquered land by the Muslims as their empire expanded. The general characteristics of the historic Islamic city include, for Morris, the mosque, the residential quarters, the street system, the *souq* (or marketplace), the *Kasbah* (or the citadel), the defensive wall and the water supply systems (Morris 1994). Stefano Bianca (2000) makes a similar albeit shorter list, citing the residential unit, the mosque and related welfare buildings, as well as trade and production structures. Others refer to the characteristics of pre-industrial Islamic cities, also coming up with similar components, such as Costello (1977) who identified the citadel, the palace, the mosque-bazaar complex and courtyard houses as common features. Similarly, Unwin (1981) lists five main elements: the citadel, the palace, the mosque, the *souq*, and narrow winding streets. Most if not all of these elements existed in pre-oil Abu Dhabi (see Chapter Three and Four).

Aside from the role of Islam, there are other physical determinants that influenced the shape of the historic Arab city. Friedrich Ragette (2003) identifies them as, (1) Geography, such that the majority of the Arab region lies within the largest continuous desert zone in the world. Some cities are coastal towns while others enjoy a drier inland settlement, perhaps near oases; (2) Climate, where most cities receive excessive sunshine and therefore intense heat, with little to no precipitation; and (3) Materials for construction, such that available traditional materials include trees (e.g. date palm), mud, coral, stone, lime, gypsum, and more. To combat these conditions, designing for human comfort, shelter and need required innovation, and resulted in building techniques unique to the region.

Of course, no discussion on Arab cities is complete without comparing them to European cities. For example, Sherban Cantacuzino (1981) illustrates the differences between the public and private domain in Arab and European cities, where buildings in the former tend to be inward-looking versus outward-looking in the latter, streets are narrow as opposed to wide, and the *souq* or public courtyard of the mosque is considered most important whereas in European cities the street is given utmost attention. In the available literature on urban form in the Arab world, when discussing or comparing with European cities, there is usually a focus on how nineteenth century colonialism affected the Arab world; however, as previously explained, the historical development of the Arab Gulf did not coincide with the penetration of European

colonialism.¹⁴ What is worth exploring in the case of Abu Dhabi is the conversation around the impact of Western models or planning methods on the development of Arab cities. In this section, I briefly review what has been written on the topic from the perspective of researchers on the Arab/Islamic/Middle Eastern city, but will expand on some of these ideas and design movements in the following sections.

The impact of the Modern Movement on the planning of Arab cities is widely discussed in the literature on urban form in the Arab world (e.g. Ragette 2003; Bianca 2000). According to Bianca (2000), the movement brought about several changes that were at times problematic: First, it introduced new administrative systems that were largely absent in traditional Muslim societies where institutional control was “interiorized” through the common acceptance of traditional Islamic laws. These institutions not only destroyed the self-regulating traditional social structures, but also,

...the new system cannot work properly on its own terms, because residual habits and customs, like those of personal commitments or tribal solidarities, obstruct its smooth implementation. Therefore there is a risk that the values of traditional communities may be abolished without the efficiency of the modern system ever being achieved...(ibid.).

Additionally, the use of conventional master plans to design cities- common in the West- contrasted with the organic and socially integrated structures of historic Arab cities. Bianca claims these planning schemes are detached from social realities, and that they are mostly too abstract to be understood by the population concerned. He also argues that the municipalities of most Arab cities do not have the institutional structures, human resources or technical experience required for the successful implementation of such complex master plans, and that although foreign assistance was often seen as a solution to this, he claims it is not sustainable in the long-term. Moreover, repetitive features and culturally meaningless forms threaten the indigenous architectural language, and the intimate connection between Islamic architecture and fine arts are eradicated as well. Also, modern planning differentiates urban space along isolated functional criteria, singling out areas for housing, commerce, recreation, industrial activities and governmental use, which disrupt the decentralized but integrated sub-units of the traditional Muslim city. Furthermore, road planning and the focus on car circulation replace the pedestrian-scaled townscape of the traditional Arab city (Bianca 2000).

Nelida Fuccaro (2001) points to the ways in which a number of Arab architects and town planners challenged the adoption of western patterns of urban development by attempting to “indigenize urban forms in tune with the Arab-Islamic tradition.” Similarly, Janet Abu-Lughod (1992) calls for a renewed interest in vernacular architecture and settlement plans due to “our dissatisfaction with our current mechanisms for translating human needs into the built environment.” As will be

¹⁴ Although Great Britain established a treaty system with many local rulers in the nineteenth century, Nelida Fuccaro argues that only Bahrain was consistently affected by the British presence. See Fuccaro, Nelida (2001) “Urban Studies of the Gulf: Visions of the City” in *Bulletin of the Middle East Studies Association of North America*, v.3: pp. 175-188. The Trucial States were never directly linked to Britain as colonies and protectorates of the Commonwealth. See also Heard-Bey, Frauke (2004 [1982]). *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing. I explain this point further in Chapter Three.

discussed in Chapters Five and Six, there was a semblance of this attitude in Abu Dhabi, first in the 1980s when the Abu Dhabi Municipality Town Planning Department (ADMTPD) established the Heritage Committee, which specified design guidelines that required buildings to have an Arab-Islamic style, and almost three decades later when the Abu Dhabi Urban Planning Council attempted to develop a contemporary version of the traditional neighborhood or *freej*.

In the literature, the history of urban development in the Arab Gulf is generally described as a rapid shift from nomadism to urbanism and is characterized in three distinct phases: the traditional or tribal phase; the emergence of the oil era or what Ansari and Qutub (1983) call the transitional phase; and the massive urbanization phase coupled with modernization (see Ansari and Qutub 1983; Abu-Lughod 1983). This falls in line with my characterization of Abu Dhabi's urban development as analyzed in this research project. Sulayman Khalaf argues that the urban transformation of the Arab Gulf has forged a societal type that is unique to the region – “one that is markedly different in sociological characteristics and evolution from other societal types dominant in most industrialized capitalist societies or the least industrialized (Third World) developing countries, as well as those found in other oil – producing Islamic Middle Eastern societies” (Khalaf 2006). He presents that the oil-rich Arab Gulf cities have emerged as a particular type of “oil city” in which oil wealth has shaped both physical structure and social composition, and proposes the following typology for the evolution of the Gulf oil city: coastal towns; exponential growth; the traditional phase (pre-oil); multi-ethnic migrant character; segregated housing patterns of migrants; housing patterns of nationals; the Gulf city as center of consumption; the Gulf city as showcase; the car as a dominant feature of city life; and the Gulf city as a stage of segregated multicultural lifeways and identities (ibid.). To support his argument, Khalaf quotes Qutub who says, “It is difficult to make any comparisons with the urbanization process of other developing countries where urbanization was slow and was associated with industrialization and sound economic development” (Qutub 1985, quoted in Khalaf 2006).

Due to their perceived historical “exceptionalism,” the majority of past works written on the Arab Gulf is focused on architecture and urban growth (see for e.g. Ansari and Qutub 1983; Mitchell 1976; Melamid 1980; Al Radi 1999). On contemporary works, Farah Al Nakib (2011) argues that, “Like the last time Gulf cities were the subject of scholarly interest during a simultaneous process of major urban renewal in the 1970s, many new studies are written by architects...,” (see for e.g. Yasser Elsheshtawy's books (2004, 2008, 2010)) and these, she claims, “have a greater depth of perspective than their predecessors, analyzing not only the built environment but also introducing various historical, socio-political, and globalized processes that have impacted architecture and city formation in the region” (Al Nakib 2011). It is hoped that the current study on Abu Dhabi can contribute to this new body of literature on the Arab Gulf.

The Modernist City

Planning as a modernist project, or “the project of modernity” (Habermas, quoted in d’Entrèves and Benhabib 1997), has shaped city building since the beginning of the twentieth century. It developed as a response to the social problems of industrial capitalism and massive industrial expansion (Holston 1989). Several authors draw a connection between modernist discourse within planning practice and the rise of Fordism (e.g. Irving 1993; Calthorpe and Fulton 2001; Sandercock 1998). The common argument is that specialization, mass production and standardization informed the modernist approach towards city-building, later developing into what David Harvey terms “high or universal modernism” (Harvey 1989). As discussed in an earlier section on *Oil and Urban Modernity*, the claim towards universalism is a key aspect of modernism in this era.

Drawing on the ideas of the eighteenth century Enlightenment philosophers, planning rooted itself in notions of “objective science, universal morality and law” (Habermas qtd. in Irving 1993, p. 475). Within modernism was a “belief in linear progress, positivist, technocratic, rational planning of social and geographic space; ‘standardized conditions of knowledge and production and a firm faith in the rational ordering of urban space’ to achieve individual liberty and human welfare” (Irving 1993). This faith in scientific and technical progress “gave to modernist planning the Utopian dream of the rational city” (Sandercock, 1998). Thus, the Modern Movement, “in its urge to conform with the Industrial Revolution, became obsessed with functionalism and rational efficiency” (Bianca 2000). The city was revered as a “machine for living in” (Holston 1989).

Modernist planning ideas can be traced back to the Roman Empire, from the functionalist urban expansion of imperial Rome, through to the *Ringstrasse* project in Vienna,¹⁵ Haussman’s renewal of central Paris, and Ebenezer Howard’s Garden Cities (Harvey 1989; Ramos 2010). These ideas continued to evolve under the influence of French architect Le Corbusier and the Congrès International d’Architecture Moderne (CIAM) in the 1920s, with the New Towns becoming what Jane Hobson calls “the ultimate form of modernist planning” (Hobson 1999).¹⁶ Particularly, the Roman gridded castrum planning and the *centuriatione* that guided and structured imperial territorial development influenced the grid-iron street layout of modernist cities (Ramos 2010). Also key to the modernist planning project is the concept of urban renewal, whereby large urban areas are cleared for redevelopment (Harvey 1989). This can be attributed to the modernist project’s inherent belief in the *tabula rasa* or clean slate, perhaps most exemplified by Le Corbusier and his concept for La Ville Radieuse.

¹⁵ See Collins, George R. and Collins, Christiane Crasemann (1965). *Camillo Sitte and the Birth of Modern City Planning*. New York: Random House.

¹⁶ Ebenezer Howard’s plans for an efficient, self-sufficient settlement surrounded by a green belt inspired numerous twentieth century New Town projects around the world. See Hobson, Jane (1999). “New towns, the modernist planning project and social justice: the cases of Milton Keynes, UK and 6th October, Egypt.” Working Paper 108, Development Planning Unit, University College London.

Modernist planning ideas were implemented worldwide, mainly in the United States, post-World War II Europe, and several Third World countries (where it boomed as a universal “International Style”).¹⁷ Modernist city design can be briefly summarized as having a development pattern that is characterized by a dominance of single-family housing in suburbs and high-rise buildings in the city center, a heavy reliance on automobile transportation, and a strict separation of land uses. In the modernist era, city planning was generally undertaken by architects or engineers who applied “thoughtways and the analytical methods...developed for the design of public works... to the design of cities” (Melvin Webber, qtd. in Hall 1988, p. 322). Zoning became accepted as the principal planning tool, resulting in the creation of single-use central business districts, uniform housing tracts, and dispersed shopping centers and recreational facilities (Hall 1988). Moreover, transportation policy glorified the use of the car, and focused on the design of roads and highways rather than on community design and public transit. According to Natrasony and Alexander (2007), “[i]nstead of deciding where development should go, engineers just looked at projected traffic trends and designed infrastructure in an attempt to accommodate them,” leaving pedestrians, bicyclists and other forms of transport out of the equation. A key idea in modernist planning was the superblock, which created internal pedestrian zones, surrounded by heavily trafficked arterials.

I have previously discussed how urban modernity was received in the oil-rich cities of the Arab Gulf (see section 2.1), yet it is worth reiterating some of its consequences here. Stefano Bianca notes how large-scale development projects have been exported to many Arab countries, “where they were implemented as complete ‘packages’” and “may not have been chosen for their supposed functional advantages but merely for the prestige these icons of modernity seemed to convey” (Bianca 2000). He further argues that decision-makers in Arab or Muslim countries take for granted “the ‘superiority’ of the foreign paradigm” and allowed for the implementation of imported principles that “deprive the inhabitants of a consistent, meaningful architectural setting” (ibid.). In Chapters Four and Five, I explore the extent to which this is case in Abu Dhabi. Using the modernist planning lens, I examine how settlement patterns developed in the 1960s as a result of foreign experts’ plans, which facilitated car usage, encouraged mode separation and introduced the superblock. I also use this lens to look at the early form-follows-function architectural style inspired by the Bauhaus, as well as the periods of urban renewal in the 1970s and 1980s, where modern architecture replaced much of the vernacular buildings in Abu Dhabi. Today, the modernist tradition is continued with the development of iconic large-scale projects.

The New Urbanist City

In the United States, a number of strategies have been proposed as alternatives to the modernist planning techniques that led to prevailing patterns of low density,

¹⁷ Perhaps one of the most renowned modernist planning projects is the city of Brasilia, best documented by James Holston in his book *The Modernist City: An Anthropological Critique of Brasilia* (1989). See Holston, James (1989). *The Modernist City: An Anthropological Critique of Brasilia*. Chicago: University of Chicago Press.

fragmented, and auto-dependent land development, also known as urban sprawl. The New Urbanism is one such strategy.

The concept, developed in the 1970s and 80s by renowned architects and planners like Andres Duany, Elizabeth Plater-Zyberk and Peter Calthorpe, returns to the idea of a compact, close-knit community (Katz 1994). In 1993, in order to promote and defend its tenets, The Congress for the New Urbanism (CNU) was founded and a charter was written up by CNU's founding members. Some of the charter's main ideas include: the principle of mixed use, which states that a variety of uses should exist alongside housing units, which should also offer diversity in housing types and a choice of tenures, both residential and commercial; the principle of walkability, which discourages excessive car use and focuses on the pedestrian experience; the core belief in strong citizen participation in the planning process; the commitment to the creation of a sense of place; as well as the principle of affordable housing and socioeconomic diversity (Haas 2008). Other ideas include linking land use and transportation, replacing single use zoning codes (a legacy of CIAM (Congres International d'Architecture Moderne)) with form-based codes, promoting transit-based development such as Transit-Oriented Development (TOD), and the creation of community-building public spaces (Dunham-Jones 2008; Kelbaugh 2008). More recently, the concept of the "transect" has been developed to order the cross-section of a town or city, organized along a gradient of six zones of gradually increasing density from the natural hinterlands to the urban core (Kelbaugh 2008).

Most of the ideas espoused by New Urbanists have been influenced by those of livability theorists who questioned the values of Modernist design. Beginning in the 1960s people like Jane Jacobs, Kevin Lynch, Donald Appleyard, William Whyte, Allan Jacobs, and Jan Gehl, along with many others, advocated mixed-use development, walkability, human scale, and the significance of public places for social interaction (Appleyard 1981; Gehl 1980; Jacobs 1961; Jacobs and Appleyard 1987; Lynch 1981; Whyte 1980). As a result of these ideas, the basic physical model of a New Urbanist city is one that is compact, transit-friendly and walkable, combines different uses and housing types, and consists of spaces that promote social interaction and daily physical activity (Kelbaugh 2008). Kelbaugh writes,

It is not dense by European and Asian standards but denser than conventional American sprawl...the urban hierarchy runs the gamut from background housing and private yards to foreground civic and institutional buildings, with public squares and parks that are reminiscent of the City Beautiful tradition. And its urban centers are surrounded by open space and low-density housing that recalls the Garden City tradition. Its architecture is typically a derivative in style, typology and materials - to use a word of its own making, neo-traditional.

The strategies of New Urbanism are practiced both in urban infill projects and in totally new developments (Jabareen 2006; Alawadhi 2011). Examples of New Urbanism in the U.S. context could be found in many projects, such as in Seaside, Florida; Portland, Oregon; and San Francisco, California.

As mentioned, an important aspect of the New Urbanism movement lies in its participatory approach to urban design and planning. The charrette – a construct of New Urbanists and known as a powerful technique in the planners’ kit (Alawadhi 2011) – is widely used as a method for public involvement, both to solicit community input and to educate residents about design alternatives (Farr 2008). Its target is to bring decision makers, stakeholders, and the public together over a period of time to create a feasible and socially acceptable plan through creating feedback loops and generating the necessary information to produce this plan (ibid.). One of the great advantages of the process is that it teaches the public the tools of community design and planning.

The charrette approach, however, is criticized for being biased in favor of a fixed design solution rather than allowing for genuine citizen participation. Moreover, the New Urbanism is criticized for being too utopian in its ideals, and some writers criticize it as “a movement focused merely on a nostalgic simulation of idealized towns” (Brain 2008). Indeed, “theming” of the “overly charming, historicist facades” of New Urbanist towns and neighborhoods has left critics claiming that the search for place identity is not based on deep understanding of local traditions or requirements (Southworth 2003). The architectonic or patternbook approach of this formalist planning model appears to be inflexible and out of touch with real urban problems (ibid.). Moreover, since New Urbanist projects and plans have mostly focused on neighborhood scale developments of a few acres, Michael Southworth (2003) argues that their legacy is in danger of becoming “simply the creation of nicer suburbs for the middle class,” or as an informant interviewed for this study noted, “prettier sprawl” (Interview #21).

Nevertheless, the movement has its proponents. Ellen Dunham-Jones argues that New Urbanism is a forum, not a formula and that it is an “ongoing project of reform filled with debates on an evolving body of tools and strategies” (Dunham-Jones 2008). Tigran Haas sees the growing importance of the New Urbanism movement today, claiming that “it is not an American phenomenon anymore; it is a global one, and as such is a cutting edge trend in urban planning and design due to its systemic, all-encompassing approach to problems in the natural and built environment” (Haas 2008).

This study attempts to define how the New Urbanism movement influenced the planning and design style in Abu Dhabi ever since Larry Beasley and his consultants arrived in 2007. Although New Urbanism is not directly referred to in any of the Abu Dhabi Urban Planning Council’s (UPC) public documents, Larry Beasley has made his allegiance clear (Moore 2010). According to Moore, “Beasley remarks: ‘One of my biggest efforts is to get as many new urbanists working in the public and private sector as I can organize’” (ibid.). On another occasion, Beasley notes, “All the principles of contemporary, progressive urbanism that we could possibly think of have been included in this plan” (George-Cosh 2008). In Chapter Six, I examine how the principles of New Urbanism are translated in the 2030 Plan for Abu Dhabi, and take a look at how the charrette approach was utilized to engage urban experts and major stakeholders in the creation of the plan.

The Sustainable City

"The discourse of sustainability is being more widely deployed as an urban and regional development strategy than ever before." - Robert Krueger and David Gibbs 2007

There has been a documented increase in the overall public attention paid to environmental issues since the 1950s (Dinnie 2008). Environmental awareness has spread from the traditional sphere of conservation activism into the economic and political mainstream (ibid.). This trend has accompanied an increase in companies, products, people and especially cities showcasing individual efforts towards sustainability, and marketing or branding themselves as "green."

While most of the literature and research on sustainability has centered on the ecological or environmental dimension of sustainability, two other aspects of sustainability have also been investigated: economic and social sustainability. More recently, there has been an increasing interest in the concept of sustainable development as well as a heightened interest in developing sustainable urban development models that attempt to strike a balance between the three components of sustainability (Haughton 1997, 1999; Basiago 1999). The World Commission on Environment and Development (1987) defines sustainable development as, "development that meets the needs of the present without risking the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987).

There is currently a strong debate underway about the role of urban design in promoting sustainable development, seeking to understand which urban forms will effectively deliver greater environmental, social and economic coherence (Breheny 1996). According to Jabareen (2006), in 1990 the EU published a significant Green Paper advocating the foundation principles of sustainable urban form (CEC 1990). Since then, scholars, people in practice, local and international organizations, and societies in the West introduced different principles and models of sustainable urban forms that comply with the three core dimensions of sustainable development (Alawadhi 2011). Graham Haughton (1997) presents four different models of sustainable development¹⁸ and argues that a change in the political, social and economic system is needed in order to create a sustainable city according to the models. In a later article (1999), he argues that moving towards sustainable development requires an understanding of the ways in which the issues of social justice, economic wellbeing and environmental stewardship are largely interdependent.

The issue of sustainability in Abu Dhabi is rather unique, given the issues of a

¹⁸ Graham Haughton lists these as: (1) "the redesigning cities", where planning involves including nature in urban life and not harming the existing nature if possible; (2) "the self-reliant cities", which propose to restore nature where it was destroyed and to find a better balance between human actions and effects on the nature and ecology; (3) "the externally depended cities", which means a lighter and more market-oriented version of the ecological city, where market regulations are adjusted so that disturbing the environment is being paid for; (4) "the fair shared cities", which means that the political, social, environmental and economic circumstances should be considered in terms of fair trade. This includes also which resources are traded and how waste is managed in consideration of the urban hinterland. See Haughton, Graham (1997). "Developing sustainable urban development models" in *Cities*, v.14 n.4: pp.189-195.

fragile desert eco-system, fresh water scarcity and a hot climate. Environmental sustainability, or environmental stewardship as it was more commonly known in Abu Dhabi, was Sheikh Zayed's passion. In Chapter Five, I introduce some of Zayed's contributions towards water provision (in the form of *aflaj* or irrigation systems, desalination plants and wastewater treatment facilities), greening and afforestation, as well as minimizing the effects of sand erosion and desertification. Additionally, Sheikh Zayed promoted agriculture as a means of encouraging a self-sufficient population, and was also committed to protecting the delicate ecology of Abu Dhabi – particularly the mangrove trees that serve as habitats for birds and fish.

Today, Abu Dhabi is an experimentation of sustainability in the desert. The concept of sustainable development has quickly caught on in Abu Dhabi, where the mantra “planning for future generations” is circulating amongst local and private agencies and permeating the public consciousness. Masdar City, a zero-carbon city being developed on the outskirts of Abu Dhabi city, in conjunction with Masdar Institute for research and development, is an example of Abu Dhabi's commitment to this mantra.

As the key directions and overarching principles of Capital 2030 suggest, Abu Dhabi's future plans are also centered on ‘sustainability. “It's ironic,” writes Hutchinson, “because when representatives of the emirate's second-in-command, Crown Prince Sheikh Mohammed bin Zayed Al Nahyan, approached Mr. Beasley...and offered him the job of chief planner, sustainability was not what they had in mind” (Hutchinson 2009); rather, they were worried about becoming “another Dubai” (ibid.). Beasley and his associates recommended that in order to move forward in a more progressive approach to urbanism, “sustainability” must play a large role in the development of Abu Dhabi (Hillen 2010).

What compels the urgency to examine the elements of sustainable development in Abu Dhabi is that there is a contradiction between the “Western-based view of sustainability and the unique situations created by the Middle Eastern environment and its people” (Heid 2010). In the West, sustainable development is concerned with the preservation of habitat and natural systems, compact urban form, block and building orientation, local food production, walkability and alternative transportation, accessible and varied parks and open space. In Abu Dhabi, however, the convergence of an incredibly harsh climate, unique culture and unmatched financial and energy resources present a different set of priorities and sustainability techniques (ibid.). In Chapter Six, I examine Abu Dhabi's efforts towards sustainable urban development, and highlight the ways in which the Abu Dhabi model of sustainability can contribute to a conversation that has until recently been dominated by Western models and ideas.

2.4 Concluding Remarks

The theoretical framework outlined in this chapter makes a significant contribution to my understanding of Abu Dhabi's urban development history. The

literature on oil cities and urban modernity helps inform the historical impact of the discovery and exploitation of oil on Abu Dhabi's urban form as well as its early governance and planning (Chapter Four, Five). Similarly, the global city theory serves as a lens from which to view Abu Dhabi's attempts to become a global city competing on the world stage. This includes setting out an elaborate economic diversification program and making significant changes to foreign ownership and investment laws. Moreover, I am interested in the ways in which globalization impacts the shape of cities, particularly as architecture and urban projects (such as art galleries, sports stadia, conference centers, and so on) have become tools to market the image of the city and to encourage investment and tourism. In the case of Abu Dhabi, I examine the new wave of developments in the city - from "starchitecture" to major infrastructure projects - after restrictions on land speculation were lifted in 2005 (Chapter Six).

In addition, later theorizations in global cities research place an emphasis on governance. In my research, I draw from the literature on planning theory and planning institutions as well as from Marxist and neo-Marxist debates on urban governance. The latter see capitalism as connected with urbanization processes and with politics, institutions and governance. In Abu Dhabi, oil urbanization influenced the creation of a modern (rational) planning apparatus and the formulation of masterplans for the city, and initiated Abu Dhabi's reliance on foreign consultants (Chapter Four, Five). This is in large contrast to the tribal administrative culture practiced by Abu Dhabians for centuries. Beginning in 2004, Abu Dhabi's emphasis on privatization and forming public-private partnerships, as well as its adoption of neoliberal economic policies, led to major government reform including the establishment of new planning bodies and a collaborative rather than top-down approach to planning the emirate (Chapter Six).

While understanding the political and administrative framework is important to understanding spatial planning and development, the four theories of city design reviewed in this chapter are essential to my analysis of both the plans of the experts and/or urban space in Abu Dhabi. Theories of the Arab-Islamic city help to inform the layout of the old Abu Dhabi settlement by focusing on principles of Islam, climatic conditions, physical factors like geography, as well as the availability of materials in shaping urban patterns (Chapter Three, Four). Some of these principles continue to influence planning in Abu Dhabi, even as it transformed into a modernist city (Chapter Five) and later adopted the vision of a sustainable city based on New Urbanist principles (Chapter Six).

Together, the themes outlined above introduce multiple perspectives from which to read the urban development history of Abu Dhabi.

Chapter Three: From the Hinterland to the Coast: Origins of an Urban Identity (1761-1960)

"We reached the coast and followed it eastward through desolate country. There were limestone ridges, drifts of white sand and stretches of gravel dotted with tussocks of woody grass and shriveled plants. Salt-flats ran far out to sea, but yellow haze made it impossible to distinguish where the salt-flats ended and the sea began. The scene was colorless, without tones or contrast. We descended to the salt-flats, and led our slithering camels across this greasy surface to the creek which separates Abu Dhabi from the mainland. We waded through the sea, rested for a while outside the stone fort which guards the ford, and then went on to the town, arriving there early in the afternoon."

- Wilfred Thesiger (1959) *Arabian Sands*

The object of this research is the city of Abu Dhabi, which is the capital of the emirate or sheikhdom that bears the same name. Looking at it now, its historic character is hardly discernible; yet, underneath its glossy façade lays a rich and multifaceted story of leadership, visions, politics, planning, and urban development.

Prior to the discovery of oil in 1960, Abu Dhabi was a simple Bedouin town. To appreciate the strikingly fast change the settlement has experienced – economically, socially, and physically – after government revenues from oil production rolled in, this chapter explores the various influences that shaped Abu Dhabi's beginnings. The chapter first traces the origins of the settlement and how it got its name, and describes the early urban fabric. It then provides an overview of Abu Dhabi's main tribes and the ruling family, and offers insight into its traditional economy. Finally, it introduces the British government's involvement in the area and how their political presence and search for oil ushered in a new era in the emirate's history.

3.1 Early Settlement

The earliest version of Abu Dhabi's modern history dates back to around 1761, when water was discovered on the island by the Bani Yas,¹⁹ a tribal confederation of central Arabian origin (Mann 1964; Maitra and Al-Hajji 2001; Davidson 2009; Heard 2011). Until then, the Bani Yas lived in the desert interior (in particular, the Liwa oasis), only occasionally visiting the island to participate in fishing activities, and on these occasions they had to carry their own supplies of water (Rabi 2006) (refer to Figure 1.2). The discovery of water on the island eventually led to the migration of the tribe to the coast, and by the end of the eighteenth century they had permanently settled there. Several versions of the water discovery story exist: one claims that a fisherman dug into the ground and accidentally discovered a pit filled with potable water (Maitra and Al-Hajji 2001; Davidson 2009); another posits that a sheikh of the Bani Yas, while on a

¹⁹ *Bani* in Arabic means "sons of" and *Bin* means "son of."

hunting expedition, fortuitously discovered a spring of fresh water as he chased after an elusive gazelle.

This became the basis of a settlement that came to be known as Abu Dhabi or “father of the gazelle,” as the spring was discovered just where the gazelle stood (*ibid.*). There are also different versions of how Abu Dhabi got its name.²⁰ The hunting story is one of them, but Uzi Rabi (2006) claims Abu Dhabi was named after the shape of the island that the city occupies, which resembles that of an Arabian gazelle. Another story credits the naming of the city to Sheikh Shakhbut bin Zayed Al Nahyan, who is quoted saying “there is a small island that has a lot of deer, and we call the small ones ‘ghazal’ and the big ones ‘dhabi’” (Rashed 1988). Whichever the version, the literal meaning of Abu Dhabi derives from *abu*, meaning father of, and *dhabi* as in gazelle.

The discovery of water on the island had a profound influence on the foundation of the town of Abu Dhabi in 1761, because the aridity of the entire region meant that the survival of permanent settlements relied on limited sources of water for drinking, livestock and agriculture. The availability of water determined the choice of location for traditional settlements in the vast open spaces dominated by salty mud flats or *sabkhah* (Heard-Bey 2006).²¹

In addition to the presence of water, there exists another likely explanation as to why the island was chosen as a settlement for the Bani Yas tribe: the island offered access to the sea as well as the advantage of a natural defense from land (mainland) attacks (courtesy of coral reefs around its perimeter). In the latter case, the island was only accessible from the mainland by crossing during low tide across the ford at the southern tip of the island (Mann 1964; Maitra and Al-Hajji 2001; Davidson 2009). The Abu Dhabi settlement was strategically located on an island formed by two creeks and connected at the back by a lagoon, and had unobstructed views of the coastline in both directions. Jayanti Maitra and Afra Al-Hajji (2001) write that, “it is very likely that these were important contributory factors for choosing Abu Dhabi island as an alternative headquarter of the Bani Yas tribe during the close of the 18th century, when their existing base in the inland oasis of Liwa became exposed to the intrusion of the Wahhabi forces of the Al Saud of Saudi Arabia.” An additional reason for siting the new economic and political center of the tribal confederation of the Bani Yas on this island was that a natural channel leading through shallow coastline made it possible for boats to sail right up to the northern shore of the island as well as to the more protected inlet of nearby Bateen (Heard-Bey 2006).

²⁰ Christopher Davidson offers an interesting fact: Before becoming known as Abu Dhabi, the area was originally referred to as *Mleih* (*milh* in Arabic means ‘salt,’ so it is possible the name generated from the saltiness of the water. I would add another plausible explanation for this name: the salt-flats that extended across the desert). See Davidson, Christopher (2009). *Abu Dhabi: Oil and Beyond*. New York: Columbia University Press.

²¹ *Sabkhah* is a saline gypsum salty mud. It is saturated with salt and cannot support any vegetation. When dry, it forms a reasonable motorable surface; however, rain or tidal movement turns these areas into swamps, making them dangerous and nearly impossible to pass by camel or car.

During that time, the Bani Yas were under the leadership of Sheikh Dhiyab bin Isa, said to be the grandson of Nahyan, the ancestor of the Al Bu Falah section of the Bani Yas tribe that provided the ruling sheikhs (more on the tribes and rulers of Abu Dhabi to follow in a later section).²² After Sheikh Dhiyab led his people from their home in Liwa to the new settlement in Abu Dhabi, twenty palm-frond or *arish* huts were immediately constructed (Mann 1964; Davidson 2009). Dhiyab also had a mud tower built to protect the watering holes, and by the early 1790s he had expanded his fortifications, laying the foundations for a large fort with a circular watchtower (Davidson 2009). By the time of his son Sheikh Shakhbut's succession, the population of the town had significantly increased, with over 400 *arish* houses on the island, making Abu Dhabi the sheikhdom's second largest town. Between 1795 and 1798, Sheikh Shakhbut bin Dhiyab made further improvements to the fort and then built a watchtower at al-Maqta' (the ford at the southern tip of the island), overlooking the channel between the island and the mainland. Through these early developments, and with this shift from the hinterland to the coast, the island city had effectively become the sheikhdom's new capital.

Geography, Topography, Boundaries and Early Urban Fabric

Today, Abu Dhabi is the largest of the seven United Arab Emirates, occupying approximately 87% of the total land area. This territory of about 67,000 square kilometers (about 25,869 square miles) with the exception of the oases of Liwa and Al Ain, is the most arid of the Emirates; it is a large swathe of desert descending into vast

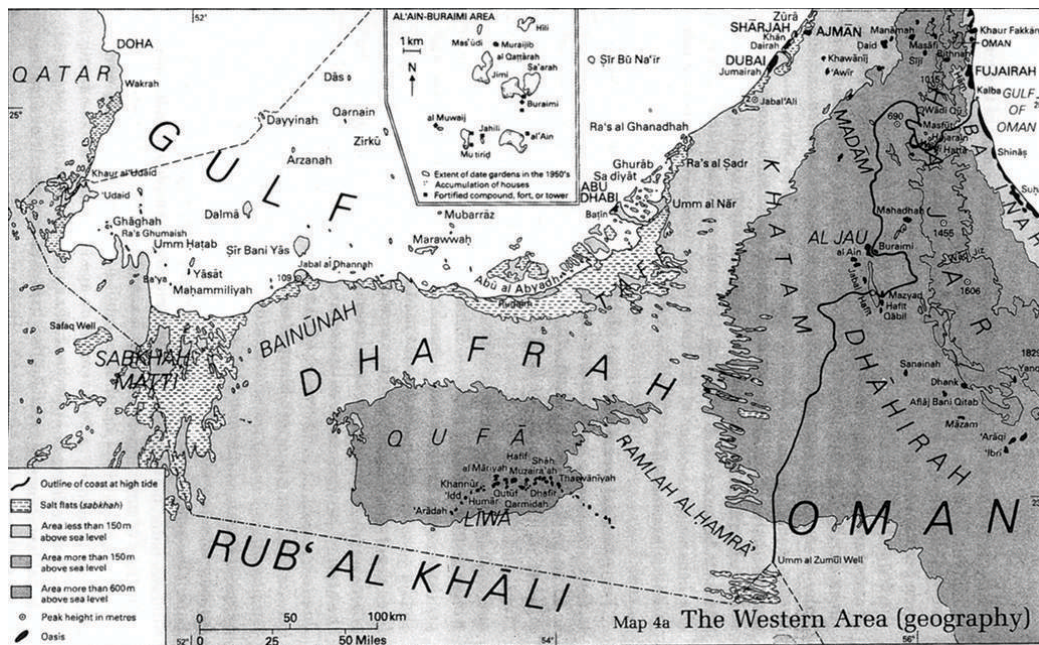


Figure 3.1 Abu Dhabi topography

²² Al Bu Falah may be translated to "of the Falah family or tribe"

areas of salt flats (*sabkhah*) and “shelves gently into a long shoreline of shifting islands... and then into a warm shallow sea” (Facey and Grant 1996). There are about a dozen islands of significance in the coastal waters and some half-dozen sizeable islands belonging to Abu Dhabi further out in the Gulf (Heard-Bey 2004 [1982]).

Specifically, the territory of Abu Dhabi runs along the southern shore of the Arabian Gulf (also known as the Persian Gulf) for an undetermined distance, so as to abut on the territory of Dubai on one side and Saudi Arabia and Qatar on the other. The *sabkhah* belt stretches almost uninterrupted the whole length of the coast from the western border with Qatar to beyond Dubai in the northeast (Archive Editions 1990; Heard-Bey 2004 [1982]). Here, the coast consists principally of “sterile, flat and monotonous country” (Archive Editions 1990), with some rock outcrops and sand-spits relieving this monotony and affording access to the sandy shoreline. The sands make their way towards the east and south, the oasis of Al Ain being situated in the east at the foot of the mountains and the area of Liwa being located in the south, where about four-dozen small oases are nestled between sand dunes. The territory to the west and south of the Liwa form the edge of the Rub’ al-Khali.

It is worth noting that the large territory of Abu Dhabi indicates the extensive political influence built up in the past by the Al Bu Falah family, but what is even more notable is that the creation or demarcation of boundaries was once a novel concept to the area (Facey and Grant 1996; Maitra and Al-Hajji 2001). As will be later explained, it was the possibility of the existence of oil in the 1920s that complicated regional politics by demanding the definition of boundaries of a concession area and the limits of a ruler’s authority. This provoked numerous disagreements (some erupted into warfare or raids) and several lengthy negotiations (Maitra and Al-Hajji 2001; Heard-Bey 2004[1982]), because for some parties, several miles difference in creating a boundary meant a difference of millions of dollars (Mann 1964). Still, there have been several attempts to clarify boundaries as of late, with established boundaries by the Abu Dhabi, Al Ain and Western Region municipalities differing from boundaries set up by the Abu Dhabi Urban Planning Council and some other entities (Interview #20). The significance of demarcation of districts, cities/towns, suburbs, neighborhoods and other places is increasing, in order to facilitate and increase the efficiency of planning and policymaking across the emirate.

Abu Dhabi, the Island

The island, where the main city and capital of Abu Dhabi is located, is roughly triangular in shape, the longest side being toward the south. According to a report by ARAMCO in 1950-1955, back then the island’s greatest length was about eleven miles and its greatest width about five miles (Archive Editions 1990). The island is separated by Khor al-Bateen on the south and Khor Laffan (or Khor Abu Dhabi) on the northeast (*khor* means creek or inlet). At the southeastern tip of the island, the narrow stretch of water known as al-Maqtā’ (the Ford) could only be forded with difficulty at low tide, and was the main passage for reaching Abu Dhabi from the mainland.

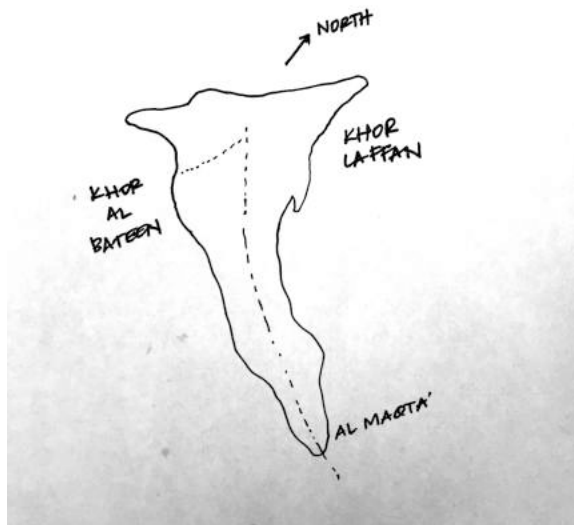


Figure 3.2 Abu Dhabi island c.1950s



Figure 3.3 Aerial view of Abu Dhabi 1940s



Figure 3.4 Aerial view of Abu Dhabi 1955

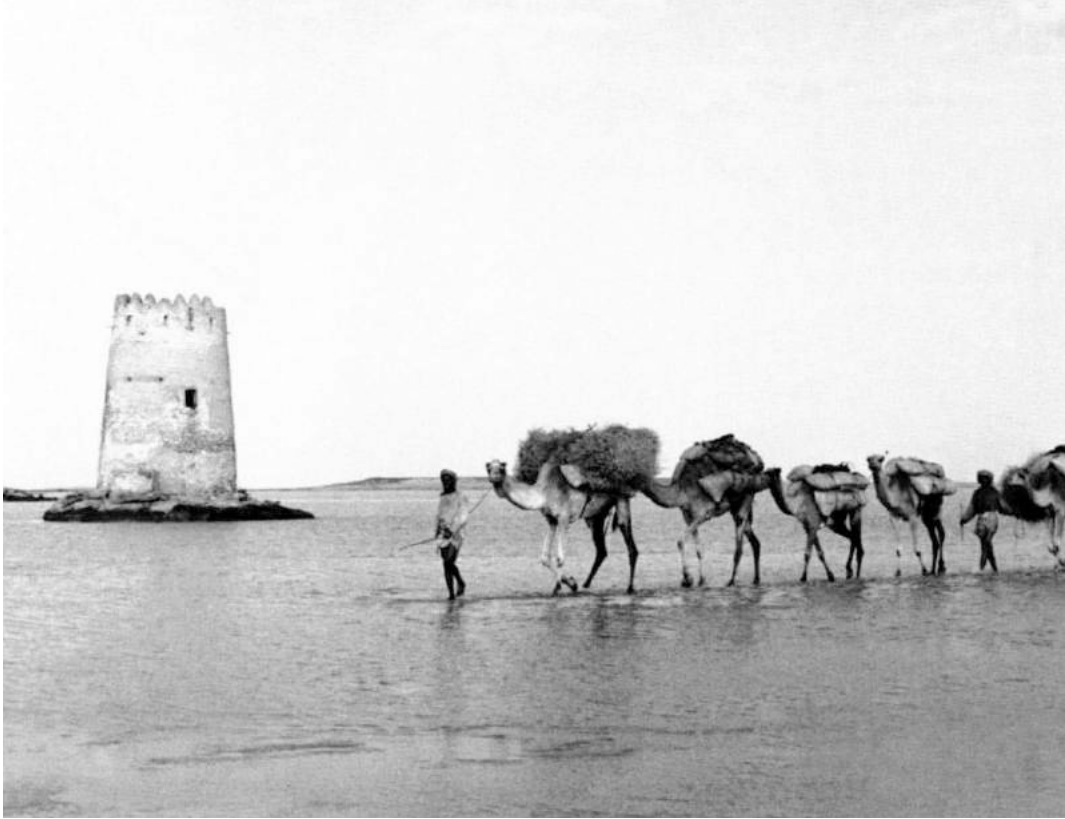


Figure 3.5 Crossing al-Maqta'

Only two routes were available to the main town of Abu Dhabi on the seaward side of the island. The northern route passed through the village of al-Bateen on the inlet of the same name, a village mainly inhabited by members of Al Bu Muhair of Bani Yas and the Sudan (Archive Editions 1990). The other route started from al Maqta' and continued down the middle of the island, arriving at the settlement at the northern tip of the island.

Since 1761, the primary structure that dominated the capital's landscape was the ruler's large rectangular fort and residence with towers at the corners. There were several houses spread along the seashore and between the fort and the beach; the majority of these were made from palm fronds, while others belonging to the more affluent merchants were built using coral and stone. At the back of the town were "some indifferent wells" and the shallow pits yielded water at a place three to four miles away from the town (Maitra and Al-Hajji 2001). On what was then considered the outskirts of the town, in the same direction of the fort, was the *souq* or bazaar. The *souq* had a single main alley that was covered to provide shade, and had about seventy small shops with the floors raised a couple of feet above ground level (Maitra and Al-Hajji 2001; Heard 2011). In the early 1930s, Abu Dhabi's first airport was a landing strip of rolled *sabkhah*, capable of handling small aircraft. The situation throughout the 1930s and World War II, however, kept the pace of development in Abu Dhabi at an all-time

low, causing an exodus of scores of families from some of the Bani Yas sections to Qatar, Kuwait and Saudi Arabia. By the 1950s, Abu Dhabi's population dwindled, contracting to about 4,000 with only eight small shops left in the *souq* (Davidson 2009).

3.2 Tribes in the Sheikdom

A Brief History of the Bani Yas

The emirate of Abu Dhabi is now, as it was in the beginning of the twentieth century, homologous with the habitat of the Bani Yas tribe (Heard-Bey 2004 [1982]). The origin of the Bani Yas is uncertain, some claiming an early migration from the Najd in Saudi Arabia while others claim descent from Oman's Yas bin Sasa (Heard-Bey 2004[1982]; Davidson 2009). Although the single most populous tribe in the Trucial Coast, the common assumption is that it is a confederation of tribes (Mann 1964; Archive Editions 1990; Maitra and Al-Hajji 2001; Frauke Heard-Bey 2004[1982]; Davidson 2009). Frauke Heard-Bey (2004[1982]) suggests,

They were probably a number of beduin groups which gradually extended their seasonal migration in search of grazing into the relatively well-watered Dhafrah, returning to the familiar wells of the area where they customarily spent the summer with their camels. The decisive factor for forging together and keeping intact in such strong links between the various groups which shared this pattern of migration and for growing into a confederation using one name, was most probably the establishment of a centre close to Dhafrah where they all spent the summer. This centre is the string of Liwa oases, where water from dew and occasional rain gathering in the huge sand-dunes is sufficient to provide relatively sweet water in quantities enough to raise date palms and to water large herds of camels in the vicinity.

This is a very plausible explanation, as records show that many groups of the Bani Yas built themselves *arish* houses near their date gardens (Facey and Grant 1996). Most of the members of the Bani Yas tribe were *hadar* or settled people (townsmen) living in the interior, some were *bedu* or Bedouin, and a large number of them were seafarers for generations, taking to the waters of the Gulf to engage in seasonal pearling (Zahlan 1998[1989]). A more detailed description of the economic activity of the traditional inhabitants of the Abu Dhabi sheikdom will be given in a later section; however, at this point, it suffices to say that the Bani Yas (or at least part of the family unit) developed a pattern of seasonal movements between coast and hinterland to make use of their resources. At the beginning of the twentieth century, J.C. Lorimer, in *Gazetteer of the Persian Gulf, Oman and Central Arabia* (1908),²³ estimated the numbers of the Bani Yas at 12,000 people in the Abu Dhabi territory (although about 2,000 were in Dubai). In the early 1950s this number significantly dropped to about 8,000 due to the exodus of

²³ The Gazetteer provided much of the information on the Gulf to the British Government of India during the first decade of the 20th century.

families to Qatar, Kuwait and Saudi Arabia in search of jobs in construction or the oil field.²⁴

As previously mentioned, the Bani Yas developed as a confederacy of elements drawn from many tribes. While it is beyond the scope of this dissertation to detail the background and status of these numerous tribes,²⁵ it is important to note the names of their sections if only for the purpose of highlighting power networks that still exist today. A dozen or more large sections of the tribe are found in the territory of Al Bu Falah (Al Nahyan), Qubaisat (Al Qubaisi), Al Bu Falasa (Rawashid),²⁶ Sudan (Al Suwaidi, Al Kindi), Mazari' (Al Mazrui), Bu Muhair, Hawamil (Al Hamili), Maharibah (Al Muhairbi), Rumaithat (Al Rumaithi), Qumzan (Al Qamzi), Al Mishaghin, and Marar (Mann 1964; Heard-Bey 2004[1982]; Davidson 2009). Besides the sections whose membership in Bani Yas now appears to be unquestioned, there are other tribes or divisions whose exact status is obscure; regarded by some as belonging to the Bani Yas, by others they are considered still to maintain a separate identity, though they have close ties with Bani Yas. Such are the Dhawahir whose greatest strength is concentrated in five of the villages of al-Buraimi, the semi-nomadic Manasir (Al Mansouri, Al Bu Rahmah, Al Bu Mundir, Al Bu al Shaar, Al Bu Khail and Al Bu Hamir) who co-habited the Liwa with the Bani Yas, and other nomadic tribes who frequented the Abu Dhabi territory such as the Awamir, Afar Manahil, Rashid and Al Murrah (Archive Editions 1990; Heard-Bey 2004 [1982]; Davidson 2009). Some of the Zaab (Al Zaabi) of Ras Al Khaimah, after a clash in the tribe, later migrated to Abu Dhabi and took up important posts.²⁷

Rulers of Abu Dhabi 1761-1928

The present ruling family of Abu Dhabi, the Al Nahyan, is part of the Al Bu Falah section of the Bani Yas, which is one of its smaller subdivisions. The Al Bu Falah traditionally provided the paramount sheikh of the Bani Yas, who became the ruler of Abu Dhabi (Mann 1964; Rabi 2006). According to Christopher Davidson (2009), the origin of the name Al Bu Falah goes back to the early eighteenth century, when the tribe was united under the rule of Falah, a well-respected elder who was in control of dozens of fertile oases at Liwa in the Dhafrah region. In the mid-eighteenth century, Falah was succeeded by his eldest son Nahyan, who became the first of the Al Bu Falah sheikhs of Bani Yas (ibid.). Nahyan's son Isa and consequently his grandson Dhiyab took over the dynasty. It was during Sheikh Dhiyab bin Isa's reign that Abu Dhabi town was

²⁴ Many returned after development in Abu Dhabi picked up in the 1970s. See Heard-Bey, Frauke (2004[1982]). *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing and Al Fahim, Mohammed (1995). *From Rags to Riches: The Story of Abu Dhabi*. London: London Center of Arab Studies.

²⁵ Frauke Heard-Bey provides a comprehensive account of the tribes that make up the Bani Yas confederation as well as those who supported it. See Heard-Bey, Frauke (2004[1982]). *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing.

²⁶ Al Bu Falasa are well known as the section which seceded in 1833 to Dubai. The tribal leader of that section became the ancestor of all subsequent rulers of Dubai.

²⁷ According to Frauke Heard-Bey, the Zaab migrated to Abu Dhabi in 1970. See Heard-Bey, Frauke (1997). "The Tribal Society of the UAE and its Traditional Economy" in Ghareeb, Edmund (ed.). *Perspectives on the United Arab Emirates*. London: Trident Press.

established, in 1761. What is well known and accepted by local traditions is that, for a period of over thirty years after this first appearance on the coast, the Bani Yas were split by internal rivalries into several factions and it was not until the leadership of Sheikh Dhiyab's son, Sheikh Shakhbut bin Dhiyab, that unified leadership was achieved. In 1793 Dhiyab was murdered by his second cousin, and so began the first of a long series of assassinations that plagued the rulers of Abu Dhabi until 1928 (Mann 1964; Al-Naboodah 2000).

Shakhbut bin Dhiyab ruled over Bani Yas and Abu Dhabi from 1793 until 1816 when he was deposed by his eldest son Muhammad, who in turn was forced to surrender leadership to his younger brother Tahnun in 1818. In 1833 Tahnun was murdered by his two brothers, Khalifa and Sultan, who then contested the control of Abu Dhabi with each other so that their tribe was once again torn by internal dissent. Khalifa was killed in 1845 and his nephew Said bin Tahnun came to power. Following Said's death, Khalifa's son, Zayed, came to power. Zayed ruled from 1855-1908, and came to be known as Zayed the Great because he proved to be the most powerful figure on the Trucial Coast as he largely expanded the Abu Dhabi territory (Archive Editions 1990). Zayed died a natural death in 1908, leaving seven sons. The oldest of these, Khalifa, refused the position of ruler, whereupon the second son Tahnun succeeded to the rule, which he held until his death in 1912, after which the third son, Hamdan, took over until his assassination and replacement by his brother Sultan in 1922. Sultan, in his turn, soon aroused the tribes' growing dissatisfaction and the hostility of his remaining brothers, one of whom, Saqr murdered him. Saqr only managed to rule for two years from 1926 to 1928, because soon after he had killed his brother, he began to have trouble with the Manasir, which was the result of his refusal to give the tribesmen as much as they had been accustomed to receive from the chiefs of Al Bu Falah. In the end, this situation led Saqr to plot the murder of his older brother Khalifa (who was related to the Manasir by marriage) and Khalifa's son Muhammad. When Khalifa's supporters among the Manasir learned of the plot, they killed Saqr (Maitra and Al-Hajji 2001; Heard-Bey 2004 [1982]; Rabi 2006).

Having gotten rid of Saqr, the Manasir tried to strengthen their position in Abu Dhabi by making Muhammad bin Khalifa the new ruler. Muhammad, however, declined the honor although he acted as temporary caretaker in the ruler's fort until his father appointed someone as the new ruler. Khalifa decided to restore Sultan's bloodline and the choice then fell on Shakhbut, Sultan's oldest son, a young man of twenty-two years of age. Upon the death of his father in 1925, Shakhbut and his brothers had fled to Saudi Arabia. At the time of Saqr's assassination in 1928, however, Shakhbut and his brother Hazza were living in exile in Sharjah, so Khalifa bin Zayed wrote to Shakhbut and Hazza to return to Abu Dhabi and handed the ruler's fort over to Shakhbut who became the new ruler in January 1928 (refer to Appendix B for Al Nahyan family tree). Almost immediately after Shakhbut bin Sultan was installed as ruler, his mother Shaikha Salamah bint Butti, gathered all her sons together and made them swear to uphold the new Sheikh, to refrain from conspiracy and never to resort to bloodshed. Because of this, Shakhbut attained a degree of internal security in Abu Dhabi his father and uncles had never known. In this, he was helped at the beginning by his uncle

Khalifa, whose sons and grandsons today enjoy much prestige and power in the UAE (Mann 1964; Zahlan 1998 [1989]; Maitra and Al-Hajji 2001; Davidson 2009). Sheikh Shakhbut's rule, which later coincided with the discovery of oil in Abu Dhabi, is discussed in greater detail in Chapter Four.

3.3 The Traditional Economy

Prior to the arrival of oil revenues, the economy of the emirate of Abu Dhabi was based on camel breeding and stockraising in the hinterland, as well as the cultivation of date palms and gardens. The population also participated in fishing and hunting in order to sustain itself. These activities, however, were inadequate to guarantee self-sufficiency; a source of cash to purchase additional supplies was required for the subsistence of most families (Heard-Bey 2004[1982]). The population therefore came to depend to a large extent on the pearling industry for their livelihood. Given the lack of natural resources other than pearls, this was the single most important factor that contributed to the growth of Abu Dhabi island in size, significance and population (Maitra and Al-Hajji 2001; Rabi 2006). Lorimer writes, "Pearl fishing is the premier industry of the Persian Gulf; ...Were the supply of pearls to fail, ... the ports of Trucial Oman, which have no other resources, would practically cease to exist" (Lorimer 1908). According to Lorimer, the ruler's income derived from pearling was estimated at USD 62,000 in 1909. This figure demonstrates Abu Dhabi's almost exclusive reliance on the pearling income in an area that had little else to offer.

Towards the end of the 19th century and for the first two decades of the 20th century, the demand for pearls by the traditional ruling and wealthy classes in India, as well as in Britain, other European cities and New York, caused a huge growth in the industry in the Gulf (Heard-Bey 2006; Rabi 2006). During the reign of Zayed the Great, Abu Dhabi had steadily increased its participation in pearling, and at one point it was reported to have been the home port for 410 boats, the largest number of boats along the Trucial Oman in the early twentieth century (Lorimer 1908).

The trade in pearls additionally led to the establishment of Indian merchants in the capital, where they traded alongside Persian residents who sold ordinary merchandise. The resident Hindu merchants were for some time also the chief importers of cloth, rice, coffee and sugar, which Abu Dhabi had begun to import with the proceeds of the pearl industry (Lorimer 1908; Mann 1964; Maitra and Al-Hajji 2001; Frauke Heard-Bey 2004 [1982]; Rabi 2006). Indeed, trade permitted the exchange of population between the countries on these trade routes: the Arabs of the Trucial Coast welcomed many immigrants who originally came from Iran, India, Yemen, Somalia and the African coast as far south as Zanzibar (Heard 2011).

The main source of income of the ruling family was derived from a variety of taxes:²⁸ pearling taxes (including dues of pearl boats and operatives); customs duties and other taxes collected in Abu Dhabi and Dalma Island;²⁹ agricultural taxes paid in kind by Bani Yas of the Liwa in Dhafrah; *zakat* or tribute on dates by the Dhawahir in Buraimi oasis; lucerne supplied by the same Dhawahir for 100 tribal horses maintained by the Sheikh in Buraimi oasis; payments by the Sultan of Oman for restraining the Bedouins of Buraimi oasis and preventing raids by them; as well as revenue from the control and licensing of fishing along the whole coast of Abu Dhabi (the ruler owned the fishing rights) (Mann 1964; Maitra and Al-Hajji 2001; Davidson 2009).

Alas, the pearl boom did not last very long, and without this revenue stream, Abu Dhabi's economy rapidly declined. The decline in the pearling industry began during Hamdan bin Zayed's tenure (1912-1922), coinciding with World War I, and continued unabated. When Shakhbut became ruler in 1928, he not only inherited a politically deteriorating situation, but an economic one as well: the Gulf pearling industry was severely affected by the worldwide depression of the late 1920s and early 1930s (the international market for luxuries was no more) as well as a looming World War II, and the introduction of the much cheaper Japanese cultured pearl effectively destroyed the entire industry (Mann 1964; Maitra and Al-Hajji 2001; Davidson 2009). For the next three decades Abu Dhabi was hit by an economic slump and went into political and social isolation. Even shipping and trading declined. Clarence Mann (1964) reports that, "during the first half of the twentieth century Abu Dhabi has become inferior in importance to both Sharjah and Dubai. British steamers have been calling at Dubai but none at Abu Dhabi." It was later mainly due to the British, and their increasing interest in the prospect of finding oil along the Coast, that its people survived.

3.4 Increasing British Interests

Great Britain, Trade Routes and Maritime Peace along the Trucial Coast

The first British presence in the Arab Gulf began when the East India Company fleet helped Shah Abbas of Persia to expel the Portuguese in 1622. A year later, the British established commercial posts in Iran and Iraq. From then on, their influence, trade and commercial activities grew in the region (Al Fahim 1998). The Portuguese were followed by the Dutch, who had a strong hold on trade throughout the Gulf for 150 years; by 1759 their influence too declined (Heard 2011). The Portuguese and Dutch, however, had little direct interest in the land of Abu Dhabi, as its coasts were off the trade routes of the Persian Gulf and the land itself was quite desolate. Instead, they

²⁸ This list is taken from rough estimates given by Lorimer (1908) on the items that made up the annual revenue of the Ruler of Abu Dhabi, which, according to Clarence Mann (1964), may be quoted as giving a fair representation of the state of affairs in the first years of the twentieth century. See Lorimer, J.C. (1908). *Gazetteer of the Persian Gulf, Oman and Central Arabia*. Calcutta. Vol. I Historical, Vol. II Geographical and Statistical. See also Mann, Major Clarence (1964). *Abu Dhabi: Birth of an Oil Sheikdom*. Beirut: Khayats.

²⁹ Dalma Island is 45 kilometers (approximately 28 miles) north of the western coast of Abu Dhabi. In the past, its fresh-water wells used to provide water for the seasonal pearling fleet, and until today it supports a small resident population.

focused on the Northern Emirates, which boasted fresh water and plentiful supplies of food (Mann 1964; Heard 2011).

At the turn of the 18th century, The British East India Company was rapidly emerging as the sea-power of the Arabian Gulf, as it established a monopoly over all overseas trade routes between Europe and India (Mann 1964; Heard-Bey 2004 [1982]). This period of growing British involvement in the area coincided with the emergence of Abu Dhabi as the premier pearling port of the Gulf Coast, as well as the emergence of the Bani Yas as a powerful political and military force in southeastern Arabia (Maitra and Al-Hajji 2001).

Political disturbances in the area eventually caused the British to interfere and exercise control over the coastal sheikhdoms, particularly to maintain peace at sea.³⁰ In 1820, following the British capture of Ras al Khaimah (now one of the seven United Arab Emirates), the chiefs of the coast were made to sign a General Treaty in which it was pledged that there “shall be a cessation of plunder and piracy by land and sea on the part of the Arabs, who are parties to this contract, for ever” (Archive Editions 1990). Abu Dhabi was represented by Sheikh Shakhbut bin Dhiyab, acting for his son Tahnun, then the ruler of the state. In due course, this led to the 1853 “Perpetual Maritime Truce” agreement, outlawing maritime warfare and raids (Heard-Bey 2004[1982]; Onley and Khalaf 2006; Heard 2011). These two agreements formed the basis of British relations with the coastal sheikhdoms (the former operating through the British Government of India) and served to identify the area as the Trucial Coast (and the seven emirates as the Trucial States).

The British entered into these treaties with the objective of safeguarding the route to India; however, as time passed, it became more convenient for the rulers – and advantageous to the British – that the British should handle many aspects of foreign affairs for the rulers. Later, to prevent other powers from entering the region and to ensure the maintenance of British exclusivity in the Gulf, an exclusive agreement was drawn up in 1892 whereby the rulers (Abu Dhabi being represented by Zayed the Great) pledged not to “enter into any agreement or correspondence with any Power other than the British Government;” not to “consent to the residence within my territory of the agent of any other Government;” and not to “cede, sell, mortgage or otherwise give for occupation any part of my territory, save to the British Government” (Archive Editions 1990). The treaties thus sealed the Gulf States off from the rest of the world, impeding their socio-political development (Zahlan 1998 [1989]).

It is worth noting that the British had no interest, reason or incentive to involve themselves with the rulers’ domestic affairs inland or to interfere in hinterland disputes “in a region it had no desire to colonize” (Davidson 2009). According to the ARAMCO reports of 1950-1955, the official view of the British Government is that the emirates of the Trucial Coast are independent states – they were not colonies, mandates or protectorates (Archive Editions 1990). Rather, they were described as being “in special

³⁰ See footnote 7.

treaty relations” with Great Britain and were thus regarded as “British protected states” (Zahlan 1998 [1989]). That is, the dealings of all the Trucial States with foreign powers other than Great Britain were carried on through the British Government as intermediary.³¹ Their involvement in internal affairs increased following the discovery of oil, however, and even more so around the time the British government announced its withdrawal from the region, as will be discussed in Chapter Four.

The British Government not only introduced peace and stability to the region, it also provided international recognition of “the most powerful ruling families, or factions within them, as the legitimate rulers over their people and domains” (Onley and Khalaf 2006). By allying with a powerful protector like the British Government, a ruler strengthened his position and assured the continuity of his influence, and it empowered him to dominate the independent rulers and tribal leaders of the interior (Zahlan 1998 [1989]). Without this protection and recognition, a ruler was vulnerable to a family coup d’état or a tribal secession (ibid.). The British authorities dealt with the ruler alone; protecting and recognizing him and his domain was used as a political strategy by the British (Onley and Khalaf 2006) and eventually this served to institutionalize the rulers’ position (Zahlan 1998 [1989]).

Political Agent and Political Resident

The British Government operated in the Gulf through the British Government of India. The structure of their organization and representation in the Gulf followed a system established by the East India Company several centuries earlier, whereby the senior British official in the Gulf was known as the British Political Resident. He was based in Bushire in Iran from 1763 until 1948. The Indian Independence Act of 1947 necessitated that all Persian Gulf matters be handled directly from London, and in the following year, the British moved their residency from Bushire to Bahrain. This reflected the re-orientation of British policy from developments in Iran to those on the Arabian Peninsula, a significant post-WWII change. As demonstrated in the subsequent section on oil concessions, this change in British administration in the area was closely related to the return of oil exploration along the Trucial Coast.

Beneath the Political Resident were Political Agents (also known as Residency Agents) and Political Officers. Political Agents were initially appointed in Basra (Iraq) and Bahrain, and were gradually also appointed in the Trucial States. The first Political Agent in the Trucial Coast was sent to Sharjah in 1829, and he reported to the Political Resident in Bushire. In 1939, a Political Officer was appointed there and he continued to report to the Political Resident even when the Political Resident was moved to

³¹ On this topic, an official British publication writes: “The bonds between Britain and the Persian Gulf States are close;...It was always the policy of the East India Company and the British Government of India to avoid involvement in their internal affairs, and today the United Kingdom has no jurisdiction over these, no power to impose regulations for their peace, order and good governance...The Shaikhdoms are not British Protectorates but independent States under British protection. However, since its responsibility for their external affairs has made it liable to answer for them internationally, the United Kingdom has increasingly sought, in recent years, to see that their internal affairs were conducted efficiently and to encourage their adoption of progressive social policies.” See Great Britain, Reference Division, Central Office of Information (1959). *The Arab States of the Persian Gulf and South-East Arabia*. London: Swindon, p.14, quoted in Mann, Major Clarence (1964). *Abu Dhabi: Birth of an Oil Sheikhdom*. Beirut: Khayats.

Bahrain.³² In 1953, this post was raised to Political Agent and in 1954 he was moved from Sharjah to Dubai (Heard-Bey 2004[1982]; Heard 2011). Until 1961, the Political Agent in Dubai was responsible for all the Trucial States, but was assisted from 1957 onwards by a Political Officer residing in Abu Dhabi (ibid.). Frauke Heard-Bey (2004 [1982]) writes, “the increase in oil company activities, the number of British subjects working in the State, and above all the revival of the Buraimi issue made this immediate presence necessary.” In 1961, the Abu Dhabi post was then upgraded to Political Agent, “because the discovery of oil in commercial quantities had been announced in 1960 and it was anticipated that there would be a surge in development and in commercial activities” (ibid.).

In Abu Dhabi town, the Political Agent administered the Orders in Council and decrees of the Political Resident in Bahrain as they applied to Abu Dhabi, handled the ruler’s foreign affairs, kept the ruler informed on Britain’s desires in internal and commercial matters, and provided the legal system for all non-Muslims and those Muslims from British Commonwealth countries (Mann 1964; Heard-Bey 2004 [1982]). Major Clarence Mann (1964) explains that all other legal cases were usually referred to Sheikh Shakhbut or his brother Zayed and they so decide if it should be turned over to the local *qadi* or judge for a decision. Where defense and security were concerned, the Political Agent could rely upon the Trucial Oman Scouts, who had three units stationed within Abu Dhabi and one on its eastern boundary. These forces, together with approximately sixty British subjects occupying the key slots in the economy and administration of the Sheikhdome, insured that the Political Agent was fully knowledgeable of all developments within Abu Dhabi (Mann 1964).

The presence of the Political Resident and Political Agents came to greatly influence urban development in Abu Dhabi, as will be discussed in Chapter Four.

Searching for Oil

With the passage of time, British political influence among all the emirates of the Trucial Coast increased steadily. The presence of British naval vessels, the maintenance of the maritime truce, and the authority exercised by the British Government in its efforts to suppress the slave trade and arms traffic contributed to this increase.³³ By 1922, this rise in political and military involvement was supplemented by a potential economic advantage: the British had become interested in the possible exploitation of oil (Maitra and Al-Hajji 2001; Heard-Bey 2004 [1982]). As international competition for oil concessions heightened, Britain – to secure its position – revisited the exclusive agreements of 1892, prohibiting communication with other foreign countries. The

³² The reason for moving the Political Resident from Bushire to Bahrain was that the establishment of landing facilities for the Royal Air Force and Imperial Airways planes in more than one of the sheikhdoms required closer local liaison than previously. See Heard-Bey, Frauke (2004[1982]). *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing.

³³ In the mid-19th century, while the pearling industry expanded, there was a huge demand on the Trucial Coast for slave divers as well as domestic slaves. The growth of proceeds obtained from the export of pearls also led to an increase in the volume of imports in to the Trucial States, particularly increasing trade in weapons and ammunition. In the early 20th century, the beginning of the oil industry in Saudi Arabia also gave rise to slave trading.

Trucial Rulers agreed, “if oil is expected to be found in our territory, not to grant any concession in this connection to any one except to the person appointed by the High British Government” (Archive Editions 1990).³⁴

In the Arab Gulf, it was in Bahrain that an American oil company, the Standard Oil Company of California (SoCal) first obtained a concession, in 1927. The British opposed this at first, but finally accepted it on the condition that the company holding the Bahrain concession would be a British company; so, a subsidiary of SoCal was formed as a British company, the Bahrain Petroleum Company (BAPCO) (Zahlan 1998 [1989]; Al Fahim 1995). In 1932, oil was struck in commercial quantities in Bahrain and, with the extraction and subsequent exportation of oil from there, interest in the region’s oil resources intensified.

Along the Trucial Coast, the first oil company to show an interest in obtaining a concession to search for oil was the Anglo Persian Oil Company (APOC) (Archive Editions 1990).³⁵ Again, the British opposed this but in 1935, a British Muslim representative of APOC was successful in obtaining two-year options for oil concessions in Abu Dhabi, as well as the other Trucial States. The agreements were subsequently taken over by the London-based Iraq Petroleum Company (IPC).³⁶ In 1936, in order to prevent other companies from entering the area, IPC formed a subsidiary called Petroleum Concessions Ltd. (PCL), which in turn set up Petroleum Development (Trucial Coast) Ltd. (PDTC) in Bahrain to handle oil operations in Abu Dhabi and the other Trucial sheikhdoms (Mann 1964; Al Fahim 1995; Maitra and Al-Hajji 2001; Heard-Bey 2004 [1982]; O’Sullivan 2008).

After obtaining options from most of the Trucial States, PDTC began to negotiate concessions with the rulers. The first oil concession was granted by Dubai in 1937. This was quickly followed by Sharjah, Ajman and Ras Al Khaimah who signed their concessions against the payment of annual rents. Sheikh Shakhbut of Abu Dhabi, however, demurred. He was very suspicious of the British and, knowing the terms of the Americans’ (SoCal) agreement with the Saudis as well as the Bahrain Petroleum Company (BAPCO) agreement with the Bahrainis, he held out a little longer for more favorable terms and conditions (Mann 1964; Al Fahim 1995; Hellyer 2001; Maitra and Al-Hajji 2001; Heard-Bey 2004 [1982]; Davidson 2009). Negotiations continued until Shakhbut became convinced that “there was little room for bargaining and that the prospect of non-British firms offering any competition for the concession was remote” (Mann 1964). Finally on 11 January 1939, Shakhbut signed a seventy-five year

³⁴ Frauke Heard-Bey explains that, “This move was made not because there was any evidence of oil deposits in the territories bordering the Gulf, but, after the traumatic experience which British companies had had in securing exploration rights in Turkish Arabia (later Iraq) where oil deposits were known to exist, it was deemed judicious to ensure that if there was any hope of finding oil in the territories belonging to the semi-independent Arab Rulers, Britain should have first option.” See Heard-Bey, Frauke (2004[1982]). *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing.

³⁵ The company is also referred to as the Anglo Iranian Oil Company (AIOC).

³⁶ IPC was initially set up to specifically develop the resources of Iraq. It was a consortium of British Petroleum, Shell, the companies that later became Total and ExxonMobil, and Partex. See O’Sullivan, Edward (2008). *The New Gulf: How Modern Arabia is Changing the World for Good*. Dubai: Motivate Publishing.

concession with PDTC, allowing it to operate in Abu Dhabi. Given the relatively large size of the sheikhdom, he was paid 300,000 rupees (equivalent to USD 4707 as per 1939 exchange rate, which is approximately USD 4720 in today's dollars) for signing the concession and then began to receive an annual income of 115,000 rupees (equivalent to USD 1569 as per 1939 exchange rate, which is approximately USD 1810 in today's dollars) related to the exploration and production phases (Al Fahim 1995; Davidson 2009).³⁷ Unfortunately, a few months later, the Second World War began, bringing all oil exploration in the Gulf to a halt.

For Abu Dhabi, the only reminder that the possibility of oil still existed was the annual "dead rent" payments which Shakhbut received from PDTC (Mann 1964; Maitra and Al-Hajji 2001). Shakhbut used the income from the annual payments to renovate and enlarge the existing palace – a move that could be interpreted as contributing to the beginning of his people's dissatisfaction with him (see Chapter Four). The war also heightened the depression and isolation of Abu Dhabi: Trade was at a full standstill, bringing the local people to the brink of starvation, alleviated only by the supply of food contributed by Britain (Facey and Grant 1996). After the war, the major oil companies resumed exploration and Kuwait and Qatar got priority over the Trucial Coast. It was only after they reached the producing stage that PDTC returned to Abu Dhabi, in 1949 (Mann 1964).

It must be noted that while the oil companies were first negotiating concessions, it became important to determine the boundaries within which they would operate. This proved to be exceedingly difficult because of disagreements among the tribal rulers over their territorial sovereignty (Heard 2011).³⁸ Oil was proving to be a complicating factor, but it also served to further increase British involvement in the interior: Where once the British Government avoided negotiating with representatives of tribes in the hinterland,³⁹ now it became necessary to define precisely the boundaries of a concession area and therefore the limits of a ruler's authority, all in the name of protecting British interests which now carried more commercial meaning and value (Heard-Bey 2004[1982]). For the first time, the British Government involved itself deliberately in affairs on land in the Trucial States. The impact of oil exploration and production on the development of urban form and government institutions in Abu Dhabi will be discussed in Chapter Four.

Moreover, the prospect of oil being located under the seabed of the Gulf was giving rise to all kinds of speculation. Following the lead of Saudi Arabia, which issued

³⁷ In the beginning to the middle of the 20th century, the Indian rupee was extensively used as currency in the countries of the Arab Gulf. At the time, the Indian rupee was pegged to the British pound at a rate of 13½ rupees = 1 pound.

³⁸ The most renowned dispute took place between Abu Dhabi and Dubai over concessionary boundaries, which led to incessant feuds and open warfare (warfare in this situation meaning beduin raids). The British authorities "more or less dictated the frontier between Abu Dhabi and Dubai, drawn on the strength of their own inquiries into tribal use of the area." See Heard-Bey, Frauke (2004[1982]). *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing. Another infamous dispute was over the entire length of the border between Abu Dhabi and the Kingdom of Saudi Arabia, the so-called Buraimi Dispute.

³⁹ They used to diplomatically support the actual, or claimed, authority of the Trucial Rulers over these tribes (Heard-Bey 2004 [1982]).

in May 1949 a proclamation and a decree setting forth its rights in the waters, seabed, and subsoil adjacent to its territories, Shakhbut made a declaration in June 1949 relating to his interests in the marine areas off the coasts of his domains. In 1950 he granted a new concession, this time to the Superior Oil Company (Superior), an American corporation, giving it oil rights in the offshore area (Archive Editions 1990). PDTC legally challenged Abu Dhabi's right to grant the concession to the seabed (claiming its concessions of 1939 included this offshore area) and development was postponed until the matter was settled by arbitration (Mann 1964). In 1953, Superior relinquished the offshore concession to Abu Dhabi Marine Areas Ltd. (ADMA), a new company two-thirds owned by British Petroleum and one-third by French Total (Facey and Grant 1996; Al Fahim 1995; O'Sullivan 2008; Davidson 2009; Heard 2011).

ADMA eventually struck oil in commercial quantities offshore in 1958. This was followed by IPC striking oil onshore in 1960. These discoveries ushered in a new era in the history of Abu Dhabi: the era of oil.

3.5 Concluding Remarks

Abu Dhabi began as a small fishing village that was only visited during the summer months by tribesmen. Following the discovery of water on the island, the ruling family, the Al Bu Falah of the Bani Yas tribe, moved the capital of their sheikhdom from the hinterland to the coast and established a small *arish* settlement with a mud tower to protect the water hole. Traditionally, the economy of Abu Dhabi was based on camel breeding and stockraising in the hinterland, as well as the cultivation of date palms and gardens, and fishing and hunting. These activities, however, were inadequate to guarantee self-sufficiency and the population therefore came to depend to a large extent on the pearling industry for their livelihood. Given the lack of natural resources other than pearls, this was the single most important factor that contributed to the growth of Abu Dhabi island in size, significance and population (Maitra and Al-Hajji 2001; Rabi 2006). The trade in pearls additionally led to the establishment of Indian merchants in the capital, where they traded alongside Persian residents who sold ordinary merchandise. This introduced the beginnings of a *souq* in the settlement.

Later, the worldwide depression of the late 1920s and early 1930s, as well as a looming World War II, and the introduction of the much cheaper Japanese cultured pearl effectively destroyed the entire industry (Mann 1964; Maitra and Al-Hajji 2001; Davidson 2009). For three decades Abu Dhabi was hit by an economic slump and went into political and social isolation. Abu Dhabians survived because of the British, who since the early 1800s controlled the foreign affairs of the Trucial States and had a monopoly over their trade routes between Europe and India. Operating in the Gulf through the British Government of India, the structure of the British government's representation in the Gulf followed a system established by the East India Company several centuries earlier. This system included the senior British official in the Gulf, known as the British Political Resident, and beneath him were Political Agents and Political Officers. The presence of British political representatives in Abu Dhabi since

1957 and the increasing British interest in the possible exploitation of oil meant that for the first time, the British government involved itself deliberately in affairs on land in the Trucial States.

As will be demonstrated in the next chapter, the discovery of oil -- and consequently the government revenues from oil production -- initiated the transformation of the small Bedouin village that Sheikh Shakhbut, ruler since 1928, vehemently opposed.

Chapter Four: Maintaining the Status Quo (1960-1966)

*"So old is that old tiger in the sand -
A hundred million years ago, or more -
Creeping to its lair beneath the land,
Compound of shells and debris on the shore.
Before the hills in order stood -
And long before Earth received its name -
Oil like an ever-moving flood
Beneath the Desert came.
It rolled (we hope)
It stopped (we think)
In Abu Dhabi bay.
In quantities to make you blink.
That's why we're here today."*

- Roderic Fenwick Owen (1957). Poem published in Hart (2012).

"On an April day in 1958, with the days already growing warmer, the men from the oil company took a gift to the Ruler.

In his majlis at Qasr Al Hosn they handed over several small bottles, tightly stoppered and filled with a viscous, dark-brown liquid.

This was the day that Sheikh Shakhbut learnt oil had been found in Abu Dhabi, and with its discovery came the realisation that the lives of his people would soon change forever."

- James Langton (2013)

When oil was discovered in Abu Dhabi, Sheikh Shakhbut did not receive this gift from the land well; he cringed at the prospect of the radical change that would soon come to his beloved Bedouin town. In 1960, when commercial quantities of oil were confirmed, Shakhbut appeared to have a very difficult time coming to terms with the realization that his emirate was on the verge of profound wealth. As this chapter will illustrate, Shakhbut proved stubborn in negotiations regarding the development of his state and became infamous for his skilled procrastination and willingness to use any means possible to stop progress. By 1964, he still showed little ability or willingness to adjust his thinking to the new circumstances of his state (FO 371/174697, 20 January 1964). J.E. Hugh Boustead, the political agent in Abu Dhabi, wrote:

[...] It is clearly no easy task for a Ruler, after a lifetime of poverty, to accustom himself to the idea that his income will henceforward be counted not in hundreds of pounds but

in millions, but Shaikh Shakhbut is finding the mental adjustment much more difficult than have any other Rulers of oil states and it is questionable whether he wishes to make the adjustment at all (ibid.).

Indeed, this sudden influx of oil wealth certainly must have seemed surreal to Shakhbut, who had ruled over a poverty-stricken Abu Dhabi for a very long time.

In order to understand his struggle with the emirate's rapidly changing fortunes, as well as his reasons for standing in the path of "progress," this chapter begins with a discussion of the experiences that Sheikh Shakhbut had before 1960 and how these influenced his decision-making and perspective post-oil discovery. This is followed by an introduction to the tribal system and its unique administrative functions, as well as an examination of the influence of the British government and the impact of oil on this system. An analysis of the political and administrative framework is important to understand the introduction of spatial planning and development in the oil age. Next, the chapter focuses on the different plans for Abu Dhabi envisioned by foreign consultants, all of whom were recruited by Shakhbut after being pressured by his family and the British political agency in the area to develop Abu Dhabi. Finally, the discussion moves into a spatial and morphological assessment of the small Bedouin town, describing the piecemeal changes that took place on the ground, despite being met with resistance by Shakhbut.

4.1 Shakhbut's Abu Dhabi: A Bedouin Town

By the time oil was discovered in Abu Dhabi in 1958, Sheikh Shakhbut had been its ruler for thirty years. His personal principles and his style of government had been shaped by the logic and rules of Abu Dhabi's pre-oil society – a society based on tribal relations and a Bedouin way of life. Shakhbut feared that "rapid oil-financed development would have far-reaching socio-cultural consequences for Abu Dhabi, predicting that the resulting changes would soon erode the traditional way of life" (Davidson 2009). This fear was enhanced by the experiences of some neighboring states that had acquired sudden oil wealth (Zahlan 1998[1989]); in those instances, Western lifestyles were quickly adopted and nationals became minorities in their own countries. The crux of the situation was neatly summed up by the Foreign Office in London:

[...] Sheikh Shakhbut, although an anachronism, has intelligible reasons for acting the way he does. More money would mean for him more worry and the passing of a way of life. Worry from his family who would demand larger shares; worry at the prospect that this medieval bywater [sic] should be turned into another Kuwait, with its inevitable lessening of tribal ties and vast influx of other Arabs, other foreigners and other Mores (FO 371/174702, 16 December 1964).

Similarly, an informant also noticed Shakhbut's reluctance to embrace the newfound oil wealth:

When [oil] came... in 1958, he [Shakhbut] was so used to being extremely careful, he found it difficult to spend, which was very logical. Also, he was afraid that all this spending would bring in foreign Arabs who will bring ideas he didn't like and he felt that the oilfield development would completely change the nature of his emirate and he wasn't very keen on that; he didn't think he would like what it would become. His country, his people, his emirate would change in a way so that it no longer resembled what it was past (Interview #1).

If progress meant Abu Dhabi would become predominantly non-Arab while its own inhabitants were forced to relinquish their traditional way of life, then Sheikh Shakhbut would not have it (Mann 1964). He remained convinced that development had to proceed slowly, with any changes introduced gradually over many decades.

Sheikh Shakhbut's ascent to power in 1928 followed twenty years of political instability in a violent area. All but one of his predecessors were assassinated, rendering Shakhbut inherently suspicious even as he managed to maintain internal security. The circumstances surrounding the process by which he assumed power led Shakhbut to keep all aspects of Abu Dhabi's internal affairs under his personal control. He feared that more money would mean a loss of this control, a point that was particularly highlighted in his refusal to sign a 50:50 agreement with Abu Dhabi Petroleum Company (ADPC) (previously PDTC; this new nomenclature was adopted in 1962). The agreement would have brought the state at least an extra £2.5 million (equivalent to USD 3803 million as per 1964 and today's exchange rate) in the first half of 1964, but other than Shakhbut's "sheer obstinacy," the political resident, William Luce, attributed the ruler's unwillingness to negotiate the deal to his fear that "...change might, and probably would, bring a challenge to the absolute autocracy by which he has ruled Abu Dhabi for so long" (FO 371/174701, 27 May 1964). When Luce asked the Ruler's brother, Sheikh Zayed, for his thoughts on the matter, he reportedly replied that

[...] the real reason for Shakhbut's obstinacy was his fear that if he had more money than he was already receiving it would merely increase the pressures on him to do more than he was at present and would make it increasingly difficult for him to keep things in Abu Dhabi as much as possible in his own hands, which was really his basic aim (FO 371/174701, 7 July 1964).

Shakhbut was unwilling to trust others or delegate authority.⁴⁰

Sheikh Shakhbut's style was also influenced by the economic recession of the 1920s and 1930s. After the decline of the pearling industry, Abu Dhabi suffered from extreme poverty, prompting Shakhbut to develop a conservative attitude towards money. Thus, even when oil wealth promised to catapult Abu Dhabi out of its misery, Shakhbut remained cautious, tightfisted, and reluctant to spend more money than was

⁴⁰ In 1965, Shakhbut finally signed the 50:50 agreements under duress from his family and the British officials. His income from oil revenues rose from £2.25 million (equivalent to USD 6.3m as per 1963 exchange rate, and USD 3.5m as per today's exchange rate) in 1963 to £10.75 million (equivalent to about USD 30m as per 1965 exchange rate, and USD 16.7m as per today's rate) in 1965. See February 1966, FO 1016/737.

absolutely essential. In the words of an informant, “Was Shakhbut stingy? In a way, yes, but you have to understand why” (Interview #7). The experience of poverty and economic crisis led Shakhbut to believe that oil income should be saved for future emergencies. He favored thriftiness on the grounds that he would be more capable of offsetting any external threat or any future economic decline (Al Fahim 1995; Rabi 2006; Davidson 2009). The Ruler was also mistrustful of the British; he feared being left vulnerable if he spent the proceeds (Al Fahim 1995), and was known to stockpile funds, keeping them under his bed (Joyce 1999).

Shakhbut’s stubbornness and iron-fisted control over everything that went on in Abu Dhabi – as well as his determination to prohibit drastic economic and social change in Abu Dhabi – won him considerable international criticism. The British, Lebanese, and other Western and Arab press printed the most uncharitable comments about him as internal dissatisfaction with his leadership abounded (Maitra and Al-Hajji 2001). An interviewee notes,

In the last few years of him being ruler, big families from here were moving to Qatar because there was work...Shakhbut wasn’t spending money, so people moved somewhere else. That’s why the family of Sheikh Zayed, but also Sheikh Mohammed bin Khalifa,.. said that they had to change; there were people leaving (Interview #1).

Shakhbut’s ideas and policies seemed inexplicable to the ruling family, the people of Abu Dhabi, and British officials; however, he could not be persuaded that his people would be any happier with the wealth derived from oil, and he continued to resist change (Mann 1964). Although Shakhbut knew he had the means to alter the face of the sheikhdom, he did not believe it was the right thing to do. If he was told that his people were entitled to the basic amenities of life, he argued that these were not necessary since they had managed without such facilities for two centuries. Government services and social amenities – which were basic necessities in the Western world – were seen as unnecessary luxuries in Abu Dhabi (ibid). A common phrase Shakhbut used to describe the differences between Western ideals and his own was, “You are in one *wadi* (valley) and I am in another” (Sheikh Shakhbut, quoted in Heard [2011]).

The political agent in Abu Dhabi, J.E. Hugh Boustead, remarked that Shakhbut “...was affected by noble but untimely nostalgia for the traditional Arab way of life” (Hawley 1970). He took pride in independence and in tribal life, and had a disdain for artificial and Western trappings. Accordingly, one may come to the conclusion that Shakhbut believed increased oil wealth would bring more woes than benefits to Abu Dhabi, and that preserving the status quo was the only way to save his Bedouin emirate. This mentality shaped his ideas for Abu Dhabi’s governance.



Figure 4.1 Sheikh Shakbut bin Zayed

4.2 The Foundations of Modern Governance

For many centuries, the administration of the Trucial Coast was based on a tribal system – the system by which Shakhbut had governed Abu Dhabi since he assumed power in 1928. To fully understand Shakhbut’s values and his decisions that shaped Abu Dhabi in the early 1960s, it is necessary first to grasp the workings of the tribal system and then analyze the factors and/or players that pressured Shakhbut to develop an administrative machinery resembling a modern government.

The Tribal System

Prior to the discovery of oil, the political system in Abu Dhabi was, by Western criteria, essentially rudimentary but not without its own logic (Rabi 2006). According to Frauke Heard-Bey (2004 [1982]), “the sheikhdom of Abu Dhabi provides a number of examples of how remote areas were administered in the tribal society of the Trucial Coast.” The sheikhdom is the political domain of the ruling sheikh and his family; it can be understood in terms of what recent theories of tribe-state relations call a “chiefdom,” which is similar to what Ernest Gellner calls “tribal proto-states” (Gellner 1995, quoted in Khalaf and Onley 2006). Uzi Rabi (2006) defines the chiefdom as “an intermediate political structure between tribe and state, incorporating features of both.” One of its features is a lack of a central institutional authority. Another key characteristic is the absence of defined boundaries; that is, “the political unit was not a territorial concept, but was people-centered” (Bannerman 1986). This point in fact underlines the

significance of political loyalties that upheld sheikhly authority in the Gulf, and represents a fundamental incongruence with Western concepts of the nation-state and territorial sovereignty.

Tribalism in the sheikhdom meant the entire population was organized along tribal lines and observed tribal values and customs, making the lasting cohesion of the sheikhdom under one ruler heavily dependent on his good management of tribal relationships (Heard-Bey 2004 [1982]; Rabi 2006). The ruler was expected to exercise control over and achieve a power-sharing balance among Bedouins, semi-nomadic tribes, and urban dwellers. The ruler had to earn allegiance and, in order to gain legitimacy, he was held to a series of commonly recognized obligations. Khalaf and Onley (2006) list four of these expectations: (1) the ruler had to be wise, courageous and have good luck; (2) the ruler had to be a “father to the people,” providing protection, justice and assistance; (3) the ruler had to keep an open house: as a “father” of his people, he must be accessible and (4) generous. These obligations left the ruler’s performance open to criticism and allegiances were therefore extremely fluid. The selection and support of a tribal leader was ultimately the prerogative of the community as represented by its most prominent members.

William A. Rugh (2000) emphasizes that this sense of allegiance and belonging to a group was defined “strictly by male kinship connection. UAE citizens are aware at all times of where individuals fit into the kinship structure of society [and that] awareness pervades political, economic and social decisions.” The most immediate connection was the one between the sheikh or ruler and his family: the sheikh could not accede to the rulership of his sheikhdom without the support of his family members, and in order to hold onto his position, the family was required to approve of his rulership. Poor performance was grounds for a ruler’s replacement with another member of the family, whether vertically by sons or nephews, or horizontally by brothers or cousins. According to Khalaf and Onley (2006), “from the point of view of the people, the replacement of a ruling sheikh was not a difficult matter as their loyalty was to the ruling family rather than to an individual ruler.” To solidify allegiances and to avoid threats from within their families, the ruling sheikhs provided them with a regular income allowance. In 1939, a negotiator for Petroleum Concession Limited noted that of the Rs. 3,000,000 (equivalent to USD 4707 as per 1939 exchange rate, which is approximately USD 4720 in today’s dollars) paid to Shakhbut for concession payment at Abu Dhabi, Rs. 5,000 (equivalent to USD 78.51 as per 1939 exchange rate, which is approximately USD 78.54 in today’s dollars) went to his uncle Khalifa bin Zayed; Rs. 3,000 (equivalent to USD 47.11 as per 1939 exchange rate, which is approximately USD 47.12 in today’s dollars) to his cousin Mohamed bin Khalifa; and Rs. 2,000 (equivalent to USD 31.40 as per 1939 exchange rate, which is approximately USD 31.41 in today’s dollars) each to his brothers Khalid and Zayed (Heard 2011). The ruler also consulted family members before taking major decisions. Apart from the advice of those mentioned, Shakhbut was also influenced by his mother Sheikha Salama, and when they were older, his sons Saeed and Sultan as well.



Figure 4.2 From left to right: Sheikhs Khalid, Shakhbut and Zayed



Figure 4.3 Sheikh Shakhbut among elders such as Sheikh Muhammad bin Khalifa

In addition to family support, a ruler must maintain good relations with his tribe and, in some cases, with heads of other tribes who offered their personal loyalties to him. Maintaining this support generally involved the ruler's payment of subsidies to these tribes through the continuous distribution of cash and gifts of rice, coffee, sugar, camels, and weapons (al-Rasheed 1991). Some tribal groups were exempted from paying regular taxes. Additionally, the ruler employed armed retainers or tribal guards, who were rewarded for their loyalty and military support. This was important to a ruler's military strength and therefore his control over territory and economic resources, as well as to his status in regional politics. Thus, payments to secure loyalty accounted for the majority of a ruler's expenses. The reverse was also a manifestation of the ruler's authority: tribes were expected to pay a tribute to their rulers as a symbol of political

submission (Onley and Khalaf 2006). In the case of Abu Dhabi, Shakhbut regularly paid subsidies to the Manasir, the Dhawahir and the 'Awamir, some of the major tribes in Abu Dhabi, which had been allied with the Bani Yas since the early nineteenth century (Rabi 2006); these payments played an important role in maintaining Shakhbut's authority. Furthermore, the flexibility and mobility of the tribal unit – defining features of Bedouin tribal social and economic life – meant that dissatisfaction with a ruler could easily lead to a tribal secession, affecting the overall military and economic wellbeing of a ruler's domain. Thus, tribal groups (based on either kin ties or on political and economic alliances) constituted an integral part of the state – and determined its survival.

Administration of the Tribal Society

No centralized bureaucracy existed in either the tribal infrastructure of Abu Dhabi society or elsewhere in the Gulf. Shakhbut controlled all of Abu Dhabi's internal affairs, including financial matters (Rabi 2006). Civil servants played a significant role in the administration of the sheikhdom: Shakhbut had a secretary working for him at the palace; he also had representatives or governors (*wali*); a *qadi*, or judge; a tax collector; and a customs official. The governors were appointed for the main population centers and given responsibility for governing each of the surrounding towns, districts, and dependencies (conquered territories) over which the ruler claimed authority (Heard-Bey 2004 [1982]). In the case of Abu Dhabi, governors were appointed in Liwa, Buraimi, and Dalma Island (where most of the pearling activity occurred).⁴¹ The ruler himself governed Abu Dhabi Island, where his fort and palace were located. To ensure the governor's personal loyalty, the ruler often appointed members of the extended ruling family such as his sons or brothers, or sheikhs of leading tribes. In Abu Dhabi during the 1960s, the ruler's brother, Sheikh Zayed bin Sultan, was the *wali* of the Buraimi oasis, and Rashid bin Jabir Al Hamili was governor of Liwa from 1955 to 1964, succeeded by Saif bin Musa Al Hamili (*ibid.*).

A *qadi*, or religious judge, who was well versed in both the customary law of the tribal communities and Islamic law, carried out legislative and jurisdictional administration. His responsibility not only covered religious affairs, but also criminal and civil matters (Rabi 2006). A ruler often listened to parties' complaints, after which he either sent for the *qadi* to deal with the case or sent the parties away to consult with the *qadi* (Heard-Bey 2004 [1982]). These proceedings took place in the *majlis* (tribal council), a small, informal council held according to the Islamic principle of *shura* (consultation). According to Rosemarie Said Zahlan (1998 [1989]), although the ruler had absolute power, most decisions of importance were referred to the *majlis*, which usually contained one or two members of the ruling family, along with social and religious notables. Community members attended the *majlis* to engage with each other and discuss local issues. This system of shared responsibility "had its own kind of

40 The wali of Dalma Island was also known as an amir. He usually lived on the island only during the summer months, to collect pearl taxes and to settle disputes. When the pearling industry declined, the administration of the island was eventually absorbed into the government institutions in Abu Dhabi town in the 1970s. See Heard-Bey, Frauke (2004[1982]). *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing.

democracy, namely, a social democracy side by side with traditional authoritarianism in government (largely this is the converse of British democracy)" (Bertram Thomas, quoted in Zahlan 1998 [1989]).

Taxation and the collection of customs duties comprised essential components of the administrative system in a tribal society. These were imposed on merchants – both pearling merchants and others who imported and exported goods – and on agriculture and domestic animals (often referred to as *zakah* or tribute). In Abu Dhabi, for instance, the *wali* had an assistant tax collector and throughout the year the ruler had a customs official who collected dues on his behalf. The relationship between the ruler and the merchants should be underscored: A substantial portion of the ruler's revenues came from the merchants through customs duties, pearl boat taxes, rents and other revenues (see Lorimer 1908). The ruler also depended upon occasional loans and financial gifts from the wealthiest merchants, particularly during periods of financial difficulty. Beyond this, pearl merchants also had economic control over large portions of the local population through employment and indebtedness. As a result, the wealthiest merchants enjoyed considerable political influence with the rulers (Ansari and Qutub 1983; Rabi 2006). In a way, the merchants were society's elite. In Shakhbut's Abu Dhabi, two prominent businessmen the ruler trusted and often consulted were Khalifa bin Yousef⁴² and Ahmed bin Khalaf Al Otaiba.⁴³

Tribalism in Transition: The Impact of Oil

The establishment of oil companies, the discovery of oil and the prospect of development in Abu Dhabi in the middle decades of the twentieth century brought four significant changes to this tribal administration. First, Sheikh Shakhbut relied less on the advice of family members. According to the political resident, prior to the influence of oil

[...] it had been his invariable custom to consult with his two brothers on every subject concerning the administration or the expenditure of money; that since the funds started rolling in, Shakhbut stopped completely consulting with them and that they will not countenance this and will insist that all decisions shall be made by them as a group and not by him alone. (FO 371/163025, 7 July 1962)

This change in his behavior is attributed to his determination to maintain absolute control of all matters. Also, as will be explained later, in 1962 the Political Agency was urging Shakhbut to allocate 20 percent of the oil revenues to the ruling family and 80 percent to the emirate and its reserves. He vehemently refused, saying "this is my money and I do not see why I should be told what I am going to do with it" (ibid.).

⁴² Khalifa Bin Yousef played a prominent role in the politics of Abu Dhabi and held multiple positions simultaneously. He was the Political Adviser to the Sheikh Shakhbut and also managed the Ruler's Office and was the Ruler's secretary-cum-general aide. See "The Legend Khalifa Bin Yousef - Official Website." <<http://www.khalifabinyousef.ae/en/>> (Accessed September 9, 2014)

⁴³ Ahmad bin Khalaf Al Otaiba's grandson, Mana Said Al Otaiba was later to become the first Minister of Petroleum for Abu Dhabi and the UAE.

When Shakhbut finally accepted the terms, the political resident wrote to the Foreign Office in London, saying that the Ruler claimed the 20 percent for himself, not for the entire ruling family. The resident expressed doubt Shakhbut would even pay the remaining 80 percent into a government account (FO 371/163026, 17 November 1962). In May 1966, the political agent reported on a family argument between Sheikh Shakhbut and his brothers, as well as his cousin Mohammed bin Khalifa, with regards to their allowances. They all wanted the ruler to clarify the amount of money he allocated to the family as a whole and the amounts of individual allowances, presumably because they were not seeing the increases they expected (FO 371/185578, 21 May 1966). It is not clear why Shakhbut was alienating his family over allowances, but the political agent, J. Hugh Boustead, offers one explanation, claiming that "Shakhbut sees advantage to himself in ensuring the family is dependent on him by keeping them short of cash" (FO 371/168918, 25 November 1963). It is also possible that Shakhbut was very suspicious of the British and felt that his brothers were too influenced by their ideas; hence, he attempted to limit their sway. As will be described later, Shakhbut would come to regret this decision and its ramifications.

The relationship among the oil companies, the ruler, and his people brought about a total transformation of the sheikhdom's administration: Shakhbut kept abreast of every development regarding the recruitment of labor, the payment of wages, and the conditions of employment, but he also appointed his nephew, Sheikh Hamdan bin Mohammed, as his representative at Ras Sadr (where PDTC was drilling) and later also at Das Island (where ADMA was drilling). Since the 1950s the activities of the oil companies required the concentration of a workforce of local inhabitants, and men from all areas of Abu Dhabi found employment with PDTC as well as ADMA. The ruler was also required to provide guards for all the company camps established in his territory. In Ras Sadr, the head guard was Thani bin Murshid, who was the elder of the Rumaithat section of the Bani Yas; he became the contact between the company and the guards and, eventually, between the entire local labor force and the ruler (Heard-Bey 2004 [1982]). After the 1960 announcement of the discovery of commercial quantities of oil, PDTC's activities increased dramatically. The following year, Shakhbut appointed a labor representative at the site (this time in Tarif, where the company had moved). Ahmad bin Hasan Al Suwaidi (of the Sudan tribe) occupied this position in 1963, and by this time Thani bin Murshid had entered into a partnership with a foreign company, African and Eastern, to provide various maintenance services in Tarif (ibid.). In 1964, Ahmad bin Hasan's authority was increased to *amir* of Tarif and the appointment of the ruler's representative was conferred on the ruler's nephew, Muhammad bin Khalid. Meanwhile, the ruler's son, Sultan, was appointed head of the police detachment at Tarif.

The third change to accompany the oil companies' arrival was the opening of the region to the outside world (Zahlan 1986; Zahlan 1998[1989]). Until the early 1960s, the British authorities had granted very few entry visas in Abu Dhabi, but foreigners' access could no longer be tightly restricted once the oil companies arrived. Geologists, refinery workers, managers, and foreign businessmen looking to establish themselves in Abu Dhabi began to arrive in increasing numbers. Shakhbut was extremely cautious about

allowing any persons other than Abu Dhabi subjects to establish businesses in Abu Dhabi and insisted on taking 20 percent of the profits of firms established there (FO 371/157022, 1961). He restricted severely the number of merchants permitted entry into Abu Dhabi, including those from neighboring Trucial States, even if these merchants agreed to establish partnerships with Abu Dhabians (Joyce 1999). Moreover, a lingering uncertainty about the scale and application of taxes in Abu Dhabi made it difficult for local merchants to expand and for foreign businessmen to establish companies (FO 371/157023, Trucial States Economic Report 1961). This difficulty owed to Shakhbut's worries "about Abu Dhabi businessmen being swamped by foreigners" (FO 371/157034, 18 April- 5 June 1961).

The oil companies' payments marked the fourth impact of their arrival in Abu Dhabi. The oil agreements they reached provided Sheikh Shakhbut with regular payments, allowing the ruler for the first time to be financially independent of his people. This ultimately broke the state of economic interdependence between him and the community (Zahlan 1986; Zahlan 1998[1989]).

In addition to these four changes, the presence of the British government also affected government and administration in Abu Dhabi.

1 *The Influence of the British Government on the Tribal Administrative System*

As outlined in Chapter Three, the role of the British government in the Trucial States was initially based on maritime treaties established in the early nineteenth century. These treaties placed the Trucial States under British maritime protection. On the surface, this constitutional relationship meant that the British government's influence in the Gulf was limited to its external affairs; however, as Helene von Bismarck (2013) argues, "the relationship between Britain and a dependent territory cannot be properly understood if the analysis concentrates exclusively on the constitutional connection between them. The legal relationship explains neither the degree of control exercised by the metropolis on the dependent territory, nor the motivation, dynamics and methods of British imperialism in that particular country." In the 1950s, the commencement of large-scale oil exploration channeled relatively large amounts of foreign investment into the Trucial States for the first time. In Abu Dhabi, the two main oil companies, PDTC and ADMA, were British-based (although some of the shares were held by foreign companies), and this placed British authorities under some obligation to safeguard the investments (Heard-Bey 2004[1982]). The companies' financial commitments in the area went hand in hand with an increasingly intensive personal involvement; in the previous decades, the political resident alone dealt with the rulers on the Gulf Coast, and as required, with their relatives and the leading merchants, making rather infrequent visits to the more remote sheikhdoms. Now, the Arabic-speaking representatives of the oil companies were seen in some of the rulers' *majlis* almost every day, regulating a multitude of details concerning the day-to-day requirements of the company (ibid.). A closer look at the increasing British interests in

the area will help to shed light on how the British government strategically managed to impose its ideas on ways to handle the emirate's internal affairs.

Perhaps one of the first moves that the British made in protecting its political, strategic and economic interests in the Persian Gulf were the exclusive agreements that they added to the Treaty of Perpetual Maritime Truce. These formed the legal basis for the British position in the Gulf, stipulating that Trucial States rulers would not enter into agreements with any foreign government except the British; that they would not allow any representative of a foreign power to reside inside their territory without British consent, and that they would never "cede, sell, mortgage or give for occupation" any part of their territories, except to the British government (Archive Editions 1990). Thus, the Treaty of Perpetual Maritime Truce and the Exclusive Agreements restricted the sovereignty of the Gulf States with regard only to their external relations, whereas officially the rights of the local rulers to conduct their own internal affairs remained unaffected. However, as the number of British subjects residing in the Gulf increased, and as the search for oil resources in the area intensified, the British developed two major exceptions to their rule of non-interference in the internal government of the Gulf States: (1) the privilege of exercising extra-territorial jurisdiction in the Persian Gulf States, whereas the British government managed to acquire the right to safeguard the lives and property of a clearly defined group of legal subjects (e.g., British subjects – usually Indian merchants and other non-Muslim foreigners residing in these countries, and British-protected persons); and (2) the agreements limiting the rights of the local rulers to grant oil concessions to foreign companies without Britain's consent (Bismarck 2013). These exceptions therefore significantly diminished the rulers' sovereignty with regard to their internal affairs.

The discovery of oil only served to further diminish this sovereignty. After 1961, Britain's relations with the Persian Gulf States became more complex; Helene von Bismarck (2013) argues that Britain's Persian Gulf policies between 1961 and 1968 resulted from a conception of an "informal empire" that was based on far more than constitutional foundations. In Abu Dhabi, this is evident in the increase in the responsibilities of the British officials in the area: Until 1961, the political agent was responsible for all the Trucial States, and was assisted from 1957 onwards by a political officer residing in Abu Dhabi. In 1961, the Abu Dhabi post was upgraded to a full political agency "...because the discovery of oil in commercial quantities had been announced in 1960 and it was anticipated that there would be a surge in development and commercial activities" (Heard-Bey 2004[1982]). The political agent reported to the political resident in Bahrain, who was the coordinating point between the British officials in the Persian Gulf and the Foreign Office in London.⁴⁴ To avoid outside criticism that the British government was "running an under cover old-fashioned colonial empire with the object of making a large profit out of the oil" (FO 371/174491, 27 December 1963), the political agent was encouraged not to force the views of the British government upon Sheikh Shakhbut but to use his personal influence to persuade

⁴⁴ Helene von Bismarck provides an insightful analysis of the influential roles played by the Political Agent, the Political Resident and the Foreign Office in safeguarding Britain's interests in the Trucial States. See Bismarck, Helene von (2013). *British Policy in the Persian Gulf, 1961-1968: Conceptions of Informal Empire*. Britain and the World. Basingstoke ; New York: Palgrave Macmillan.

him and make him receptive to British advice. Thus, the increasing presence of, and “informal” role played by, the British officials indicated an increasing interference in the internal affairs of Abu Dhabi, and it greatly affected decision-making processes, as detailed below.

Political, strategic, and economic considerations drove the increasing British involvement in the Gulf in the middle part of the twentieth century. On an economic level, it is obvious that the continued flow of oil to Britain and other industrialized countries in the West was a priority; Britain was also motivated to receive oil income by maintaining Abu Dhabi’s oil production and export levels (Rabi 2006; Bismarck 2013). The British government wished to preserve the existing arrangements between the local rulers and the big Western oil companies, most importantly British Petroleum (BP) (Heard-Bey 2004[1982]; Bismarck 2013). Helene von Bismarck adds another reason: Britain’s currency stability depended on the investment of the region’s oil revenues in the Sterling Area (Bismarck 2013).

Several political forces also shaped British policy in the Persian Gulf in the early 1960s. Around the time that oil was discovered, Britain’s long-term military program in the Middle East and East Africa was under review. There were discussions in Parliament surrounding an impending British decision to withdraw from the Gulf and end the protectorates covering Abu Dhabi and the other Trucial States; however, Britain was concerned about regional stability and security if its departure created a power vacuum. If Britain withdrew from the Gulf, the area could face internal and external pressures, the most immediate being the territorial ambitions of Saudi Arabia, Iran, and Iraq. Moreover, these pressures could present the Soviet Union with an opportunity to extend its influence to the Arabian Peninsula and spread its Communist ideals, seriously endangering Western access to the region’s oil (Bismarck 2013). Another threat came from the Arab nationalist ideologies of the United Arab Republic as well as Iraq. Though they were in no means partners or allies with Abu Dhabi, nationalists aimed to weaken local regimes and undermine the British position in the Persian Gulf, ultimately with the purpose of extending their own regional influence (ibid.). In order to guarantee that after its departure Abu Dhabi and the Trucial States “would not fall under radical influences and be swept by revolutionary winds” (Rabi 2006), the British government increased its military presence in the Gulf.⁴⁵

In 1965, the prospect of Britain’s withdrawal seemed more likely, an outcome driven in part by financial, logistical, and political considerations. To prepare for its withdrawal, and to further contain the territorial ambitions of regional neighbors, as well as the spread of Arab nationalism and Communism in the area, Britain encouraged the rulers of the Trucial States to cooperate and federate. They stressed solidarity among the states of the Arabian Peninsula as the best way forward, and that achieving unity

⁴⁵ Until 1961, Britain’s military presence in the Persian Gulf itself consisted of a small naval station in Bahrain and RAF bases and staging posts in Sharjah, Bahrain and Oman. The British deployment to the Persian Gulf was increased after the Kuwait crisis of 1961, when a British army base was created in Bahrain. Additionally, the Trucial Oman Scouts, a British-controlled security force formed in 1951 to preserve law and order in the Trucial States and to protect their borders, reached brigade strength during the 1960s. See Bismarck, Helene von (2013). *British Policy in the Persian Gulf, 1961-1968: Conceptions of Informal Empire*. Britain and the World. Basingstoke ; New York: Palgrave Macmillan.

was essential to the future development and welfare of the Trucial States. To this end, British agents used their influence on the rulers to build up economic cooperation between the Trucial States, whereby oil-rich states were encouraged to give financial support to the poorer ones. This arrangement was designed to cut off potential aid from the Arab League,⁴⁶ which sought to open a development office in the Trucial States (Abdullah 1978; Joyce 1999; Bismarck 2013). The British envisioned creating a centralized administrative institution as well as a central bank account through which all development aid would be channeled; they would be named, respectively, the Trucial States Development Office (TSDO) and the Trucial States Development Fund (TSDF).⁴⁷ It was believed, however, that this strategy could be effective only if the TSDO and the TSDF “appeared to be invented and controlled by the rulers of the Trucial States instead of the British Government” (Bismarck 2013).

Sheikh Shakhbut posed a special problem for British officials; he was determined to dissociate Abu Dhabi from the other Trucial States. He refused the chairmanship of the Trucial States Council, failed to attend its meetings, and when he did attend, “he made it impossible to get many progressive ideas debated as he continually says that things are alright as they are now” (Davidson 2009). The British pressured Sheikh Shakhbut to contribute part of his oil wealth to finance development in the surrounding sheikhdoms, but he remained resolute, claiming that he owed them nothing (Al Fahim 1995). Eventually, he agreed to supply four percent of the fund’s budget – an amount that, ironically, exceeded his spending on Abu Dhabi’s development (Davidson 2009).

In the midst of all this, criticism from Arab nationalists was challenging Britain’s public image of affairs in the protected states. Britain was accused of maintaining an imperial presence in the Gulf and of impeding social change by supporting the system of sheikhly rule as a method of government (Bismarck 2013). According to Helene von Bismarck (2013), the Foreign Office in London became increasingly concerned that this criticism would lead to United Nations (UN) intervention. Specifically, they were concerned that the UN Committee of 24 – whose task was to monitor worldwide progress of de-colonization – would turn its attention to the protected states. Thus, in order to portray a more positive image of the situation in the Gulf States, the Foreign Office agreed on a two-part strategy: the first, as previously indicated, was to use the powers of persuasion to influence the tribal rulers’ decisions with regards to their internal affairs; the second part was to encourage administrative reform and physical development within the Trucial States.

⁴⁶ The Arab League is a regional organization of Arab states that focuses on developing the economy, resolving disputes and coordinating political aims.

⁴⁷ Note that Britain had been providing development aid to the Trucial States since 1956. For the period 1956-1966, British aid to the Trucial States did not amount to very much and little was achieved in terms of development. The northern emirates did not consider the limited British aid sufficient, and when the Arab League offered assistance on a bigger scale in 1965, Sharjah and her neighbors responded with enthusiasm. Feeling threatened about their position in the Gulf, the British prevented the involvement of the Arab league in affairs of the Coast and counteracted by establishing the Trucial States Development Office and increasing their subsidy. See Abdullah, Muhammad Morsy (1978). *The United Arab Emirates: A Modern History*. London, Croom Helm Ltd.

In Abu Dhabi, throughout 1960 and over the next five or six years, the British pressed Shakhbut to initiate some much-needed development in the city (discussed in section 4.3) and to carry out administrative reforms. In a report prepared by J.P. Tripp (Political Agent in Dubai, 1955-1958) on 15 August 1961, he predicted that Abu Dhabi was likely to become second in importance in the Gulf only to Kuwait, which made it vitally important for Abu Dhabi to develop an administration and for the Ruler to hire an adviser. "[W]ithout them," he claimed, "the state will very soon fall into chaos" (FO 371/157026, 15 August 1961). The British Government tried to convince Shakhbut that he urgently needed to appoint a secretary or adviser who would organize administration and prepare an annual budget. Later that year, Shakhbut was urgently recommended to appoint expert advisers in three fields: (1) a legal/oil expert to guide him on his relations with foreign companies, including oil companies; (2) a financial expert who would help him plan the best use of his finances and; (3) a firm of engineering experts to advise him on development projects (FO 371/157613, 20 June 1961). He was also advised to recruit a Director of Customs.

Shakhbut was reluctant to delegate any of his financial or administrative powers, and although he understood the need for such action, he stalled a great deal. In January 1962, Shakhbut finally agreed to hire a head accountant from Aden, Yemen, and a customs director from Mukalla, Yemen (FO 371/163025, 28 January 1962). This decision was quickly reversed, a situation that continued to express itself and therefore to frustrate the British government over the course of the next few years, due to Shakhbut's increasingly unpredictable nature. Shakhbut exhibited mistrust in the British Government, and frequently expressed that he thought they were purely interested in satisfying the oil companies for their own benefit (FO 371/163075, 15 April 1962).

The political agent in Abu Dhabi, JEH Boustead, recommended a Briton, William (Bill) T. Clark, to be installed as Shakhbut's secretary. Boustead also had an Iraqi, Nadim Pachachi, in mind as the ruler's potential oil adviser (FO 371/163025, 5 June 1962). It is not clear whether Nadim Pachachi was ever hired, but Shakhbut consistently blocked any efforts to install Clark (or any secretary for that matter).⁴⁸ In a letter to the political resident in Bahrain, Boustead wrote:

Shakhbut said he had not changed his mind in regard to any government staff at all and that he had no wish to have Mr. Clark as Secretary or any other government staff and did not require HMG's [Her Majesty's Government] assistance on the matter. He then went on to say "we are *bedu*, and have been *bedu* for many years, and will continue to be *bedu*, and are quite happy as such". He said that all he had got [*sic*] from HMG in the way of assistance was that they had taken his lands from him, and he saw no point in

⁴⁸ From 1960-1962, anthropologist Peter Lienhardt was advisor to Sheikh Shakhbut in Abu Dhabi, during which time he was also a Research Fellow at St Antony's College, Oxford. It is not clear how Lienhardt got the job and why he did not stay longer – perhaps his period serving Shakhbut only lasted as long as his Fellowship. It is also unclear why Shakhbut was pressed to hire an adviser in 1962, when he already had one. It is also possible that Lienhardt's role was not considered an administrative one, and the British officials wanted to install Bill Clark who had had administrative experience in Sudan and Oman.

asking for any further help on anything else...[H]e was quite capable of looking after his own affairs and did not need the help of HMG. He then repeated, "We have been leading our lives as beduins and could quite well continue to do so" (FO 371/163025, 13 May 1962).

In 1962, Bill Clark was eventually appointed as his adviser, but Sheikh Shakhbut did not necessarily take his advice (Maitra and Al Hajji 2001). Clark drew up several recommendations for Shakhbut with regards to setting up a number of government departments, including finance, education, customs, medical, legal, lands (to register all titles and prepare leases for various classes of land), and a state engineer to handle civil and mechanical engineering, as well as electricity and water. An agricultural department and port authority was suggested for later. Clark suggested that the lack of trained staff currently in Abu Dhabi made it more favorable to recruit department heads from outside the country, with a preference to Arab and Arab-speaking staff. He also brought up the requirement of a head accountant. Shakhbut resisted for the most part, but when pressures from British officials mounted, he agreed to the recruitment of a Jordanian accountant, Hussein Sidky. The arrangement did not last long: after some time, Shakhbut ordered Sidky out of Abu Dhabi (FO 371/168919, 30 December 1962). Sheikh Shakhbut had also appointed his brother Zayed as financial secretary, yet did not delegate much power to him, insisting that the money and accounts be kept in the palace under Shakhbut's supervision (Joyce 1999). Moreover, Shakhbut hired a Jordanian customs director, who resigned a short time later because he felt he was making no progress. The political agent wrote to the political resident, "He was getting no cooperation from the staff, very few of his orders or recommendations were being implemented, and he was receiving no support from the Ruler" (FO 371/168919, 21 February 1963). Similarly, when a Jordanian judge was recruited, Shakhbut dismissed him "for no good reason" (FO 371/174701, 27 May 1964). The British were slowly resigning themselves to the fact that Shakhbut was unwilling to change:

[...] we must not delude ourselves that there will be any improvement in his attitude to his responsibilities or in his behavior. He has made it abundantly clear that he is not only unwilling to listen to our advice but strongly resents it being given (ibid.).

In 1965, however, British officials returned to the discussions surrounding the implementation of administrative reforms in Abu Dhabi. This renewed interest closely followed Shakhbut's signing of a new 50:50 oil agreement with ADPC. In anticipation of the increase in oil wealth as well as economic and trade activity, the political agent in Abu Dhabi drew up a memorandum with several annexes, titled "Government Organization and Financial Control in Abu Dhabi," which outlined areas of responsibility, a state budget and development program (FO 371/179906, 8 November 1965). The memorandum recommended the creation of government departments including a ruler's office, general supervisor's office, consultative council, planning council, investment council and legal accountants, and a finance department. The Ruler was encouraged to select the general supervisor and department heads from members of the ruling family, with an eye toward establishing the government by the beginning of 1967. Yet again, Shakhbut stalled on the establishment of agencies, causing Lamb to

declare in frustration that Shakhbut was “an autocrat who tries to run the state single-handed and whose insistence on personal control of even the minutest details of government would make Louis XIV look like a constitutional monarch” (FO 371/185523, 1 January 1966).

As 1966 progressed, Sheikh Shakhbut’s willingness to carry out administrative reforms was still in question. Lamb tried to persuade Shakhbut to prioritize the appointment of a finance director and the creation of finance and health departments. Moreover, he emphasized the importance of putting together a police department and a passport section, in addition to making educational arrangements (FO 371/185526, 26 February 1966). To this, Shakhbut replied that “Rome was not built in a day” (ibid.) and that it was “too much” to introduce all of this immediately. Under pressure from his family, as well as from the British political agent, Shakhbut eventually agreed to initiate the search for a British director of finance and a British director of public works, as well as a Jordanian director of public works. Lamb suggested that other new officials should also be Arabs. Sheikh Shakhbut concurred, saying that he would write to “his good friend Sheikh Isa” of Bahrain to ask for the provision of the following officials: an assistant to the ruler’s representative to the oil companies; an administrative assistant for the Department of Health; an experienced Arab police officer; two passport officers; and clerks and accountants outside of the finance department who would work directly for him. Regarding the last request, Lamb reported, “this is of course a reflection of the incurable streak of mistrust that runs through Shakhbut” (ibid.).

Although Lamb anticipated that it would be difficult for Sheikh Shakhbut truly to trust his new officials if and when they actually arrived in Abu Dhabi, he told the political resident in Bahrain that the British ought to accept the Ruler's willingness “to form an embryo administration” (FO 371/185526, 26 February 1966). In April 1966, Shakhbut appointed his brother Zayed as president of the Department of Finance; his son Saeed bin Shakhbut as president of the Department of Justice (who would also act as deputy to Zayed in the finance department); his other son Sultan bin Shakhbut as president of the Department of Defense and Municipalities; his nephew Sheikh Mubarak bin Mohammed as the president of the Police Department (which would also cover passport and immigration control); and his maternal relative Ahmed bin Hamed bin Butti as president of the Water Authority (which would be part of the Department of Public Works, Electricity and Water). There was some discussion between Shakhbut and Zayed about where to appoint their nephew Hamdan bin Mohammed, the former wishing to place him in charge of Health and Education, and the latter insisting his appointment as president of the Department of Public Works. Assignment of their brother Khalid was also problematic; they did not know where to place him and he himself could not make up his mind about what he wanted to do. Their uncle, Mohammed bin Khalifa, asked to be excused from any departmental responsibility (FO 371/185526, 16 April 1966). The British political agent also recommended that Shakhbut create a department of lands and agriculture and a planning board, which would also serve as an advisory council.

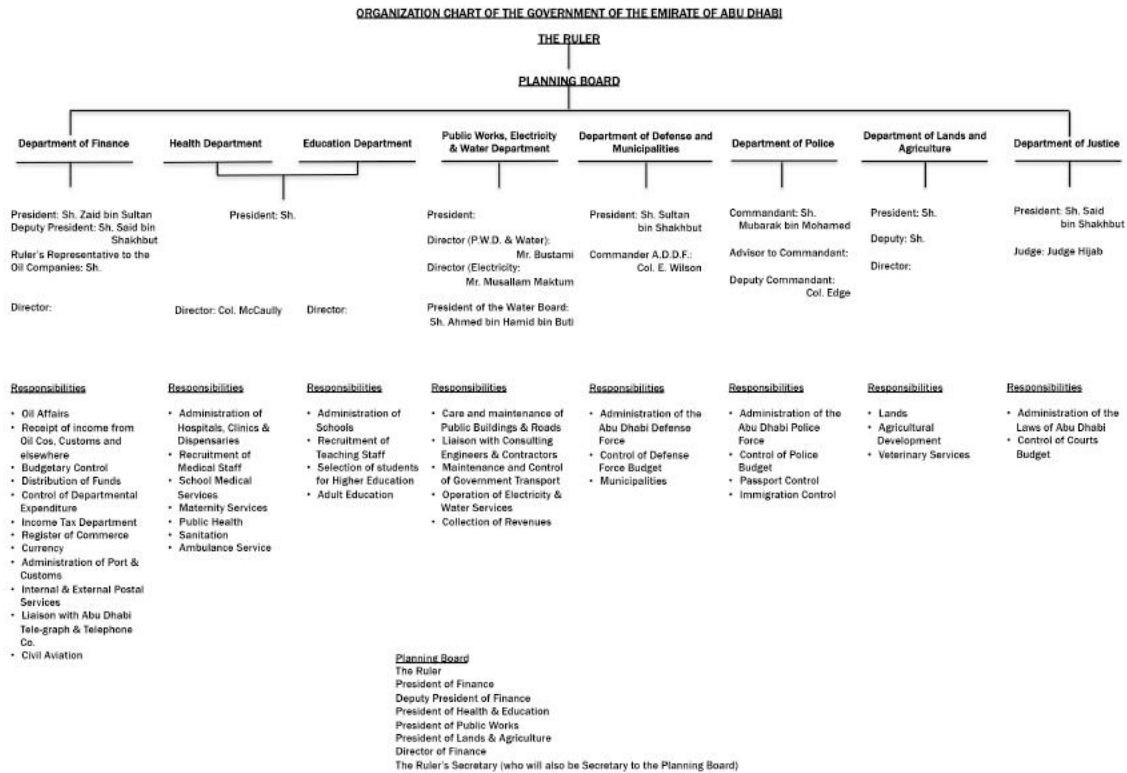


Figure 4.4 Abu Dhabi Government Organization Chart 1966

The political agent later drew up an organization chart of the Government of Abu Dhabi based on all that was agreed (see Figure 4.4), and expressed his hopes that Shakhbut would permit the departments' proper function. He also reminded him that

[...] he was no longer Shaikh of a Bedouin Sheikhdome but the Ruler of an important oil producing state. There was a difference between the two as there was a difference between the present time and the past when he had run to his own satisfaction the internal affairs of Abu Dhabi and HMG had protected him from the outside world. (FO 371/185526, 16 April 1966).

Sheikh Shakhbut was under pressure to relinquish some control.

A Planning Institution, Land Allocation and Ownership

1 Abu Dhabi Municipality

One of the first recommendations made by the Political Agent in Dubai, Donald Hawley, for setting up an administration in Abu Dhabi involved the establishment of a municipality. Until the late 1950s, no institution for urban planning and basic record-keeping existed in Abu Dhabi. In 1959, Easa Al Gurg, a Dubai national working for the British Bank of the Middle East (BBME), was asked by Dubai's British political agency

to assist Shakhbut's son, Sheikh Sultan, in setting up an office for the Abu Dhabi Municipality, which Sultan was to head. A simple office with a filing cabinet was established, but shortly after its opening, Shakhbut visited the office and ordered two of his men to purchase petrol from the *souq* and burn all the files. He then called for the immediate closure of the office and demanded it never open again (O'Sullivan 2008; Davidson 2009). Edward O'Sullivan writes, "Whether this was out of horror at a modern device, fury that his son had acted autonomously, or a desire to irritate the British is not clear. It was probably all three" (O'Sullivan 2008). Shakhbut also ordered that maps of Abu Dhabi were not to be produced, or if they were, then they were to feature no English (FO 371/148975 and FO 371/148978, 23 March 1960).

In 1961, following the discovery of oil and in anticipation of the first oil exports in 1962, Shakhbut was finally convinced to re-establish the municipality. He re-assigned his son Sultan to run the organization, and in order to prepare him for his role, the British sent Sultan on a "mind-broadening tour" to the United Kingdom so he could study the work of various departments. The tour included a visit to law courts, Land Registry, Somerset House, good schools, a hospital, and a New Town (FO 371/157026, 25 July 1961).

In January 1962, during a meeting with Boustead, Shakhbut agreed to recruit a trained administrator who would help generally oversee the municipal administration. Boustead suggested hiring someone from Sudan or Aden (FO 371/163034, 28 January 1962). Probably due to some stalling on Shakhbut's part, the political agent waited until April to prepare a letter on the Ruler's behalf to be sent to the Sudanese government asking for a town clerk and land records officer. Boustead insisted that urgent action was needed in regards to staff, but Shakhbut was firm in saying "he was not interested in anything to do with the Sudan Government and did not want and would not have any staff" (FO 371/163075, 15 April 1962). Boustead sent the letter anyway, it seems, because when he approached Shakhbut in October, Boustead informed the sheikh that the Sudanese minister was trying to help them find a town clerk and land records officer. Shakhbut was furious. In a private meeting with Sheikh Zayed, Boustead was told that he should get them in any case and that Zayed would take responsibility and deal with his brother's wrath (FO 371/163025, 3 October 1962). By early 1963, a Sudanese town clerk was installed, but his situation was rather unfortunate; Boustead reported that, "he sits in his office, ignored by Sheikh Sultan, with nothing to do" (FO 371/168919, 21 February 1963). For the next few years, Shakhbut continuously attempted to weaken the ADM's authority and lessen its responsibilities, as demonstrated below.

2 *Land Allocation and Ownership*

There was no land registry office in Abu Dhabi. The ruling family owned the land, and in the pre-oil times it was titled to nationals through slips of paper from Shakhbut (Mann 1964). After some pressure from his family and the British, Shakhbut hired engineering and town planning consultants Sir William Halcrow & Partners and Scott & Wilson, Kirkpatrick & Partners in 1962 to whom he transferred the

responsibility of land registration and allocation (see section 4.3). Shakhbut refused to sell any land in the sheikhdom, however, and all rights for construction were based upon leases ranging from 10 to 25 years. The only exceptions where land was leased without rental charges were grants to the Church of England and the Roman Catholic Church (see Figure 4.5) for the construction of churches in Abu Dhabi town (ibid.). Shakhbut's adviser, Bill Clark, supported this notion. In his recommendations to the Ruler, he wrote,

The most important thing at the outset is that no land should be sold or in any way alienated and should remain the property of the State. In this way, Your Highness will prevent much land grabbing and speculation in land values. I urge all vacant and undeveloped lands should be immediately declared the property of the State (FO 371/163025, undated).

In 1963, however, Clark and the consultants urged Shakhbut to arrange for municipal personnel to do the land allocation and registration work, which Shakhbut refused, as expected. The political agent in Abu Dhabi reported to the political resident, writing:

He [Shakhbut] said that although he had promised to pay for the land allocation work, he expected them to do it for nothing as a part return for the profits which they would make in the future. If they were not prepared to do this, then he was quite prepared to call in other Consulting Engineers. Mr. Spencer [a representative of Scott Wilson Kirkpatrick and Partners] remained silent...implying tacitly that they would carry on as at present (FO 371/168925, 21 January 1963).

When ARABICON took over as the ruler's consulting engineers in 1966 (see section 4.3), Sheikh Shakhbut wrote to the director of the Abu Dhabi Municipality, assigning Arabicon control of building permit requests and land applications (NCDR File No.136; NCDR File No.204).

4.3 Plans of the Experts: An Oil Export Station

Ever since oil was discovered in Abu Dhabi in 1958, the British persisted in encouraging Sheikh Shakhbut to initiate infrastructure improvements that would help Abu Dhabi modernize and thrive. For example, in 1960 Edward Henderson, a PDTC employee from 1948 until his post as political officer in Abu Dhabi from 1959 to 1961, raised the issues of postal service and aviation (which were lacking in Abu Dhabi) with Sheikh Shakhbut (FO 371/149069, 20 June 1960). With the assistance of the political agent in Dubai, Donald Hawley, Henderson also pressed Shakhbut to allow a survey and mapping of the emirate, as well as for some land survey photographs to be taken. He aimed to show Shakhbut how these would be used for town planning (Archive Editions 1997), a subject on which he and Hawley had been advising the ruler for nearly a year. After much resistance from Shakhbut, the British officials – with the help of Shakhbut's brothers Zayed and Khalid – finally convinced Shakhbut to hire experts who would assemble a development plan for Abu Dhabi.

A series of experts made their way to Abu Dhabi once Sheikh Shakhbut gave his blessing. The teams and the plans they produced, which will be described later, included John R. Harris and his plan for Abu Dhabi; a joint plan by Sir William Halcrow & Partners and Scott & Wilson, Kirkpatrick & Partners; Brian Colquhoun & Partners; and ARABICON.

John R. Harris and the First Master Plan for Abu Dhabi

1 John R. Harris

British architect John R. Harris was a graduate of the Architectural Association School of Architecture, and served as a lieutenant in the Royal Engineers in Hong Kong from 1940-1941. He was also a prisoner of war from 1941-1945. In 1949, Harris founded John R. Harris Architects in London and designed several hotels, hospitals and department stores around the UK, as well as some large projects in Oman, Qatar and Kuwait.⁴⁹ Like many of the British planning and engineering consultants working in the Arab Gulf in the mid-20th century, Harris was influenced by the post-war New Town planning in England (Ramos 2010).

His fortuitous contact with the British Political Agent in Dubai, Donald Hawley, while the latter was on holiday in England, led to Harris' first trip to Dubai to meet Sheikh Rashid, who then hired him as Dubai's first town planner (Hawley 2007). In 1959, Harris visited Abu Dhabi to meet with Sheikh Shakhbut. As was customary at the time, the British political agent in Dubai arranged the visit. "You must remember," said an interviewee, "in the sixties most of the companies that came here were British because of the system, because of the exclusive relationships, because it was British embassies that gave permission and access to expatriates and foreigners to come here" (Interview #32). During the meeting, Shakhbut instructed Harris to prepare preliminary proposals for the Town Plan of Abu Dhabi, and to coordinate the aerial survey that was to be carried out in February 1960. The Ruler ordered that Harris use Arabic when writing on all subjects concerning the town plan. A letter from Edward Henderson, the Political Agent in Abu Dhabi, to the Foreign Office in London dated March 23, 1960, reveals that the British government was hoping that Sheikh Shakhbut would pay for the air photography. Edward Henderson insisted that the product (a map of the built up area) be presented to Shakhbut first, because "... the idea to have photographs taken at all was the first advice we have ever given to the Ruler about town planning and it is very important that he should be able to see that it was good advice" (FO 371/148975 and FO 371/148978, 23 March 1960). Hunting Surveys Limited completed the aerial survey and mapping project of Abu Dhabi in May 1960 (ibid.).

⁴⁹ Later, the firm became known as John R. Harris & Partners Limited and is headquartered in Dubai, United Arab Emirates with associate offices in the United Kingdom, Qatar, Spain, Australia, and the Far East. As of June 15, 2015, John R Harris & Partners Limited operates as a subsidiary of Aukett Swanke Group Plc. See Warner, Joshua (2015). "Aukett Swanke Buys Controlling Stake In Middle Eastern Architecture Firm." *MorningstarUK*, June 15. Available at: <http://www.morningstar.co.uk/virtual/SolrNews/AllianceNews.aspx?Site=uk&DocId=AN_1434375214312644800> (Accessed May 7, 2015).

Harris paid the ruler another visit on 18 May 1960 to present the town plan proposals he had prepared. According to the political agent in Dubai, Donald Hawley, "the ruler was in excellent form and spent over an hour studying the sketch plans" (Archive Editions 1992, 21 May 1960). Shakhbut then accepted the proposals and made clear to Harris that he understood experts like engineering consultants for roads and public facilities would be needed to implement the plans. Hawley wrote, "This is very encouraging and it may well be that Shakhbut will show more willingness to take our advice about experts in the future...[T]he main thing is that Shakhbut is now interested in town planning" (ibid.). In June 1960, Harris was officially charged with preparing the town plan for Abu Dhabi. Edward Henderson played an integral role in this process, identifying official district names for the map of Abu Dhabi (which required Shakhbut's approval), and drawing boundaries for the districts (Archive Editions 1992a, 17 September 1960). Using Henderson's sketches, Harris proceeded to assemble the town plan and mark out the streets.

In October 1961, British architect Pearce Hubbard of Pearce Hubbard and Partners contacted John Harris, informing him that he was interested in cooperating with him on the town plan. He specifically wished to help design a civic center, which he hoped to fit into Harris' plan without difficulty (FO 371/157033, 6 October 1961). Earlier, Hubbard had produced and presented to Sheikh Shakhbut a scale model of his own version of Abu Dhabi's town plan, with the encouragement of a Bahraini merchant (ibid.). It is possible that he was then referred to Harris, since Harris was already in the midst of developing one.

The Harris plan shows Hubbard's drawings, so it is likely that John Harris agreed to his proposal. Hubbard met with Sheikh Shakhbut on a number of occasions towards the end of the year, showing the Ruler photographs of projects he had worked on in Ghana, Cyprus, and Kuwait. Records of their meetings reveal that Hubbard had engaged Shakhbut in conversations regarding architectural development, with the Ruler expressing his desire for Abu Dhabi to have an architectural style of its own, "suitable to its tradition, but with all the modern amenities of Western civilization" (FO 371/163034, 20 December 1961). The Ruler also expressed his dislike of the types of American buildings that he had seen during his visit to New York, and insisted to "keep the town in the Arab medium... rather than letting it become a hideous American emporium" (ibid.). According to the new political agent in Abu Dhabi, JEH Boustead, Shakhbut showed great interest in naming Hubbard his architectural advisor for future development in Abu Dhabi.

The same records show that Boustead wrote to the Embassy in Rabat, Morocco to request a copy of their town plan and some photographs. Boustead summed up the purpose for the request in his letter:

[...] With a view of obtaining an ideal layout for the future oil town of Abu Dhabi, which is now only a village, and during the course of the next ten years will become a town of possibly 100,000 people, looking to obtain for the Ruler, the plan of Rabat, which is

notable for its Arab architecture and for the beauty of the town. (FO 371/163034, 21 December 1961).

With the help of Hubbard, and with inspiration from Rabat, Harris went on to draw up the first master plan for Abu Dhabi.

2 The "Harris Plan" 1961

Harris' plan for Abu Dhabi focuses on the area northwest of the island, along the seashore. Taking into consideration the existing city at the time, one of the plan's first recommendations was that the city boundaries should not be expanded greatly from its current situation, yet the plan should be flexible enough to adapt to any future growth. The plan also recommended establishing, at the earliest stage, distinct areas for industry, health and public utilities, housing, education, commerce, and government institutions. The city's composition allows these different areas a connection to the current city by major roads leading to a new city center, located southwest from the Ruler's Palace. The commercial area, along with some mixed-use buildings, would be placed in this new center, with government buildings to be constructed between the palace and the city center. These buildings included the Municipality of Abu Dhabi as well as a social and cultural center. The Harris Plan envisioned that this area, which included the palace, city center, and government buildings, would be comprised of luxurious buildings, "the most distinguished elements of the project."

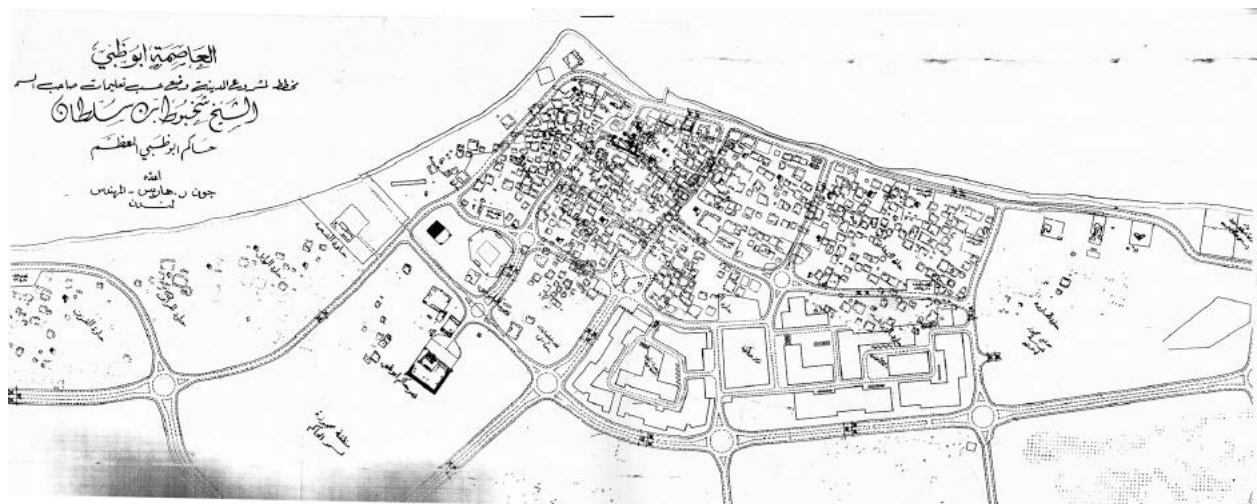


Figure 4.5 Abu Dhabi town plan by John R. Harris 1961

From an architectural design and construction perspective, the plan called for the preservation of the palace and surrounding buildings, the *souq*, mosques, some workshops and offices, and for the replacement of impermanent buildings made of palm-fronds, straw, and mud. The plan also recommended controlling all future construction by planning regulation and that "a rigid architectural organization scheme should be avoided, to allow the city to grow and develop freely in the future." The plan

identified seven main elements of the current city as worthy of preservation: the palace, mosque, minaret, *souq*, coffeeshop, narrow alleyways, and the house.

The Harris Plan presented ideas for a residential neighborhood unit that included different housing configurations, which were to gradually replace the traditional *arish* and mud-brick homes. He suggested that plots be allocated to new residents and to those whose homes were demolished by road construction, and that the government should require house owners to provide parking within their house boundaries. His plan also considered the provision of small grocery stores to serve neighborhood residents. Within the neighborhood, he recommended a maximum road width of 30 feet.

For Harris, the proposed housing units would help to establish a “style” for the future development of the town. Considering that Harris was primarily an architect, it is not surprising that his plan emphasized the value of architectural style in contributing to a city’s identity. In fact, most planners in the post-war years were architects by training, which explains why aesthetic considerations were regarded as central to town planning (Taylor 2011). Perhaps Harris was also influenced by the modular nature of British New Towns.

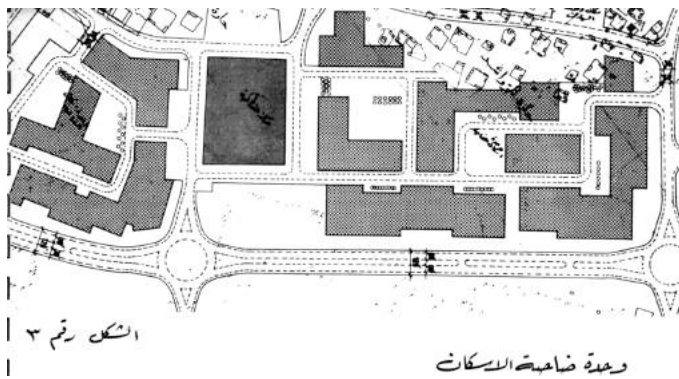


Figure 4.6 Residential Unit, Harris Plan 1961

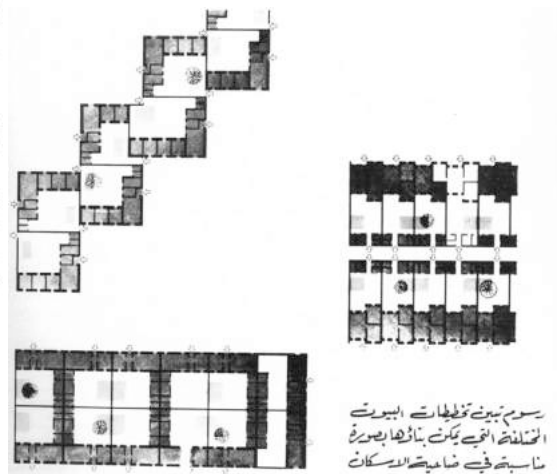


Figure 4.7 Sample Housing Units, Harris Plan 1961

The plan estimated the current population of Abu Dhabi at 2,000 and predicted growth but did not provide a forecast, although Boustead’s email to Rabat mentioned an estimation of 100,000. Roads were planned taking into consideration increased future car usage, and these estimates were based on the main roads then in use, rather than on straight-line distances. Roundabouts were placed at major road intersections. Double-lane highways (120 feet wide) were included in the plan, as were other new roads that were 60 feet wide with 15-foot shoulders on each side for parking or “to increase the road’s width if this becomes necessary at a future stage.” Residential neighborhoods

contained roads that were 30 feet wide. Only the city center had roads planned on straight lines, with the purpose of allowing flexibility for future expansion. The pavement (or sidewalk), raised at a level higher than the road, was reserved for pedestrians. Road levels had to be carefully considered so as to avoid water flooding, and the plan therefore recommended that the roads be built under the management of an engineering consultant. The project also provided car parking, at a capacity of 10,000 cars, suggesting that the government require homeowners to provide parking within their house boundaries. It also suggested that plots be allocated to new residents and to those whose houses were demolished due to road construction.

Transportation planning included the relocation and expansion of the airport (though this was not shown in the plan drawing), the provision of bus services in addition to building a bus station (also not shown in the plan drawing), as well as the possible relocation and extension of the port (again, not shown). Transportation planning was left to the discretion of civil engineering experts.

Part of the projected growth for Abu Dhabi included an increase in imports; as a result, the plan accommodated the construction of storage units and shops. Three kinds of shops were considered: some in the *souq* (which was planned as a pedestrian shopping area with car access at designated places); other large stores along the major road (on top of which housing and offices were recommended, along with shading structures); and small grocery stores within neighborhood units. The project also took into consideration offices for merchants and businessmen. Industrial development was also considered, mainly in construction, machinery, and cars; however, the plan encouraged the preservation of traditional hand skills and workmanship. Moreover, the plan encouraged the construction of public schools and centers for older children to learn traditional crafts and skills.

The plan also discussed public facilities such as water supply and distribution, a sewage network, garbage disposal, a telephone system, street lighting, and an electricity generating station, although none of their locations was determined. The only recommendation made in this regard was to place wires and cables below ground and that stations' design should facilitate future enlargement. The previously mentioned services were again left to the discretion of specialized consultants, though Harris insisted that they were planned in parallel with the general city project.

Tree planting was another major aspect of the study, with recommendations to plant as many palm trees as possible along the roads, especially roads leading towards the Ruler's Palace, plazas surrounding mosques, and current cemeteries. Another recommendation was made for landscaping experimentation, by testing different plants for their suitability in the city.

Finally, the document included recommendations for implementing the plan. The first stage consisted of building a residential neighborhood with all amenities: roads, trees, marking main roads, major stores' locations, and the area surrounding the port. Additionally, it included opening access to the market, building a small hospital and

accompanying residences for doctors and nurses, and building a factory for bricks and a storage facility to receive building material. It also suggested improving transportation and its services as well as the construction of public facilities.

Furthermore, the government buildings referred to above were included in the plan as part of the objectives for administrative reform. Harris recommended formation of an organization or committee responsible for supervising the execution of the plan, drawing up laws and regulations, and overseeing development works as well as coordinating services.

The Harris Plan reveals some elements of British New Town planning. Harris' vision to start almost anew in Abu Dhabi, by clearing impermanent buildings from the landscape, reflects the utopian thinking of "greenfield" urbanization that the New Towns represent. The urban decentralization suggested in the plan also embodies this idealism: Like text-book British New Town projects, Harris' plan calls for the structure of Abu Dhabi around a new city center that includes a commercial area, connected by major roads to distinct outlying areas for industry, government administration and low-density residential areas.

There are several suggestions made in the plan that may have proven problematic or that Sheikh Shakhbut may have objected to. First, the idea of replacing the *arish* buildings with modern ones might have played into Shakhbut's fears that his people's traditional way of life would be erased. Second, the plan takes into consideration increased car usage in the future by incorporating roads and making parking recommendations – another change that Shakhbut feared would contribute to the loss of tradition. At the time the plan was created, the automobile was not very prevalent in Abu Dhabi (although, ironically, the sheikh was one of the very few who owned a car). Third, the inclusion of government buildings in the plan "as part of the objectives for administrative reform" may have been difficult for Shakhbut to accept, given his objection to any kind of government apparatus being set up. Third, Shakhbut strongly disliked merchants (see section 4.4), so he may have not liked the idea of creating a commercial center to encourage trade. Finally, the plan's recommendation for a hospital may not have sat well with Shakhbut, who resisted the idea of a hospital, just like he opposed the establishment of a post office, claiming that his people have managed to survive without one for centuries.

Nevertheless, by early 1961, all the final drawings in the development plan had been approved and Shakhbut instructed the work to proceed, yet no engineering firm was employed to execute the town plan in accordance with Harris' recommendations. The British officials suggested Sir William Halcrow & Partners (Halcrow), a British civil engineering firm that was already carrying out some work in neighboring Dubai (FO 371/157022, 5 February 1961). In a meeting with Halcrow representatives in May 1961, Shakhbut conveyed his list of urgent works, which included the jetty, roads, dwelling houses, commercial area improvements, water resources investigations and the airport (FO 371/157025, 14 May 1961). A month later, Halcrow presented him with the cost estimates of the development work, and the political agent reported that Shakhbut

“refused to consider or discuss any financial arrangement which would involve the Ruler in making a contribution. Lienhardt [Shakhbut’s advisor] has some idea of raising money from the oil companies” (FO 371/157025, 12-26 June 1961). British officials estimated that Shakhbut could afford a £1 million development scheme (FO 371/157026, 4 July 1961), but the ruler clearly did not wish to spend and continued to stall. This back and forth was typical of Sheikh Shakhbut, and the idea of spending a large sum of money may have well played a big part in Shakhbut changing his mind about development again. It is not clear what happened next in this regard. Records show that the offshore oil company ADMA presented Shakhbut with a loan, but whether or not this was used towards development work is not clear (FO 371/157033, 18 October 1961).

In a letter to the Foreign Office of 22 December 1961, Boustead’s reference to another survey of the whole Abu Dhabi Island is worth highlighting. He mentions that Shakhbut agreed to a survey of the island and ordered that the no building licenses would be granted until the survey was complete. In January 1962, consultants Scott & Wilson, Kirkpatrick & Partners presented Boustead a signed a contract with Shakhbut to conduct the survey (FO 371/163034, 8 January 1962). Boustead expressed concern in a letter to the Foreign Office in London:

It does not seem that the situation is fully realized in regard to Harris’ Town Plan...I am myself completely astonished at any competent architect taking on a town plan for a port without first having insisted that he should be given the exact location of the port area, which has not yet been decided. Neither has any survey been made to fix it, which is the basis on which the town plan can be framed. Incidentally, it does not allow for a marine area which can be expanded at all and Harris writes in his letter that it was made on the basis of the original town. I can do nothing but wait until the surveys that the Ruler has agreed to are completed and see whether the town plan can be fitted into it (FO 371/163034, 23 January 1962).

The hesitation apparent in Boustead’s letter may be interpreted as the beginning of the end for John R. Harris and his plans for Abu Dhabi. Perhaps Boustead was attempting to replace Harris since he arrived in Abu Dhabi to fill in for Edward Henderson (though it is not clear why).⁵⁰ Robert Wamsley of the Foreign Office in London wrote to the political resident in Bahrain, warning that:

Boustead, for instance, seems to have been advising the Ruler in favor of one British firm against another; for instance in the case of Scott Wilson and Kirkpatrick, where Spencer [a representative of Scott & Wilson, Kirkpatrick & Partners] was able to walk into a contract with Boustead’s help. It is of course perfectly all right for Boustead to give the Ruler the names of various British firms interested in any particular job, but there is real trouble ahead if he has to advise the ruler between one firm and another. There is also trouble ahead if it comes to seem that he has advised the Ruler to get out of obligations which he has contracted already (e.g. in the case of John Harris, the architect) (FO 371/163034, 15 February 1962).

⁵⁰ Edward Henderson suddenly departed Abu Dhabi in the summer of 1961 due to illness.

Although Wamsley and Boustead both made it seem as though Sheikh Shakhbut accepted Boustead's suggestions, it is difficult to imagine that Shakhbut made things easy. Most of the time, Shakhbut agreed to initiate development against his own will, and the demise of the "Harris Plan" may as well have been his own doing. As an informant noted:

God Bless him, he [Shakhbut] gets to the Harris plan – the real negotiation – and he is a man of steel. Look closely at the plan. It is a glorified labor camp. They didn't want it – and whatever else was being offered by the Brits – so Sheikh Shakhbut delayed or stalled (Interview #39).

Shakhbut had always been suspicious of the British and repeatedly clarified that he would not heed their calls for reform or development.

Abu Dhabi Consultants: Sir William Halcrow & Partners and Scott & Wilson, Kirkpatrick & Partners

In January 1962, while the Harris plan was still being adjusted, Sheikh Shakhbut entered into an agreement with Scott & Wilson, Kirkpatrick & Partners and Sir William Halcrow & Partners to develop plans and recommendations for the improvement of Abu Dhabi (Archive Editions 1994). Besides being persuaded by the British political representatives, it is unclear why Shakhbut hired the two firms to create a development plan for Abu Dhabi while the Harris Plan was still in the works, especially given his resistance to urban development. By May 1962, the Abu Dhabi Consultants – or the Consultants, as they came to be known and are frequently referred to in archival documents – submitted a joint development plan to Sheikh Shakhbut, replacing John R. Harris in planning Abu Dhabi.

1 Sir William Halcrow & Partners and Scott & Wilson, Kirkpatrick & Partners

The UK-based consultancy Sir William Halcrow & Partners (Halcrow), which began as CS Meik, was established in 1868 by a civil engineer named Thomas Meik. The company first focused on port, maritime and railway projects in the UK, but upon Sir William Halcrow's joining in the early 1900s, it expanded its reach overseas, working on a wide range of engineering projects such as roads and bridges in Ghana, Venezuela and Libya. Halcrow was renowned for his expertise in the design of tunnels and for projects he was involved in during the Second World War (www.halcrow.com).

After the war, the company made its way to the Trucial States, and received its first contract to dredge Dubai Creek. Later, it received instruction from the British Political Agent in the area, Donald Hawley, to begin implementation of John Harris' master plan for Dubai. It is very plausible that Halcrow's established reputation gained Hawley's interest, leading him to push projects in the firm's favor. He managed to

persuade Sheikh Shakhbut to hire Halcrow to also implement John Harris' plan for Abu Dhabi. Eventually, Halcrow developed a joint plan for the town with Scott & Wilson, Kirkpatrick & Partners (see below).

The firm has had several previous names, including CS Meik and Buchanan (1920), CS Meik and Halcrow (1923), WT Halcrow and Partners (1941) and Sir William Halcrow and Partners (1944). The current name, Halcrow Group Limited, was adopted in 1998 and the firm remained independent until 2011, when CH2M Hill acquired Halcrow for £124m (equivalent to USD 165.2m as per 2011 exchange rate, which is approximately USD 188.6m in today's dollars). Halcrow had incurred a pre-tax loss of £71m (equivalent to USD 112.9m as per 2011 exchange rate, which is approximately USD 108m in today's dollars) in its last year of independent trading, effectively being "rescued" by CH2M Hill (Pitt 2013).⁵¹

While Halcrow Group is still active in Abu Dhabi and the UAE and working on several major infrastructure projects, no background information is available on Scott & Wilson, Kirkpatrick & Partners.

2 Abu Dhabi Island Survey, Development Plan and Report 1962

The Development Plan and Report compiled by the Abu Dhabi Consultants was prepared while envisioning the rapid growth of the emirate's population to about 25,000 within five years and ultimately to about 100,000 (see Figures 4.8 and 4.9). These

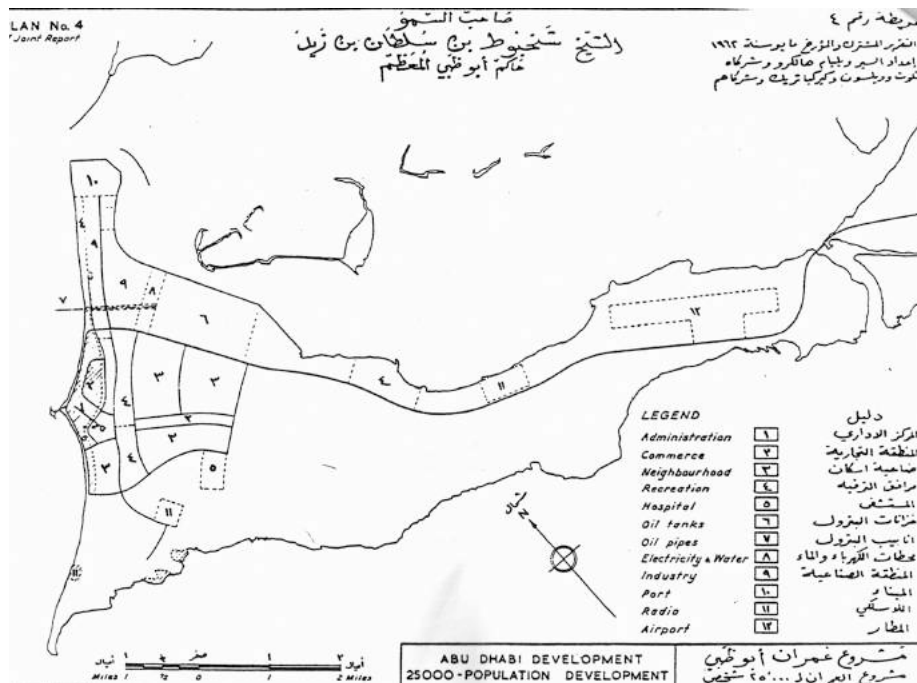


Figure 4.8 Abu Dhabi 25000 Population Development, Abu Dhabi Consultants

⁵¹ Sir William Halcrow was knighted in 1944. He passed away in 1958.

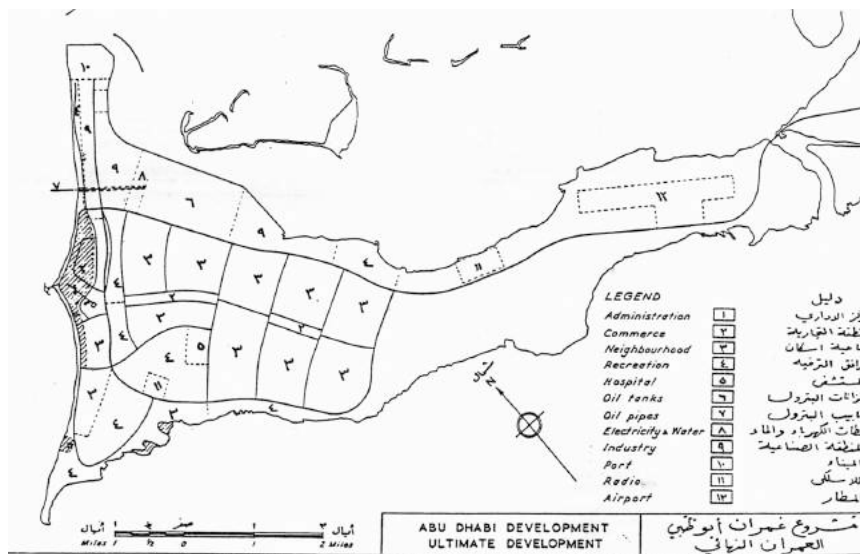


Figure 4.9 Abu Dhabi Ultimate Development, Abu Dhabi Consultants

numbers were based on estimated population increases in an unnamed neighboring Arabian Gulf town, which is thought to have increased eightfold, as well as a town in West Africa, which also increased eightfold in 10 years. The plan predicted that, at the outset, Abu Dhabi would need to import a labor force of about 4,000 people; if they came with families, the local population would grow by about 9,000 expatriates. The plan also mentioned the development of the existing township of Abu Dhabi broadly along the lines of the plan previously commissioned, i.e. the Harris Plan, although it necessitated the modification of the plan's outer fringes to facilitate integration with the Consultants' proposals for wider expansion. The plan and report were prepared with the assistance of the political agent in Abu Dhabi, JEH Boustead, and with the advice and cooperation of John R. Harris and Pearce Hubbard.

The plan adopted the modern principle of functional separation of the various areas of industry, commerce, residence, and administration. It shows the industrial areas along the northeast coastal strip, which include the port, power station, and water distillation plant. The location of the port was fixed at the entrance to the east *khorr* (creek). In this vicinity, the plan also allocated a site for an oil terminal in the event that the oil company PDTC wished to locate the terminal on the island. It also embraced the existing British Petroleum depot. The Ruler's Palace would be preserved and would become the focal point for the administrative and residential areas. The administrative center, which would include the Secretariat and other principal government offices and public buildings such as the mosques, law courts, and library, would be placed near the existing town in the northwest. The existing political agency building would lie close to this area. The commercial center, which would house other government buildings and commercial offices as well as shops and other general public facilities, would line the sides of the existing pedestrian concourse southeast of the Palace, and would extend southeastwards to its junction with the road connecting the airport-port trunk road and the highway. Parts of this concourse would be appropriated as sites for the main

hospital buildings and for the radio receiving station. The airport would be sited in the southeast portion of the island.

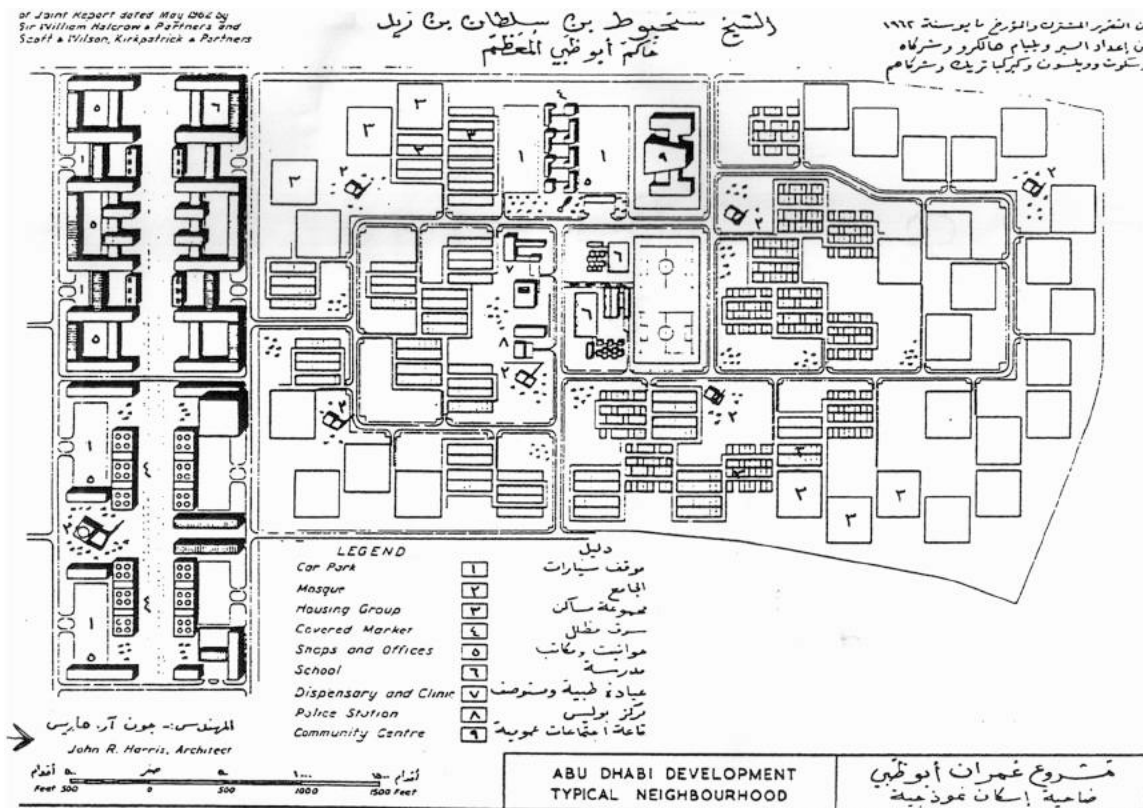


Figure 4.10 Typical Neighborhood for Abu Dhabi, Abu Dhabi Consultants

The residential neighborhoods were to be sited in the heart of the island, centered around shopping precincts. The suggested development of a typical neighborhood, drawn up by John R. Harris, was also presented in the Abu Dhabi Consultants' Plan (see Figure 4.10). Here, the neighborhood was designed for a total population of about 7,000 persons with a mixed income range. The idea was to create a complete neighborhood that would provide all the local facilities needed by this population for "a full community life which would respect their traditional ways and yet provide for the improved standard of living envisaged by the whole development." This included the provision of six mosques, shops, a clinic, a nursery school and primary school adjoining the playing field, a police station, and a community center. The plan also mentioned a library and a bus station, though these were not indicated on the diagram.

The housing units, or compounds (labeled as '3' in the drawing), would be arranged in staggered groups to obtain the greatest benefit from the prevailing winds, and to provide an efficient layout of services, electricity, water, and drainage. Plot sizes within each group would vary, though it was considered that a minimum size should be 30 feet by 60 feet. Each group would consist of about four rows of houses, with almost every two rows adjoined back-to-back, and each row containing about eight plots

abutting each other. Generous provision of open areas would be made around the housing groups to provide parking facilities, play areas for children, and meeting places for adults. A complete system of internal roads and pathways would be built, with only a limited number of connections to the through routes, which would all be located outside the area.

In their report, the Consultants recommended that if Abu Dhabi were to develop along the lines visualized, that the neighborhoods be developed progressively as the increase in population demanded, and in a pre-determined order; "the ideal being that building in successive Neighborhoods would commence only when all available space has been taken up in those previously under development." They also recommended that the population be offered some financial inducements or loans to build their own domestic quarters. They proposed that the standard of building could be controlled through the conditions stipulated in the loan in addition to the application of building by-laws. Alternatively, the Consultants recommended that the government also erect, at its own expense, varying types of property or dwellings that could be rented or purchased on mortgages depending on the individuals' resources. Unlike the Harris Plan, the Abu Dhabi Consultants' Plan does not move into the level of architectural detail; however, it does advise that, "...the character of building development should be such that it continues to reflect the local traditions while providing for the anticipated increased standard of living. There should be ample open areas suitably planted to give the impression of space and the buildings should be low and conform with the indigenous style while taking advantage of modern techniques." These ideas are reminiscent of the British New Towns, a movement in which a number of planners and architects from the UK (such as John R. Harris) were educated and later took to the Gulf region.

The location of the port and airport played an important part in the pattern of development recommended in the plan. The report suggests that dredging would be necessary to establish deep water within the *khor* and that the dredged material be used in a reclamation project to raise the level of land above high-tide level on the island. The airport relocation site is determined by the availability of high ground. As for circulation, the principal roads envisioned were comprised of one main route passing across the head of the island, linking the industrial, commercial, and administrative areas; another main route would lead from the causeway, past the airport and towards the industrial areas and the port. These two routes would be connected by a third, which would skirt the southwestern edge of the island. The palace would be the focal point in the whole system of roads. The administrative center was conceived on open formal lines, providing a "visual symbol of prestige and authority which civic and national pride have always tended to require from the earliest days of city building." An informal grouping was proposed for the neighborhoods and shopping centers to accord with traditional ways while providing safely and conveniently for pedestrian and traffic circulation. The provision of parking was not discussed in detail, but merely touched upon. Similarly, though public transport is referred to as "essential," the plan made no provision for it.

The plan also recommended that all buildings in the city should be demolished except for the Palace and a few other buildings, with buildings in the center designed to heights of two or three stories to maintain the scale of the existing palace. Tree-lined boulevards are also accounted for, particularly along the axis from the palace to the sea. Another axis would also be provided that culminated at the mosque, and the crossing of these two axes would have a wide tree-planted plaza or public garden. Open recreational areas were also considered essential, with suggestions that the state provide for such areas and that they "should be liberally adorned with trees affording natural shade and beauty." Public services such as water, electricity, and telephones should have their facilities, wires, or cables placed underground. Drainage and sanitation recommendations included the provision of septic tanks and the later installation of main sewer networks.

The factors that influenced the proposals in the development plan mainly resulted from the belief that the development of onshore oil fields would play an important role in the physical development of Abu Dhabi Island. It is clear that one of the plan's main objectives was to facilitate communication between the island and the actual oil-producing areas. Other objectives included the reflection of local traditions in the character of building development, with low-rise buildings conforming to the indigenous style; the provision of ample open and green areas; the preservation of existing belts of palm trees and existing mosques; the provision of water and electricity supplies, sanitation, refuse disposal, medical services, hygiene measures, and other services paralleling population growth; the provision of education and social services; the introduction of light industries; and finally, the encouragement of agricultural development.

The report then presented a schedule of the program and priorities, indicating the annual financial expenditure estimated for each item. An implementation plan was also provided, wherein the authority to control building applications was given to the joint engineers and the Consultants. In order to enable work according to this program, the implementation plan proposed certain initial developments which would be carried out immediately on special, negotiated, contractual terms. These included: temporary jetty; initial power supply; initial water supply; skeleton road communications system to and on the island; and a natural water resources survey. While these items were under construction, the Consultants would undertake fuller surveys and site investigations for the agreed projects of the main program that would thereafter be carried out with full designs, documents and competitive tendering or bidding.

The report also included recommendations regarding development control and land allocation, building loans, government organization, and the Consultants/Joint Engineers' services. In handling development control and land allocation, the Consultants recommended establishment of a land registry and a development committee consisting of state representatives, the political agent, and leading members of the community, advised by the Joint Engineers. It also suggested a similar committee to control urban forms and standards of building construction and to circulate building by-laws. In terms of building loans, they recommended some financial inducement be

offered to the population as encouragement to improve their own social and domestic circumstances. Alternatively, they suggested that the Government might erect, at its own expense, varying types of properties or dwellings that individuals could rent or purchase on mortgages, depending on their resources. The Consultants also indicated the government organization considered essential to control and administer the plan. Finally, the Consultants wrote, "it is inevitable that the Government would have neither the trained staff, the facilities, nor the experience to deal with most of the problems for some appreciable time and we suggest that in this respect the Joint Engineers could be of considerable further assistance." They suggested setting up in Abu Dhabi a properly staffed and equipped engineers' establishment, with the backing of both Halcrow & Partners and Scott & Wilson, Kirkpatrick & Partners' offices in London. The office would deal with day-to-day problems and provide advice and assistance to the Abu Dhabi government until it established its own departmental organization.

It is possible that the report prepared by Halcrow & Partners and Scott & Wilson, Kirkpatrick & Partners contained elements of its own failure. It emphasizes the growing needs of the town, anticipating a population growth for Abu Dhabi in five years from 4,000 to 25,000, and an ultimate population of 100,000. The first problem with this estimate was that the assumed full build-out of the city did not make sense for a small population. John Elliott argues that the minimum population for a modern city is 250,000. He claims that,

[...] there is no city that can provide services of a modern city (schools, hotels, hospitals, etc.) without having a population that provides or allows such services. For example, you cannot make a school for ten children. A school has a minimum size to justify a staff of teachers. So the services have to be justified by a certain population number (Reisz 2007).

Furthermore, a planning administrator for Abu Dhabi mentioned in an interview that, "the Consultants did not take into consideration that for a fully-fledged town, the minimum population – not the maximum – is 100,000, with room for more" (Interview #36). The plan did not imagine that Abu Dhabi would ever become a large city, so this mismatch between population and services did not justify the need for extensive development. The same observer also noted that the works actually executed were relocated by 1968 because their accommodation in the plan was limited. For example, the industrial area, the sewage treatment plant, and the airport were all moved.

Another issue that may have raised concern is the recommendation for the import of 4,000 laborers plus their families from outside the emirate. Knowing Sheikh Shakhbut's attitude and feelings towards foreigners, his reasons for refusing to act on this aspect of the plan are obvious.

The plan also identified Abu Dhabi mainly as an oil export station with some industrial, administrative, and commercial functions. Given that this vision of Abu Dhabi seems to have been crafted mainly to satisfy the needs of the oil company, it is not surprising that Shakhbut may not have favored the directives it issued. These

include the replacement of the curvilinear road network with an efficient regular grid, the demolition of all old buildings to accommodate the new road network, and rebuilding everything from the ground up with modern materials. Shakhbut's aversion to anything that threatened the traditional way of life, and perhaps his unwillingness to turn his town into an oil export station (remember, he was not even interested in the oil revenues), may have slowed or thwarted the plan.

The Ruler found it difficult to commit to the proposed large-scale expenditure. He could not be persuaded that Abu Dhabi needed to be transformed into the modern town pictured in the consultants' plan, remarking that, "[...]this is Paris! We don't want a Paris in Abu Dhabi!" (Maitra and Al-Hajji 2001).⁵² In his opinion, the plan was too grandiose and he refused to approve or disapprove it. His inaction on the matter was met with frustration from British officials as well as the ruling family, including Shakhbut's mother Salama, who "has agreed absolutely that [Zayed] and Khalid should keep the pressure on him until he develops the country properly" (FO 371/163025, 7 July 1962). Shakhbut wished to move slowly and carefully and was reluctant to spend any money; however, the Abu Dhabi Consultants and the political agent, in addition to his brothers, urged him to agree to the town plan and to spend money on a "bridging scheme" to connect the island to the mainland. In July, Boustead reported that he, the ruler, and the ruler's brothers spent two hours in discussions until Shakhbut agreed to the detailed development plan because "he was convinced of the political and social consequences of refusing it" (ibid.).

Nevertheless, Shakhbut did not tolerate any of the pressure and continued to stall on implementing the plan. By the end of the year, Boustead reported to the Foreign Office in London that "Shakhbut's attitude with regards to the most elementary forms of development...is one long story of frustration and obstruction" (FO 371/163026, 17 November 1962). Throughout 1963, friction among Shakhbut, the Consultants, and their contractors mounted. The Ruler delayed paying for their work (it is reported that in February he was 40,000 pounds in debt to the Abu Dhabi Consultants, 306,000 pounds in debt to the contractors, CAT company, and that he still owed John Harris 2,000 pounds for earlier town planning work [FO 371/168931, 13 February 1963]). He also continually mistreated them and accused them of cheating. Boustead wrote to William Luce, the political resident in Bahrain:

Ridehalgh [the Halcrows representative] arrived determined to straighten out some things with the Ruler. Consultants' dissatisfaction at the way they had been treated. The Ruler launched a counterattack in which he expressed his dissatisfaction with the way he had been treated: why were the Consultants trying to charge him for moving his distillation plant, why were they trying to withdraw from land allocation, which everyone knew was their job, and why oh why had they tried to build a nasty little causeway when he had always wanted a bridge?

Next day, Ridehalgh decided to take the Ruler out to the causeway to see what sort of bridge the latter wanted, and if possible to talk him out of the whole idea. CAT director

⁵² Shakhbut visited Paris in 1951 re: the sea-bed concession arbitration between Superior Oil Company and PDTC

accompanied them...The Director of CAT tried to explain that a bridge was not necessary but he was cut short by a ten-minute stream of invective from the Ruler who described both CAT and the Consultants as charlatans and thieves whose only interest was to cheat him out of his money.

When widespread criticism of the Ruler's behavior appeared in newsprint, the Ruler blamed the Consultants and contractors for leaking the information (FO 371/168931, 5 August 1963). For example, on 6 June 1963, an article appeared in a UK-based magazine stating that the Ruler had refused the town plan; although Shakhbut contested this statement, Boustead wrote to Luce saying, "If he has not actually refused the Town Plan he has done very little to implement it" (FO 371/168931, 12 August 1963). The situation did not seem to improve much the following year, given that the Ruler continued to ignore or criticize the Consultants (see for example, FO 371/174701, 23 May 1964), and entered into agreements with contractors without the Consultants' knowledge. Boustead reported:

Last summer he signed his agreement with Seiberts, without the Consultants' knowledge. As a result, nine months later all he has to show are two prefab schools which have been erected and a prefab hospital which is still lying in its packing cases. Shakhbut does not appear to have profited from this experience however since he is still ignoring the Consultants and trying to handle the awarding of the pipeline tender himself. This is likely to lead to yet another muddle and an unnecessary waste of money. As a final touch of irony he accuses the Consultants of inefficiency and threatens to cancel their contract if they do not improve! (FO 371/174701, 30 March 1964).

There is no mention in the 1964 archival records of anything relating to the Consultants' completion of the project. Moreover, very little is reported on Abu Dhabi's physical development or planning in the 1965 archival records, making it difficult to determine how the Consultants' time as Abu Dhabi's planners ended. One might surmise that the relationship between the Consultants and Sheikh Shakhbut was very strained, and eventually ended.

Brian Colquhoun and Partners

During the latter half of 1964 and the beginning of 1965, several companies wrote Sheikh Shakhbut with offers to provide consulting engineering services and planning and development advice. These included the Canadian Consortium of Consulting Engineers (CANSUL), as well as the British firms Derek Lovejoy and Associates and Brian Colquhoun and Partners. At this point, the offers were no longer restricted to British firms, because the discovery of oil had opened up Abu Dhabi to the rest of the world. The British officials, however, continued their attempts to influence the Ruler to select British firms. In April 1965, the job was awarded to Brian Colquhoun and Partners, who were assigned the responsibility of planning and supervision of development, including projects like electricity, water, roads, airports, bridges, municipal works, and sewerage (NCDR File No.165; FO 371/179906, 7 August 1965). No sooner had the new consultants begun to prepare a development plan than they

were directed to stop (NCDR File No.78). Sheikh Shakhbut had decided to terminate his agreement with Brian Colquhoun and Partners “on the (false) grounds that their specifications were useless and canceled all development projects” (FO 1016/737, 4 June 1966). No copy of the Colquhoun plan exists in any of the records, but given the short amount of time between their employment and termination, it is possible that no such plan was ever drawn up.

ARABICON, Part One

For the most part, the archival records for the year 1965 focus on the Trucial States Development Fund (TSDF). They demonstrate Britain’s preoccupation with blocking Arab League funds from coming into the Trucial States while pressing Sheikh Shakhbut to contribute to the TSDF and to sign a 50:50 agreement with ADPC. Few development records were kept; therefore, little is known about what happened to development plans and about development work in the latter half of the year after Brian Colquhoun left. By the beginning of 1966, however, an architectural and engineering consultancy by the name of ARABICON was working on projects in Abu Dhabi. According to exchanges between John Elliott, who headed the planning department of ARABICON, and architect Ann Wimsatt, ARABICON was formed after a chance meeting in London between British architect Freddie Webb and oil company employee Ian Cuthbert:

Freddie liked a drink and one afternoon in early May or June 1966 he popped into a pub in Chiswick for a pint. Standing next to him was a tall sun burnt man (Ian Cuthbert). They got talking and it turned out that he worked for a major oil company and learning that Freddie was an Architect said that they should immediately form a consultancy to assist with the boom that was going to happen in Abu Dhabi – as contrary to previous reports, Abu Dhabi had huge oil reserves...So Arabicon Consultants was born in 1966 from the amalgamation of Alan Grant an Engineer and George, Davies and Webb architects (Elliott to Wimsatt 2009).

The date of ARABICON’s establishment may have been noted in error, because other records show that by February 1966, ARABICON was awarded the town planning of Abu Dhabi (for example, a letter from Sheikh Shakhbut to the director of the Abu Dhabi municipality dated 1 February 1966, requests that the control of building permit applications are assigned to ARABICON, “which is responsible for city planning” [NCDR File No. 82]). In another interview with Todd Reisz, John Elliott mentions, “One day in 1966... It was a hot day in August” (Reisz 2007). It is very likely that Elliott meant August 1965 and not 1966, given that Brian Colquhoun departed in August 1965 and Ian Cuthbert may have been quick to grab the opportunity this vacancy presented. In a letter from John Elliott to Ann Wimsatt:

Ian Cuthbert's mother was Egyptian (I think) and he grew up in Cairo which is why he could read and write Arabic. I believe he was an oil exploration man in the Trucial States from way back and so probably knew of the oil company’s (and the British Foreign Office) plans for the Sheikdom. Knowing [Sheikh] Zayed and on the basis of his pint

with Freddie Webb, Ian Cuthbert may have been able to go to [Sheikh] Zayed with a much safer development offer (Elliott to Wimsatt 2009).

The letter also mentions that Cuthbert was in contact with Sheikh Zayed, which raises the point that hiring ARABICON may have been Sheikh Zayed's initiative. Indeed, Sheikh Shakhbut was continuously being pressured by his brother, who believed that Abu Dhabi needed to be developed.

ARABICON worked on the planning of Abu Dhabi's main roads and street lanes, as well as on the new jetty, although Shakhbut canceled the latter in 1966 despite having detailed plans prepared for it.⁵³ It was not until John Elliott (who had experience in town planning in Sweden) joined the company that development options for the town were drawn up (these will be discussed in Chapter Five). By that time, Sheikh Shakhbut had ended his term as Abu Dhabi's ruler, and Sheikh Zayed had taken over.

4.4 Arish Village

Shakhbut heavily resisted change in Abu Dhabi. At the urging of the British officials and key members of the ruling family, the Ruler eventually permitted some planning and development to take place, though the emirate remained largely under-urbanized. This section first examines the makeup of the traditional settlement in the years 1960 and 1961 and then describes the slow development of the emirate between 1962 and 1966, spurred on by the arrival of British and other international consultants.

1960-1961: The Under-urbanized *Freej*



Figure 4.11 Aerial view of Abu Dhabi town 1960

⁵³ During this time, CANSUL was also commissioned to design and supervise the construction of a new airport and bridge. See [no info], February 1966, FO 1016/737.

Looking at old images of Abu Dhabi, the town in 1960 is not noticeably different from the 1940s and 50s. In Chapter Three, a brief introduction to Abu Dhabi Island was presented, describing the conditions of the little township that was established by the sea. What is known about the island at that time is the existence of two major villages. A long-time resident of Abu Dhabi describes it as such:

You had two villages on the island. You had one around the old fort, sort of where downtown Abu Dhabi is today and you had a fishing village called Bateen, what is now the Bateen area near the Central Bank. There were a few coral and stone houses at the end of what is now Airport Road. Boats used to pull up at the beach and there were these old houses there. Otherwise, it was just sand. No roads, no nothing (Interview #2).

Corroborating this, Abdelrahman Makhoulf (1994) – one of Abu Dhabi’s town planners of the late 1960s – examined the layout of the Island in the 1950s, and in his map he notes the same villages (indicated as *Al Farda* and *Al Bateen*) (see Figure 4.12).

In the 1950s, the main features of the settlement that grew along the coast included: the palace; a central area with mosques, the *souq* or market, and a police station; a recreation area between the palace and the central area; and residential areas, consisting predominantly of palm-frond houses but with some coral or mud-brick homes belonging to the more affluent merchants and families (Makhoulf 1994) (see Figure 4.13).

The increased activity by the oil companies in the late 1950s helped to stimulate the beginnings of commercial growth in Abu Dhabi. Many Abu Dhabians who were employed in the oil industry used their experience and English language skills to open small businesses, mainly serving the oil companies and their contractors, as well as the civil engineering consultants and their building contractors. Their main commodities were motor vehicles and spare parts, building materials, and canned food (FO 371/185578, February 1966).

The Ruler’s palace was located between a row of palm trees and the rear of the town. The *souq* was located near the palace and was accessible only to pedestrians. It consisted of two rows of shops, about thirty in total (though this number dwindled to eight by the late fifties and early sixties), which faced each other across an alley that was about one meter wide (approximately 3 feet). Each of them was about nine square meters (27 square feet). Most shopkeepers improvised shelters from palm fronds, while the more wealthy merchants built little open-fronted booths of coral and gypsum. An interviewee noted:

You came down on this dirt track from the old fort, the Hosn, and you kept going down until you reached the BP petrol station, which was fairly new of course, then on the right there was sort of an open space where there were ladies selling fish and behind that was the way into the souq (Interview #7).

Another interviewee explained:

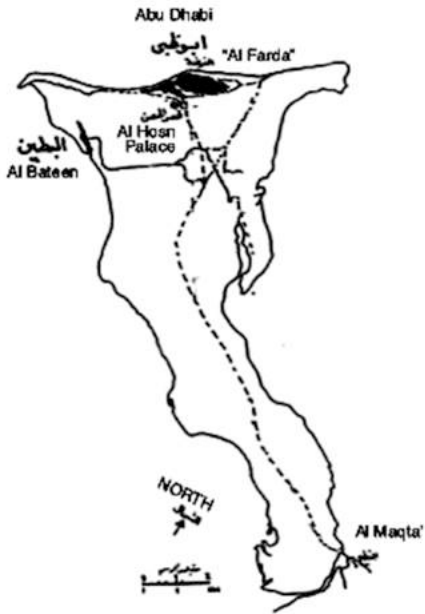


Figure 4.12 Abu Dhabi Island 1950s

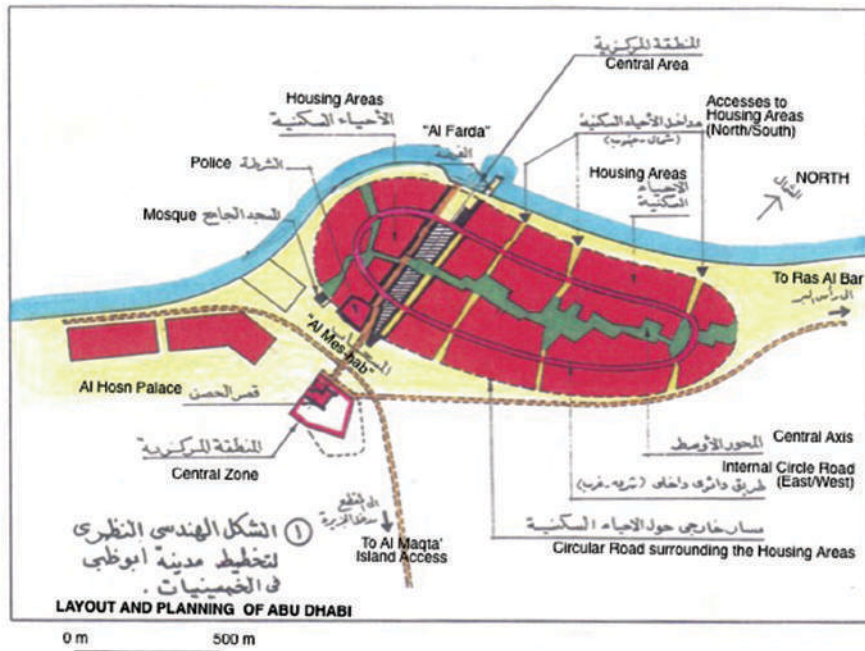


Figure 4.13 Abu Dhabi layout in the 1950s



Figure 4.14 Scenes from the *souq*

The souq was a narrow passageway... All the shops were elevated above the passageway about a bit higher than this [pointing to an elevated area in his house]. The floor on the shop went all the way to the back and there'd be someone at the back sitting with all his wares around him. We'd walk along this narrow passageway and there was matting over the roof (Interview #2).

Similarly, Ronald Codrai writes,

The layout of the *souq* was not planned, but had evolved over the centuries out of practical considerations. Merchants and artisans of the same trade tended to set up business alongside each other, forming specialist areas. Fish were unloaded and sold on the outskirts, as were livestock and timber and stacks of mangrove poles. In the blacksmiths' and pot makers' sector there was a continual noise of hammering – which suddenly stopped as one entered the strangely silent area of the cloth sellers (Codrai 2001[1990]).

The *souq* was also the only place other than the airstrip with a hard surface (graded sand bank). According to Mohammed Al Fahim (1995), the shopkeepers sprayed water on the sand pathway so people could walk in between the shops more easily.

In the early 1960s and for a long time prior to that, nearly all the buildings in Abu Dhabi were of semi-permanent or *arish* construction, built of palm fronds harvested from date trees. The exceptions were a small number of coral, mud-brick or clay houses that belonged to the wealthier residents and the ruling family, and some of these fashioned an upper floor and an ornate wind tower used for cooling (Al Fahim 1995; Heard-Bey 2006). The residential areas were split by *hara* or *freej*, which are tribally distinct quarters or housing complexes accommodating extended lineage groups,



Figure 4.15 More *souq* scenes

separated from each other by empty spaces of sand or beach. Such areas were inhabited by members of the same tribe or sub-tribe, and extended families in the settlement kept a little distance from the other families around them (see Figure 4.16). An extended family in a typical household lived within the confines of a rectangular fenced compound that included a courtyard. The principal division of each *freej* was side-by-side facing north to draw in the cool *Shamal* (northern) winds and to protect against sunlight (Makhlouf 1994; Al Fahim 1995). The compounds or fenced enclosures were connected by a series of random internal walkways known as *sikkak* (singular *sikka*), and these also connected the homes to community facilities such as the mosques and intimate public spaces known as *barahaat*. According to Frauke-Heard Bey (2004[1982]), none of the rooms of the house or the courtyard walls had windows at eye-level to the outside; there was often a curtain wall opposite the rear door to guard against people seeing into the yard when the door was opened.

The architecture of the traditional *arish* homes was simple yet innovative. Palm trunks were used for the frame and roof beam, while palm branches were tied together with ropes made of fiber surrounding the foot of the tree trunk to make large solid mats that provided the walls of the house. In the summer, the wind could blow through the gaps, allowing for natural ventilation; in the winter one or two additional layers were added for warmth. The palm fronds were also woven into thin mats, several layers of which formed the roof. The floor of the houses was usually sand, although sometimes the palm frond mats were used (Heard-Bey 2006).

According to Makhlouf (1994), the main routes on the Island stretched from the al-Maqtā' ford on the southeastern tip towards the Ruler's Palace and the main town; another route passed through al-Bateen; there were two paths to the northeast of the



Figure 4.16 and 4.17 Traditional *arish* dwellings

Island: one from al-Maqtā and the other from the Palace (this path abutted the perimeter of the main town from the south); and finally a route led from the palace, along the shore to the west of the Island (north of the western residential area). These tracks accommodated camels and pedestrians, for few vehicles traversed the town.

Until the 1950s, none of the local Abu Dhabians owned a car with the exception of the sheikh, a few members of the ruling family, the odd merchant who had a vehicle to use for taxi or for transportation services, and the oil companies who brought in desert-trekking Land Rovers (Al Fahim 1995; Heard-Bey 2006).⁵⁴ Access in and around the main settlement facing the sea (internal roads) included a dirt track around the perimeter of the settlement, an internal circular track, a central axis route for East-West movement, as well as North-South narrow lanes into the housing areas (Makhlouf 1994) (see Figure 4.18). Makhlouf's maps show no indication of the airport, however, which at the time was situated at about the center of the length of the island (Mann 1964). It was simply a strip of tarmac or a graded sand strip capable of taking only small aircraft. There is no sign of the Political Officer's residence on Makhlouf's map either, although it is possible that it was at quite a distance from the indigenous settlements, along with the houses of other expatriates (Ansari and Qutub 1983).

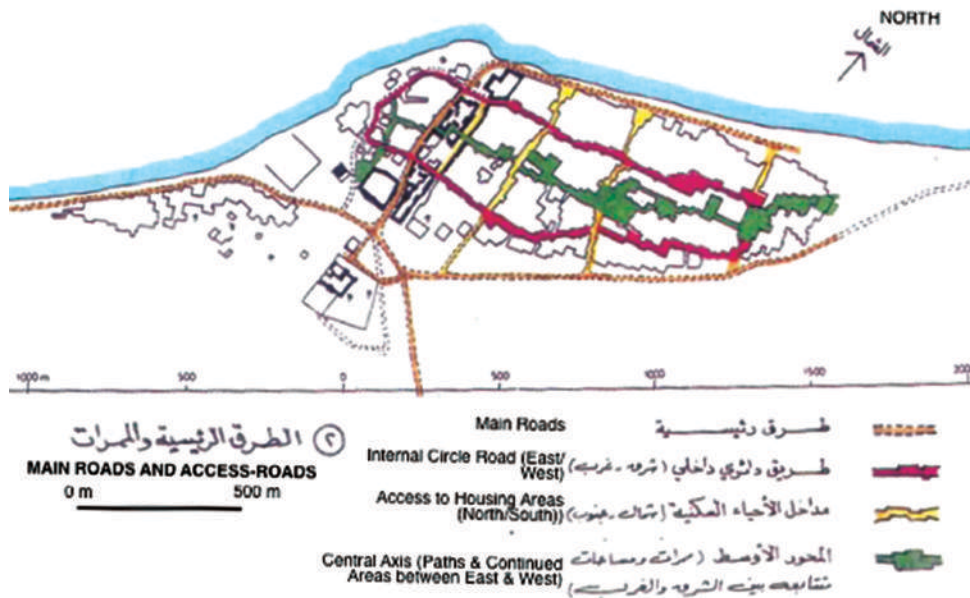


Figure 4.18 Abu Dhabi circulation patterns 1950s

Makhlouf's (1994) drawings show what may have been the basis of town planning and land allocation in the sixties (see Figure 4.19), such that the town is divided into six sectors to the east and west of the central (commercial) area and these are numbered as: East (1), East (2), East (3), West (1), West (2) and West (3). The eastern sectors spread out for about 1,150 meters (approximately 3,772 feet) from the central area, while the western sectors extend about 1,000 meters (3,280 feet), with the largest

⁵⁴ Back then, Abu Dhabians drove on the left hand side like the British. There were no license plates, and because there were so few cars, it was easy to identify which vehicles belonged to whom by the color, make and model. Al Fahim, Mohammed (1995). *From Rags to Riches: The Story of Abu Dhabi*. London: London Center of Arab Studies.

sector being no larger than 450 by 600 meters (approximately 1476 by 1968 feet) for the sake of walking convenience. The drawing also shows the *mis-hab* or recreation area.

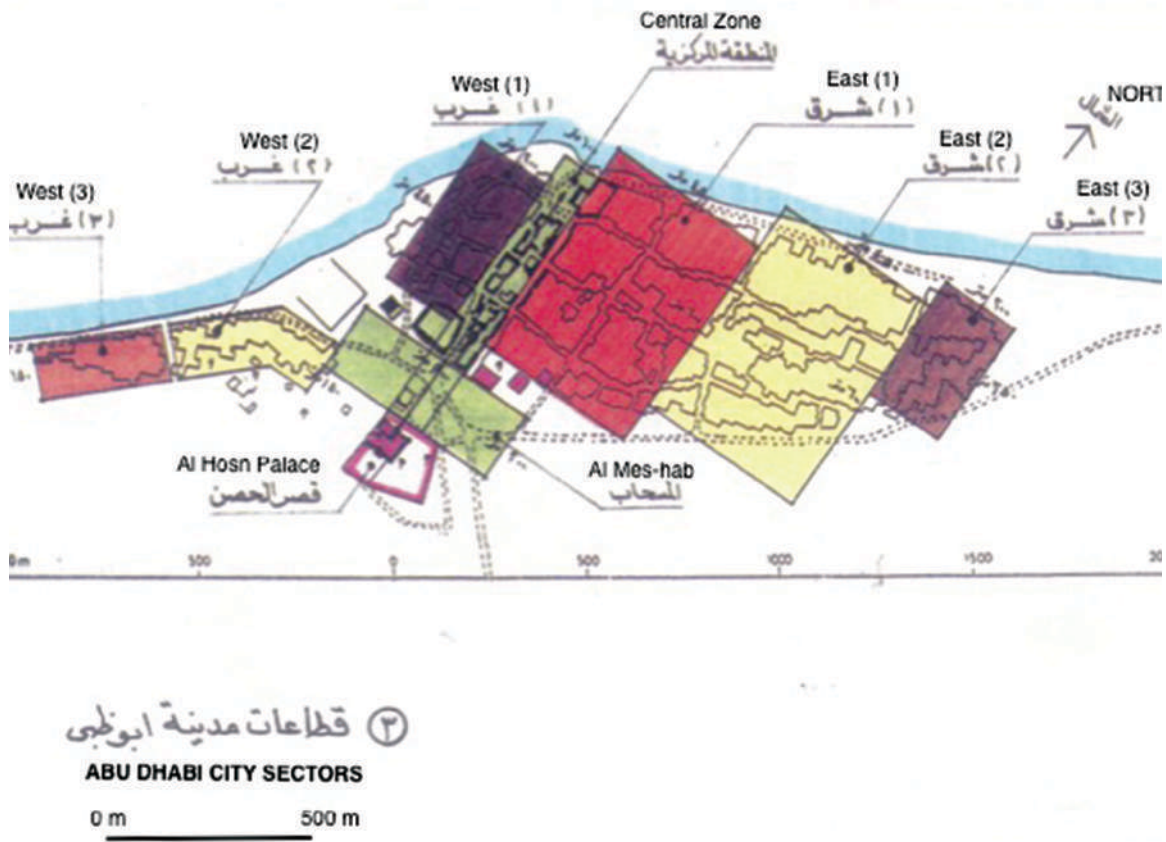


Figure 4.19 Abu Dhabi sectors 1950s

In September 1960, Edward Henderson produced a sketch drawing of Abu Dhabi, which indicated the main districts or areas on the Island (Archive Editions 1992). Besides the Palace, these areas included Al Bateen village, Ras Al Bar (at the northeast tip of the island), Al Damiyah (an area southwest of the northeast tip, where a solitary house stood, and the area of Al Damiyah was about ½ mile in diameter), and Al Khubairah residential area (to the westerly corner of the island) (see Figure 4.20).

At this point, it is suitable to present the names of the different tribes residing in the township and to note their living quarters. Makhlouf's map, which only shows the main settlement along the width of the north part of the island, denotes the housing clusters of Al Orayfat, Al Qimzan, Al Hawamil, Al Otaibat, Al Baharna, Al Qubaisat, Al Rumaithat and Al Rawashid, as well as the Al Bu Falah residences (Makhlouf 1994) (refer to Figure 4.21). Edward Henderson lists a larger number of tribes and sub tribes, encompassing those residing on the entire island, including in Al Bateen. In his letter to the Foreign Office of 17 September 1960, he mentions that he has labeled these quarters on some proofs attached (Archive Editions 1992), but these proofs are not available in

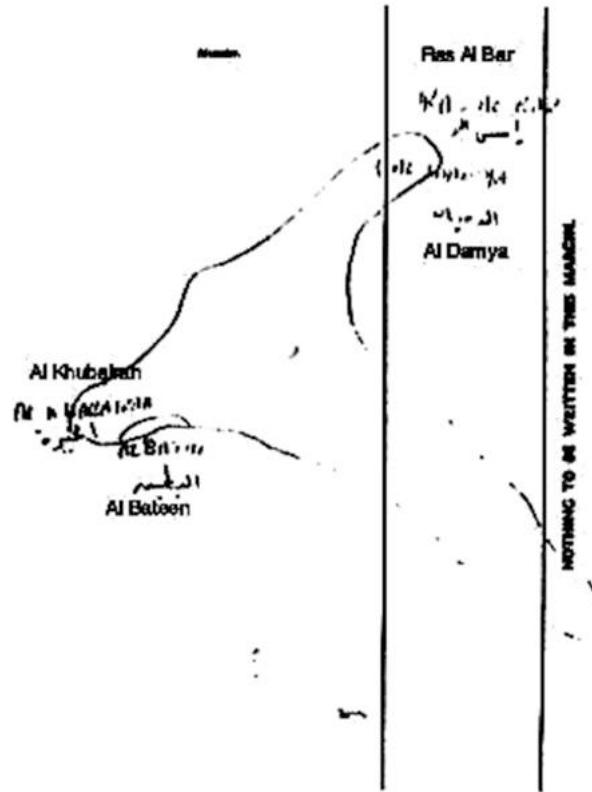


Figure 4.20 Edward Henderson's sketch of Abu Dhabi 1950



Figure 4.21 Residential areas in Abu Dhabi 1950s

the archives of the National Library. The quarters are: Dheilat, Al Qimzan, Al Hamran, Al Hawamel, Al Shubah, Al Mazari', Al Ras, Al Baharna, Jalaleef, Rank, Ajam, Al Qubaisat, Al Rumaithat, Al Rawashid, Al Maharba, Al Bu Muhair, Al Sudan and Al Bu Hmeir.

Henderson's sketch, like Makhlouf's, shows the creek at al-Maqta' which divides the Island from the mainland. In the past, camels and vehicles could only cross the creek, with difficulty, at low tide but at times of high tides or northwesterly winds, the channel was impassable. An informant noted: "I had friends who were here before the Maqta bridge. Edward Henderson told me he would sit and read Shakespeare, waiting for the tides to subside. He said he read the whole of Shakespeare that way" (Interview #7). In 1952, after extensive lobbying of his management in London, Henderson - then a representative of PDTC - was able to obtain some funding to pay for the construction of a simple causeway using stone and mud and it was built for PDTC by a Pakistani contractor by the name of Khan Saheb Hussein (Hellyer 2001). This was one of the first major civil engineering contracts in Abu Dhabi. The approach to the causeway was guarded by a fortified customs building manned by a police detachment, and to the north of the causeway there stood an old watchtower dating back to the middle of the 19th century.

The early roads were completely unpaved, lest for one road which was built by Sheikh Zayed in 1961 during his brother's absence on holiday overseas (Al Fahim 1995; Hellyer 2001). The road extended from the main settlement on the island all the way to the mainland at al-Maqta', and was constructed by alternating layers of *sabkha* with dry sand and rolling it (FO 371/157023, September 1961). This process was used for the construction of the first roads in Abu Dhabi, described by an interviewee as such:

So, the town of Abu Dhabi then was really quite simple. We used to drive along roads switching tracks. The first roads really built in town here were, it was *sabkha*, brought in from the outside. The gypsum sort of mess, it was brought in, laid down, watered, and rolled and it made a good firm surface better than driving on sand, but it did break up very quickly, which made holes, and little cars seemed to drive into these holes (Interview #6).

Another interviewee explained:

There were no surface roads at all otherwise it was *sabkha*, which is the salt and the sand mixed, and this used to be made flat and they would come in and scarify it. What it is, you have sort of diggers at the back of the JCB that would just loosen it all and then a grader that's used on roads generally you'd scrape it so that it's just level then you'd come in with the roller, steam rollers as we used to call them, just roll it to flat and level. And that would last about 3 or 4 months before potholes developed and you'd have to scarify it again, level it and roll it, and the trouble with *sabkha* was in the winter it would just turn to mud. With any rain it was all becoming impossible. You had to use, basically, there were some cars here, most people had Land Rovers four-wheel drives (Interview #34).



Figure 4.22 Stone causeway, customs post and watchtower.



Figure 4.23 Wells in Abu Dhabi

There was no public service for water, drainage and sanitation. The population had to rely on very shallow wells for water located at some distance from the settlement (the main part of town was backed by a row of shallow wells surrounded by a thin line of date palms). Hauling water from the communal wells usually required community

effort and coordination, filling goatskins and loading them on to donkeys in some cases, or pouring water into clay pots that were then carried on the head. The water was brackish, meaning it was salty and unpurified, and it was frequently filtered through a corner of a head cloth to reduce impurities (Codrai 2001 [1990]; Heard-Bey 2006). In December 1960, the first water distillation plant was delivered and installed by a British firm, capable of producing 12,000 gallons per day (FO 371/156687, December 1960), but this was not enough. Shakhbut then ordered a second plant in 1961 but "...the suppliers failed to provide sufficient intake piping from the sea and the Ruler neglected to order storage tanks, so the plant stood idle for a long time" (Al Fahim 1995). Supplemental water had to be transported by barge from Dubai, and this was sold in five-gallon tins to the residents (Mann 1964).

There was also no public electricity, although some private generators were installed here and there; for example, a portable generator provided electricity to Sheikh Shakhbut's palace from 1961 onwards, albeit after ardent lobbying (he was concerned about safety and "wary of the dangers of an Englishman's invention" [Al Fahim 1995]). In 1963, several companies submitted tenders to Shakhbut hoping to be awarded the responsibility of installing, maintaining and supplying electricity in the state of Abu Dhabi. These included: Engineering Projects Ltd. (who formed an LLC called "Abu Dhabi Electric Supply Company Ltd" and whose Abu Dhabi shareholder was the prominent merchant Khalifa bin Yousef); Gray Mackenzie; Seiberts- Hashem ("the Germans"); GEC (who later dropped out); Hawker Siddeley; and African and Eastern Ltd. (on behalf of English Electric) (FO 371/168947, 22 July 1963). All but one of the schemes proposed were rejected because they involved the Ruler's financial participation, which he consistently refused. Writing to the Political Resident in Bahrain, the Political Agent in Abu Dhabi claimed:

The basic problem is that the Ruler does not really want to put any money up for the power scheme but wants the station to be financed, built and operated by a private company who would, of course, be expected to give him a share of the profits. This has had a considerable deterrent effect (FO 371/168947, 22 July 1963).

Shakhbut's ludicrous demands from all of these companies could be interpreted as a strategy he used to ultimately deter the supply of electricity into Abu Dhabi. Boustead writes:

[...] it may be his way of making known that he does not want Abu Dhabi to develop at the pace that introduction of a power supply might induce, one of the important results of such a scheme coming to life being the advent of hundreds of expatriate employees of ADPC, with all the consequences this would bring in the way of housing, offices, transport, and increased business in the souq. If one accepts that the lack of a main electrical supply is an important barrier to development and local prosperity, and I think nearly everyone does, then his present attitude is proving a most effective stop (FO 371/168947, 2 September 1963).

Abu Dhabi Electric Supply Company (a subsidiary of Engineering Projects Ltd.) managed to sign a contract with Shakhbut, who granted them a 20-year concession-for

the supply of electricity in Abu Dhabi (see 11 March 1963, FO 371/ 168947). However, after several failed attempts to raise funds for the project, the concession was cancelled (see for example: FO 371/168947: 22 May 1963, 17 June 1963, 19 August 1963, 29 August 1963, 5 September 1963). Disappointed with the outcome, Albert Abela –one of the shareholders of the Abu Dhabi Electric Supply Company Ltd. who also held the catering contract for ADPC at Tarif –approached the Ruler with an electrification proposal in late 1963, having formed the Eastern Investment Trading Company with Lebanese and Syrian associates.⁵⁵ Abela was almost successful in receiving the Ruler’s signature on the agreement but Shakhbut once again proved to be difficult. Boustead reported:

[...]at the moment when it seemed that nothing could stop the agreement from being signed, the Ruler made an impossible demand of 10% of the gross takings for himself and Mr Abela had no alternative but to refuse and depart. Once again Sheikh Shakhbut has shown his inexplicable reluctance to see an Electric Power supply set up in Abu Dhabi (FO 371/168947, 2 December 1963).

Communication services did not exist in Abu Dhabi until a telegraph office opened for business in 1960. Abu Dhabians usually shared news in the *souq* or in the Ruler’s *majlis* but the oil companies and the British political officers persuaded Shakhbut that they needed an efficient method of overseas communication, especially between Abu Dhabi and London (FO 371/149069, 20 June 1960; Maitra and Al-Hajji 2001). Most communication between London, Bahrain, Dubai and Abu Dhabi required personal visits, which were very difficult. In June or July of 1960, Edward Henderson also raised the question of postal services with Shakhbut, proposing that the British Government would assume all the responsibilities and expenses of establishing and running it, and that profits would go to the Ruler (FO 371/149069, 20 June 1960). Shakhbut’s attitude towards the matter was not forthcoming, his objection being that his people have not had a post office for the last 200 years, therefore, they did not need one now (Mann 1964; Rabi 2006).

There were also no hospitals or even schools in the 1950s, as Shakhbut did not prioritize healthcare or education. The predominant majority of the population was illiterate, except for a small number who attended the religious school (*madrassa*). A *mulla* ran the school and the syllabus consisted mainly of reading the Quran, and sometimes he taught rudimentary arithmetic and basic reading and writing in Arabic. For years, a legendary character called Darwish bin Karam, known as Mulla Darwish, ran the school. Mohammed Al Fahim recalls:

Like the houses in Abu Dhabi town the school was built of palm fronds, a round, one-roomed shelter with a pitched roof. Of course it had no equipment, teaching aids, sanitary facilities or water...Despite these primitive amenities and the lack of educational tools, Mulla Darwish bin Karam did an admirable job of instructing the village children. His teaching style was simple. He would position himself in the middle of the room

⁵⁵ Local figures involved were Khalifa bin Yousef and the Ruler’s son Sultan. See Abu Dhabi to Board of Trade, 6 October 1963, FO 371/168947

facing the door while we, the pupils, sat in the sand or on woven mats in a circle around him. Twenty-five or thirty of us, boys and girls, sat silently reading, each of us struggling over a different page of the Quran (Al Fahim 1995).

In 1958, through the Trucial States Development Scheme, the British Government constructed a six-room building that was given to Sheikh Shakhbut to be used as a school. In terms of amenities, the new Al Falahia School was not much of an upgrade from the old *arish* hut, because it still lacked basic equipment and facilities. At the new school, the schoolchildren were divided into three classrooms, and Al Fahim recalls how the Ruler questioned the need for additional teachers, “saying the mulla had managed quite well on his own for many years” (ibid.). Shakhbut refused to employ foreign teachers or to accept the same Kuwaiti and other Arab curricula and teaching materials that were being used in Dubai and Sharjah. The school was shut down almost a year later and reopened in 1961 or 1962 along with Al Bateen School (Mann 1964; Rashed 1988; Davidson 2009). Shakhbut was renowned for his mistrust and bad faith in dealing with teachers, often failing to pay them for months at a time (FO 371/168919, 21 February 1963).

A medical facility was first introduced in 1961 or 1962, which solely consisted of a dispensary and an aid man. Shakhbut was incessantly pressured to improve medical facilities in the emirate, yet he continued to demur.

As for sea communications, until 1961 small boats used to pull up to the shore. In their survey, the Abu Dhabi Consultants noted the existence of a small jetty at the northwestern tip of the island, which was only suitable for small craft. Deep-water vessels had to anchor about four miles offshore and have their cargo unloaded onto



Figure 4.24 Temporary jetty in Abu Dhabi 1961

small lighters that then transshipped them to shore.⁵⁶ The Consultants later supervised the construction of a new temporary jetty at the northeast extremity of the island in the entrance to the east *khōr*. In their report, the Consultants supported the development of a permanent jetty on this site claiming that hydrographic surveys confirmed its attractiveness for obtaining increased depths at a later date by dredging.

Several foreign firms and banks managed to obtain Shakhbut's permission to open branches in Abu Dhabi, although this was given reluctantly and the Ruler insisted on taking twenty percent of their profits (Archive Editions 1992b). In 1959 the British Bank of the Middle East (BBME) opened the first bank branch in Abu Dhabi, followed by the Eastern Bank in 1961 and Grindlays in 1962 (both now part of the Standard Chartered Group), as well as the Ottoman Bank. Other foreign firms who established themselves included African and Eastern Ltd., Gray Mackenzie, Spinneys, Jashanmal and Sons, as well as some Arab contracting companies (FO 371/156687, June 1961; FO 371/168924, March 1963; FO 371/168933, 23 July 1963). The renowned Bustani family of Beirut (who owned CAT Company) also gained approval to construct a 25-room hotel on the beach at the northern end of the island, known as Beach Hotel (or the Emile Bustani Hotel), which was completed in 1962 and operated under a fifteen-year lease.

1962-1966: Slow "Progress"

When the Abu Dhabi Consultants conducted a survey of the island in 1962, they noted the Municipality and Court House as prominent buildings in the city. Another observation they made was that there was a tendency for the town to grow in length along the beach rather than in depth. They also reported that an embryo road system based on the "Harris Plan" was slowly being developed (Archive Editions 1994).

It was not until 1963 that Shakhbut agreed to the establishment of a post office, in response to the rising demand from both local and foreign businesses, including ADPC, and from the growing number of expatriate residents in the town (Hellyer 2001). That year, a telephone system was also established, which the Ruler inaugurated by making a call to the Acting Political Agent (FO 371/174711, 30 September 1964). Another development that took place the same year included an increase in the number of battery-operated radios, allowing the local population to listen to Radio Cairo. This access to the outside world largely influenced the opinions of Abu Dhabians with regards to their state of affairs, and contributed to their increasing dissatisfaction with the limited progress in the emirate despite the influx of oil wealth (Al Fahim 1995; Zahlan 1998[1989]). Moreover, there was no television, yet there was a cinema: An interviewee pointed to an image hanging in his home and identified a white-washed house by the beach, explaining that, once or twice a week, ADMA management used to project movies onto one of the walls of the house. People gathered to watch English language movies out in the open air (Interview #1).

⁵⁶ Peter Hellyer claims the old jetty was located at the northeastern tip of the island. See Hellyer, Peter (2001). *Early Days in Abu Dhabi: The Origins of ADCO, 1936-1971*. Abu Dhabi: Abu Dhabi Company for Onshore Oil Operations.



Figure 4.25 Abu Dhabi Municipality c. 1963

Shakhbut was extremely cautious about allowing any persons other than Abu Dhabi subjects to establish businesses in Abu Dhabi, and in 1963 he promulgated a law requiring all foreign firms to appoint agents in Abu Dhabi who were nationals of Abu Dhabi. He also restricted severely the number of merchants permitted entry into Abu Dhabi, including those from neighboring Trucial States (Joyce 1999). His reasons for imposing these hurdles perhaps stemmed from his strong mistrust of Arab firms in the Gulf, particularly Kuwaiti firms, with whom he had some bad experience. Boustead writes:

The Shaikh started to talk about the integrity of companies and told me how badly he had been let down by Arab firms in Kuwait who were agents for companies at home. I pointed out to him the necessity for my asking advice before accepting to make any agreements with them...He was altogether overcome by the lack of integrity of the Arab firms in the Gulf (FO 371/163034, 2 January 1962).

The Ruler had also entered into a large number of contracts with foreign firms without obtaining any legal advice, for he was unaccustomed to dealing with modern-style business negotiations (the Bedouin style of conducting business was simple, honorable and straightforward) (ibid.).

Strangely enough, and unbeknownst to the Consultants or to the British officials, Shakhbut entered into an agreement with a German company called Seiberts, who were represented in Abu Dhabi by a Lebanese businessman named Victor Hashem, to build two prefabricated schools (FO 371/168927, 9 August 1963; FO 371/174701, 30 March 1964). Seiberts completed the construction of the two schools and handed them over formally to the Ruler in December 1963.

In 1963, along with his sudden decision to permit the construction of two schools, Shakhbut also agreed with Seiberts and Victor Hashem that they would supply and construct a prefabricated hospital. Due to an internal dispute between Seiberts and

Hashem, however, the British prefab suppliers froze all consignments already landed in Abu Dhabi and the hospital parts remained untouched in their packing crates on the beach for almost three years (FO 371/174711, 31 December 1963; FO 1016/737, 4 June 1966). The hospital was finally erected in 1966, although Shakhbut delayed ordering any hospital equipment (ibid.).

Between 1962 and 1963, CAT Company worked on a new causeway at al-Maqta' under the supervision of the Abu Dhabi Consultants. When the causeway was about half finished, Shakhbut ordered construction to stop because "he never agreed to a causeway of this type and wants a large bridge" (FO 371/168925, 10 April 1963). This behavior was typical of Shakhbut, and when the Consultants and CAT Company tried to talk him out of building the bridge, claiming a causeway would suffice, he treated them to a tirade. The causeway probably remained unfinished until Shakhbut appointed CANSUL in 1965 or 1966 to design and construct a bridge (FO 1016/737, February 1966). In 1963, CAT Company also completed the construction of the permanent jetty as envisaged by the Abu Dhabi Consultants and the road linking Abu Dhabi Island with the Dubai-Tarif road. According to the economic and commercial report for the quarter ending 30 September 1963 (FO 371/174711), this road, which was constructed by CAT Company, was the final part of the preliminary Development Plan prepared by the Abu Dhabi Consultants.



Figure 4.26 Abu Dhabi in 1963

That year, a third water distillation plant producing 25,000 gallons per day was installed, after it had been moved four times (FO 371/168918, 27 April 1963; FO

371/168931, 5 August 1963). In 1964, perhaps inspired (or persuaded) by his brother Zayed's efforts to build an irrigation system in Buraimi (see Chapter Five), the Ruler requested the construction of a pipeline to carry fresh water from Buraimi to Abu Dhabi town. Though the Consultants advised him to first conduct a survey to ascertain whether there was enough water at the oases or not, Shakhbut refused to spend money for a survey on the grounds that he already knew there was plenty of water at Buraimi. "The success of the project only confirmed the Shaikh's belief in his infallibility regarding matters of the Shaikhdom" (Mann 1964). The pipeline was completed and paid for in 1965.

A power station was eventually approved and installed in June 1964, although it is not clear how this came about. Economic and commercial reports for quarters ending 30 June and 31 December 1964 note respectively that "the new power station with British equipment is nearing completion and power is expected, on a limited scale at first, during July" and "the Ruler informed [Abela] that he wished this undertaking to be in the hands of local merchants. He himself would make up any capital not forthcoming from the merchants" (FO 371/174711, 31 December 1964). Given Shakhbut's earlier reluctance, there is no explanation for this change of attitude, except perhaps that he was pressured into accepting the scheme. In any case, although Shakhbut's attitude towards the electricity project was further evidence of his outlook towards progress in Abu Dhabi, the opening of the first power station was a significant development for the town.

In 1965, another piece of tarmac was laid in the town, which stretched from the residence of the Political Agent in Abu Dhabi (now the British Embassy) towards the Ruler's Palace. Peter Hellyer (2001) quotes the Political Agent in Dubai, Donald Hawley, who "...stated that if he or visitors from the [oil] Company wished to pay a call upon the Ruler in the palace, it was necessary for their driver to build up as much speed as possible along the stretch of concrete, in the hope that the momentum would then carry the car through the sand to the gates of the palace." By 1966, there were a mere 100 vehicles in Abu Dhabi town, although some claim there were only 30 (Heard-Bey 2006; Ghazal 2011) and there were about a dozen merchants and a number of smaller firms set up in Abu Dhabi (FO 1016/737, February 1966). That year, Sheikh Shakhbut commissioned ARABICON to build yet another new jetty, but changed his mind after they had prepared detailed plans according to his specifications (FO 1016/737, 4 June 1966).

Looking at photographs of the city in the mid-1960s, the overall appearance of Emirati housing or traditional neighborhoods (*freej*) does not seem to have changed much at all since the 1950s. Thus, it is highly unlikely that the neighborhood designs envisaged in the experts' plans ever came to fruition. Supporting this theory is the fact that the recorded development expenditure from 1963 to 1965 covered only the construction of a jetty, roads, distillation plant, prefab schools, a water pipeline from Buraimi, and a power station (FO 371/185578, February 1966). Consequently, it can be concluded that Sheikh Shakhbut's vision of preserving the traditional way of life meant that Abu Dhabi remained under-urbanized during his rule.

4.5 Concluding Remarks

Abu Dhabi town was a relatively small *arish* village, at a walkable and human scale with buildings no taller than one or two floors. Between 1960 and 1966, there was no significant change to the overall appearance of the settlement, because to a large extent, Shakhbut had managed to cancel, postpone or hamper almost every development project submitted to him by his consultants, and was very slow to implement a structured development policy for Abu Dhabi. He had a guarded attitude toward development, was very cautious in his dealings, and was suspicious of any new initiatives that hastened the rate of “progress.” He stood in the way of any kind of change that threatened to eradicate the traditional way of life that he and his people were accustomed to, often making the claim that his people did not need any modern amenities since they had managed without them for centuries, even though he later begrudgingly allowed some projects such as a power station to move forward. He also firmly objected to any arrangement that would have rendered his people minorities in their own country. Sheikh Shakhbut was happy with the status quo and in this, perhaps he demonstrated foresight.

The Ruler also refused to carry out any government reform, and continuously evaded requests to finance any development works himself, expecting the British or other consultants to bear the costs. He remained convinced that they had no interest in promoting the welfare of his people, but rather preferred to “cheat” him of his money in the name of “progress.” He was guarded about their real motives for development, which would only serve the interests of the oil companies, and as such, he protected his people from being recruited as slave labor to the oil camps (Interview #39). Sadly, Sheikh Shakhbut does not seem to be given the credit he deserves in this regard.

By July 1966, almost four years after the first oil shipment had left Abu Dhabi, the town was severely under-developed and no evidence existed of real progress in the emirate’s administrative and economic development. The now oil-rich town still closely resembled its pre-oil state, despite the creation of consultant plans and all due to Shakhbut’s intransigence. The British political agent remarked that, “it could hardly seem stranger that this potentially oil-rich town now consists of just barasti [palm frond or *arish*] huts, a broken down market...and a few buildings put up by the oil company” (quoted in Davidson 2009). Shakhbut’s inflexibility, unpredictability, and unwillingness to invest in his emirate and to carry out administrative reforms was cause for increasing friction with the British government, who was frustrated at his lack of cooperation. The British were also irritated that Shakhbut acted autonomously at times, like when he signed a contract with the Germans without informing or consulting anyone (FO 371/174701, 30 March 1964). His downright refusal to sign the 50:50 agreement with ADPC was equally frustrating: It was estimated that Shakhbut’s refusal of this deal had cost Abu Dhabi several million pounds that could have been invested in development projects and in improving the living conditions of the local population. While this loss of revenue for Abu Dhabi meant a gain for ADPC and therefore for Britain’s balance of payments (Bismarck 2013), Shakhbut’s decisions reflected badly on the British government, which was regarded by the rest of the world as being ultimately

responsible for his deficiencies as a ruler (ibid.). Moreover, the British government was concerned that the Ruler's behavior would provoke an Arab nationalist revolution that would endanger Britain's presence in the Gulf. Finally, Shakhbut's unwillingness to associate Abu Dhabi with the other Trucial States (thus impeding the idea of federation) as well as his refusal to donate any part of his oil wealth to their development, greatly exasperated British officials.

All of these reasons served to turn the British government against Shakhbut, with the political resident, William Luce, initiating a confidential campaign to overthrow him. Luce first presented this idea to the Foreign Office in London in 1962, stating:

It is our [the British officials in the Gulf] considered view that, short of a miracle, there is no hope that Shakhbut will ever be capable of ruling Abu Dhabi to any acceptable standard in the new era of oil production... the plain fact is that he is not in any way equipped mentally or temperamentally to cope with the rapid and drastic changes and the innumerable problems and difficulties which great oil wealth will inevitably bring. Worse, he shows no desire to use the comparative wealth which has already come to him for the benefit of his people, nor is he inclined to accept the assistance and advice which alone could enable him to deal adequately with his problems... We see no hope of [preventing the decline of Abu Dhabi] by working upon Shakhbut by cajolery, warning or any other means. He is what he is, and we cannot expect now to change his nature or his ways...even pressure from his family won't work...the only effective way of achieving our purpose is to replace Shakhbut and we consider that this should now become our aim. (FO 371/163025, 17 April 1962)

The British strongly believed that Shakhbut was not fit to meet "the challenge of new rich Arabia" (Rediffusion London 1968) and began to consider potential candidates for his replacement. Shakhbut's brother, Sheikh Zayed, was nominated as the obvious successor, having impressed the British officials with his development achievements in Buraimi and his administrative record as *wali*, as well as his ability to pacify disputes between Abu Dhabi and Dubai-based tribes (Davidson 2009). The political resident in Bahrain and the political agent in Abu Dhabi had established close relations with Sheikh Zayed over the years, frequently visiting him in Buraimi to discuss the state of affairs in Abu Dhabi and consulting with him about his brother's decisions and behavior (FO 371/174702, 27 October 1964). They held Zayed in high regard. According to Luce,

We are fortunate in having Sheikh Zayed a man who, we believe, possesses many of the qualifications required of the ruler of Abu Dhabi in the new era. He is well-liked, respected, both by his own people and by others. He is of a friendly, extrovert nature, fearless, outspoken, generous, and anxious to help his people (FO 371/163025, 17 April 1962).

Not only did the British officials have a favorable opinion of Zayed, but also they were confident that his interest in progress and economic development would make it easy to deal with him (Bismarck 2013). Thus, rallying Sheikh Zayed against his brother and getting him on board with the idea of Shakhbut's replacement was not difficult. Several archival reports show that Zayed had candidly discussed his difficulties with Shakhbut (e.g. FO 371/163025, 7 April 1962), complaining to the political agent that his brother

was not interested in the welfare of his people. He admitted that Shakhbut had no intention of implementing any development plans, and that his actions were significantly affecting the ruling family's popularity in Abu Dhabi and elsewhere (FO 371/163025, 7 April 1962; FO 371/174701, 7 July 1964).

Many Abu Dhabians were also criticizing the situation in their town, where the presence of wealth had yielded no progress. They were well aware of changes underway elsewhere throughout the Arabian Peninsula and were angered by Shakhbut's aversion to improving the living conditions at home (Kechichian 2000). The political agent was approached by a Manasir tribal elder

[...] who came on behalf of four sheikhs of the Manasir and in addition at the request of many persons of the Bani Yas...He said that it had been clear to all of them that the Ruler was prepared to continue to acquire great wealth whilst leaving his people in a state of ignorance, poverty, and degradation without medical assistance or proper education and on the lowest standard of living.

Scores of influential families shared this sentiment and, dissatisfied, were leaving Abu Dhabi, while many merchants closed up shop (Davidson 2006). Shakhbut's unpopularity with his own people had reached an all-time low (FO 371/174701, 15 March 1964).

In addition to Sheikh Zayed and the Abu Dhabian's frustrations, the ruling family was also reportedly losing patience for Shakhbut. Sheikh Shakhbut's reluctance to split the oil revenues by dedicating 20 percent to the ruling family and investing the remaining 80 percent into the emirate, as well as his unwillingness to delegate any authority to other family members, provided grounds for their frustration. The family was even more angered when he donated a reported £200,000 to the King of Jordan following a flood in one of his towns. The ruling family claimed his generosity for others was far greater than his generosity to his own people (Bismarck 2013). Even when Shakhbut agreed in April 1966 to an outline plan for the government of Abu Dhabi, and despite finally allocating fixed amounts of money as allowances for members of the ruling family, the family was not satisfied with these "tokens of progress" (Joyce 1999). According to Abd Al Azees Al Ghani Ibrahim (2004), Shakhbut and Zayed's uncle, Sheikh Mohammed bin Khalifa, "saw the necessity for Shakhbut to step down in favor of his brother Zayed, for to each era a country and men" (translated from Arabic by author). Sheikh Zayed thus felt it was his duty to act.

It is difficult to assess whether Sheikh Shakhbut's ouster was truly the ruling family's initiative or the successful workings of the British government; this difficulty is caused by inconsistencies in the historical records. Nevertheless, the change in the rulership was finally effected on 6 August 1966 and the reign of Abu Dhabi's new ruler, Sheikh Zayed bin Sultan Al Nahyan, began.

Chapter Five: The Emergence of a Modern City (1966-2004)

“As I stood on the summit of Jebel Hafeet, I could see the black road worming its way across the desert towards Abu Dhabi. I could see another inching toward the mountains of Oman. I could see the lorries and cars. It was the beginning. The next invasion was beginning. The carpetbaggers were coming. The pampered, dependent, petrol-absorbing darlings of the industrial world were already busy plotting, planning, scheming as to how to get a private chunk out of the pot of gold at the end of the Arabian rainbow. The West and the East were building them schools and hospitals. They were bringing boutiques, décor shops and supermarkets; television, video and radio; Mercedes, Cadillacs and Range Rovers; jets and the jet set; bankers, diamond merchants and oil merchants; constructors and demolishers. Air conditioning and mind conditioning had arrived in about equal proportions.”

- Patricia Holton, *Mother Without a Mask* (1997)

“For five years after the oil began to flow, Abu Dhabi got nothing but piecemeal changes. Now Zayed has come to power with a plan to make Abu Dhabi the model state of Arabia with all the paraphernalia of development.”

- *Farewell to Arabia* (1968)

Sheikh Zayed bin Sultan Al Nahyan’s ascent to the throne marked the dawn of a new era for the people of Abu Dhabi, who until then had not reaped the social and economic benefits of oil wealth. This chapter leads with the new ruler’s grand vision for Abu Dhabi, and the influences from his upbringing and travels abroad that shaped his aspirations for Abu Dhabi. Next, the chapter explores the setting up of the first government apparatus in the city, and looks at how Sheikh Zayed integrated the ruling family, heads of major tribes and some foreign employees into the new system, as well as how his vision for unity and federation influenced the political and administrative framework. To better understand the spatial development of the city, the chapter then examines the urban planning institutions involved in city-making and sheds light on established policies and practices. The chapter then goes on to examine the various expert plans drawn up for Abu Dhabi and provides a discussion of the individuals involved followed by a discussion of the details of the plans and the ensuing physical changes to the city.

5.1 Sheikh Zayed’s Abu Dhabi: Green, Modern, and for the People

Sheikh Zayed began his rule with an act of generosity that would come to define his entire approach towards his people and his sheikhdom: He made available to the people the oil revenues that Shakhbut had accumulated, a move prompted by his strong belief that Abu Dhabi’s oil wealth belonged to all its citizens and should be shared (Al Fahim 1995; Wilson 2013). Standing in the palace hall, he announced to the world the birth of a new era:

If God Almighty has blessed us with this wealth, then the best way for us to please Him and thank Him, is to use that wealth to improve the country and to do good for its people, and that's by building a society that is provided with all the means for education, health, food and shelter. We believe that our country and its people deserve to be rid of the bitterness of poverty and the harshness of underdevelopment and to move towards the path of a decent life (Rashed 1988; translated by author).

Indeed, Sheikh Zayed's priority was the welfare of his people, and his desire to improve their lives and work for the common good dictated his primary tasks when he became ruler. Providing healthcare and decent living conditions were at the top of his agenda.

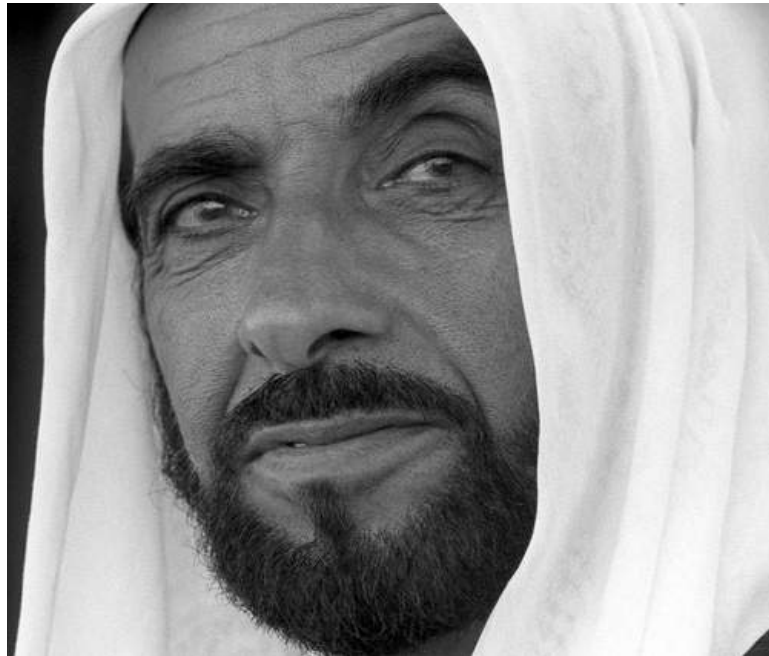


Figure 5.1 Sheikh Zayed bin Sultan Al Nahyan

Moreover, not only was Zayed conscious of his duty to his people, he also aspired for human development and hoped to work with the people to build a nation (Kechichian 2000; ECSSR 2013). He strongly believed that building infrastructure and educating the local population were vital for the emirate to flourish. According to Zaki Nusseibeh:

[Sheikh Zayed] said from the outset that our real resource is our people, and therefore we must focus on education. From the beginning he said that the first priority for the government should be to build schools and to bring the boys and girls into schools. He made education compulsory for every boy and every girl. We must take the schools, he said, to out where the *Bedu* live, so that they can accustom themselves to living in an urban environment, even in these traditional areas, so that their children will go to school. He started a system where he paid salaries to every student to encourage the parents to send their children to the schools (Zaki Nusseibeh, quoted in Shainin n.d.).

By providing for and educating the inhabitants, Sheikh Zayed had foresight: He viewed his investment in people with a sense of reciprocity, confident that this would create “a sense of mutual commitment between the government and governed” and would therefore breed a new generation of leaders for the nation (ECSSR 2013).

Another part of the Ruler’s early vision was to provide each citizen equally with three plots of land: residential, commercial, and industrial – which, as an informant notes:

...much later on it also became a plot of land that could be used as an agricultural farm...the idea was that [the citizen] could use the plots of land to build a house on, and so that he could have some kind of employment or generate income, and this income, this is the compensation that he [Zayed] wanted to bring to citizens of Abu Dhabi, and the idea was always that what God has entrusted in his hands is a wealth that belongs to the people and ... he is a tool which is there in order to make this wealth reach its owners (Interview #35).

In this context, it is essential to note how this Bedouin man, who received no modern-style education, had remarkable political acumen and possessed the qualities necessary to shape Abu Dhabi’s development and to gain the loyalty of the people. This can be attributed to the Ruler’s early exposure to the teachings of the Holy Quran as well as his upbringing among his mother’s people, the Al Qubaisat section of the Bani Yas. Growing up in a tribal environment, Sheikh Zayed became familiar with Bedouin values; from an early age, he understood how tribesmen led their lives and how they could be led (Kechichian 2000; ECSSR 2013; Wilson 2013). The role of Islam is evident not only in his humanitarian attitude towards his people and others, but also in his own personality: he was known to be simple (shunning ostentation), honest, hardworking, patient, and forgiving.

Sheikh Zayed’s work ethic was reflected in his daily routine, which started with receiving department heads, various contractors, oil company representatives, and his own staff only one hour after breakfast. After lunch, he toured a variety of projects, and by mid-afternoon he would return to the *majlis* for another round of meetings. Following a short rest he would attend again to his government affairs before holding his public *majlis* in the evening. This completed, Sheikh Zayed and his trusted advisors would continue discussion well into the night (Maktab al-Wathā’iq 1968; Wilson 2013). The political resident in Bahrain writes,

A determined man, and Sheikh Zayed is determined, can by personal diplomacy persuade his people of the merits of his policies. I use the word “personal diplomacy” in a very real sense. Although the ruler now receives businessmen in his office, he continues to hold *majlises* for his subjects. Entry is forbidden to none. One day in August Sheikh Zayed shook hands with 637 visitors. This was at the height of the congratulation season, when the trees surrounding the Palace afforded shade to hundreds of *bedu* come to greet their new master. But even so, it would be possible for the ruler at this rate to have personal contact with all his subjects ... He has certainly spoken since his accession with representatives of every one of his subjects. This smallness of scale gives the ruler,

by virtue of his personal influence, a real chance to make his policies acceptable to his people, without which they cannot work (FO 371/185529, 21 November 1966).

Zayed was very much a man of the people, and became renowned for his ability to balance managing the requisites of a tribal system and the demands of a modern state (Al Sayegh 2000; Rugh 2000; ECSSR 2013). His style of leadership was based on direct contact with his people and on consensus with powerful families, according to tribal tradition. At the same time, he set up his government to resemble a modern administration (see discussion in section 5.2).

Sheikh Zayed was not afraid of change and continued to demonstrate political shrewdness by personally inviting the return of tribes that had departed while Sheikh Shakhbut led the emirate. In doing so, he hoped to boost Abu Dhabi's population and secure the loyalty of many more tribes – a move that would strengthen his standing in the face of any external encroachment (e.g. Saudi Arabia) and guarantee his nation's peace and security after the British withdrawal from the area (Davidson 2006). In line with this, one of his early moves was to build up the Abu Dhabi army and police force. Moreover, Sheikh Zayed acknowledged that the dearth of local human resources necessitated the recruitment of foreigners, and invited his Arab and other neighbors to participate in the city's development (Al Fahim 1995; ECSSR 2013). According to John Elliott, one of the early town planners of Abu Dhabi, in the first two years of his rule, there were a number of Baluchi and Yemeni laborers, Indian, Iranian and Arab merchants, and 40 Western expatriates in Abu Dhabi (Elliott to Wimsatt 2009). By 1975, with the construction sector at its peak and employment in the financial services and mining (mainly oil) sectors rising, more Arabs, Pakistanis and Indians migrated to Abu Dhabi (Atkins 1990). An informant explains:

When Abu Dhabi started, it was mostly Jordanians, Egyptian, Palestinians and a little Lebanese. By time it became more Lebanese and Iraqis were very little. Iraqis used to come work basically either in very high positions like advisors to Sheikh Zayed like Mahmoud Hassan Jumaa and Adnan Pachachi and Abdelmajeed Al Qaisi, these kinds of names, or they would come teach, very few. Teachers used to come mostly from Egypt, Jordan and Palestine. Contractor companies mostly were Palestinian or Lebanese. Iraqis didn't think about immigrating, but then they came when there were problems with [Gamal Abdel] Nasser, they started coming more, either doctors or engineers. Also high caliber Iraqis. Very few opened offices, mostly it was between Egyptians and Lebanese and Palestinians. Very few Iraqi offices really. Western offices used to work on bigger projects like oil and gas; that was the main industry. Whereas commercial was Arab offices (Interview #33).

This demonstrates that Sheikh Zayed was very open to foreigners, in direct contrast to the fearful and isolationist manner of his brother Shakhbut.

Another contrast with Shakhbut could be found in Zayed's strong resolve to build up the city. He saw in urban development an answer to all the major problems of Abu Dhabi. This idea was probably rooted in what he witnessed and learned during his travels abroad. In 1953, for example, his first trip outside the region was to Paris where

he saw one of the city's public hospitals and decided Abu Dhabi should have a medical system too (O'Sullivan 2008). An informant comments:

You know he traveled when he was young – I mean from the fifties you could say he started traveling. He traveled to the States, he went to Europe, he went to Paris, he went to Geneva, he went to London so the first years that he spent he had ideas from everywhere...if you go to Mobazara in Al Ain and you find this lake in the middle with a water spring gushes from there. I mean that is clearly his impression of what he saw in Lake Geneva, so he traveled, he saw what other cities looked like, what other countries looked like, and applied what he liked at home (Interview #23).

Sheikh Zayed was also very much inspired by Lebanon, and is quoted as saying, "I want Abu Dhabi as green as the mountains of Lebanon" (Zbal 2001; translated by author). This influence can be seen in the city of Al Ain (also referred to as the Buraimi oasis), where Zayed was appointed *wali* in 1946. During his administration of that area, he succeeded in rebuilding the old *falaj* irrigation system and encouraged tree planting and agricultural development. He also allowed trade to flourish and improved the standards of health, education, and housing, which "became a model for what could be achieved in Abu Dhabi as a whole" (ECSSR 2013).

When he became ruler of Abu Dhabi, Sheikh Zayed made his vision for developing the city clear: he wanted to create an environment to facilitate the economic, cultural, and spiritual growth of his people. This included the preservation of their cultural traditions in planning and design, the inclusion of an Arab-Islamic identity in architecture, the preservation of mosques and historic sites, and the encouragement of social and tribal cohesion through neighborhood design. Eventually, to this he added his desire to create a modern city to perform the functions of a capital of the anticipated Union of the Emirates (Makhlouf 2006) (discussed in section 5.2).

Sheikh Zayed also had a passion for greenery, and set clear instructions for the preservation of trees and the allocation of vast areas for parks and gardens. According to an informant:

I remember when it came to his notice that somebody has taken down a tree because a road was being built through it, he was very, very angry and a decree was issued, I remember, in which it said that as instructions to all departments if a road was to go through an area where there is a tree, make sure that the road goes around it rather than bring down the tree. I mean he was that keen in order to preserve the natural environment and other green works (Interview #37).

In addition to preserving trees, Zayed was keen on afforestation and on minimizing the negative effects of sand erosion and desertification. He also insisted on promoting agriculture as a major resource. In the words of the same informant,

[Sheikh Zayed] would always say if you grow your own food and you have your own animals, you will never go hungry, so he always was keen to make sure some investment was made. Bringing people from Arizona and Total, the French oil company,

to investigate how you can grow things in desert conditions and what kind of water irrigation systems you could have... he spent a lot of energy and money on these kind of projects (Interview #35).

Sheikh Zayed also cared about having plants that could survive the climate and continuously experimented with his foreign advisors (Salloum 1997; Wimsatt 2010). Even when the advisors doubted the viability of his greening and agricultural projects, Zayed pressed on: "Plant more palm trees and still more palm trees. The desert is before you. Confront the yellow invasion with the green invasion," he said (Sheikh Zayed, quoted in Salloum 1995). By the 1990s, it is reported that 130 million trees were planted in the emirate of Abu Dhabi and the total area of cultivated land in the United Arab Emirates grew to around 1.6 million acres (Salloum 1997). Due to the scarcity of fresh water resources, these lands were supported by desalination networks and treated wastewater (see section 5.4); however, this contradicted Zayed's well known views on environmental conservation. Still, Sheikh Zayed was committed to protecting the environment. For example, he was passionate about protecting and planting the mangroves - trees that grow in salt water - because of their significant role as habitats for birds and fish. Moreover, he was known to for giving contractors clear direction to never cut down any tree and instead to build the road to curve around it. Finally, Sheikh Zayed was also determined to protect flora and fauna native to Abu Dhabi.

When it came to laying out his plans for Abu Dhabi, Sheikh Zayed was very hands-on. He was considered the principal architect of Abu Dhabi (FCO 8/1509, 19 December 1969), and was famous for drawing out his ideas using his camel stick. Zayed was admired for having a good sense of space, scale, and orientation and for his ability to transpose something from his head into the sand (Howe 1972; Attwood 2008b; Al-Muhairbi 2010; Wimsatt 2010). The Ruler was very involved in implementation, frequently appearing on building sites or marking out areas for new development, and he always made sure he was up-to-date on all projects (ECSSR 2013). According to an informant:

He liked to inspect project sites personally and was known for making unannounced visits. And you would see him out on building sites and projects when they are doing something along, for example, building the Corniche, definitely he would be around showing interest and some of the consultants used to complain that they were designing something and he will hit on the stick and mark on the sand and say this is the way, which is rather nice really. Because he was really expressing what he felt and what he wanted (Interview #20).

Similarly, another interviewee mentions:

Sheikh Zayed was involved in the implementation itself. He was even choosing locations for mosques. I remember, he wanted to build outside Abu Dhabi city and he had a stick with him. He would point with it and say he wants something built here. After two years, he didn't find anything built and found out that the locations were wrong, because we weren't given coordinates, he just pointed with his stick. If you don't have a good photographic memory, you'll definitely make a mistake, because it's mostly empty land.

When you go to Al Ain, there's a mosque on a very high hill. He chose it. He just pointed at it and said: "there." He likes planning, and he was involved in planning all the time (Interview #36).

The Ruler was very dedicated to building Abu Dhabi and wasted no time in moving projects along: "Sheikh Zayed was giving me so many projects – all at the same time. We had to do things immediately and have them ready yesterday," claims the city planner Abdelrahman Makhlouf (Makhlouf, quoted in Wassman 2002). Zayed understood, however, that this rapid development needed careful management and was judicious about effectively setting up the necessary administrative bodies.



Figure 5.2 Sheikh Zayed looking at plans with his advisors.

Figure 5.3 Sheikh Zayed visiting the construction site of the new *souq*

The British officials, who had worried beforehand that Shakhbut's actions would reflect badly upon their rule in the region, were not so optimistic about Zayed's drive to bring Abu Dhabi into the twentieth century. At one point, they worried that "his determination to modernize the state will introduce problems which have not previously existed there" (FO 371/185528, 29 August 1966). The perceived problems were social and economic in nature: social, in that development would encourage an influx of outside labor that would contribute to the erosion of the tribal structure of the emirate; economic, in that the injection of government funds into the economy risked

inflation (FO 371/185528, 29 August 1966; 17 November 1966). The British consistently urged for a slower pace of development, but much to their frustration, Sheikh Zayed remained committed to his plans (FO 8/833, 28 February 1967; ECSSR 2013).

While their concerns seem warranted, the contradiction in the British attitude is notable: in the past, the British urgently pressed for social and infrastructural progress. Perhaps, once Zayed flew into action, the British realized they would have to relinquish control, and preferred that this progress be channeled through a British-dominated system such as the Trucial States Development Office (ECSSR 2013). Zayed knew from experience that British advice reflected their own interests; he therefore acted with instinct, as he was "...completely convinced that the traditional polities had the strength and resilience to adapt to change" and that it was politically savvy to show signs of development in Abu Dhabi (ibid.).

In many ways, the new ruler was very different from his brother Sheikh Shakhbut: he was well liked, respected both by his own people and by others, fearless, optimistic, generous, and possessed a sincere determination to make good use of his colossal wealth (FO 371/185528, 17 November 1966; ECSSR 2013; Wilson 2013). In other words, "he is as different from his brother as chalk from cheese" (FO 371/163025, 17 April 1962). The political agent in Abu Dhabi wrote that "reports from all parts of Abu Dhabi soon indicated that Sheikh [Zayed] had successfully exorcised the spirit of Shakhbut" (Enclosure 1011/66). The accession of Sheikh Zayed indeed marked the dawn of a new era.

5.2 New Government

In order to fully grasp the impact of Sheikh Zayed's involvement in modernizing Abu Dhabi, it is important to first analyze the political and administrative framework that then led to the creation of a modern planning apparatus and later shaped the development of spatial plans for the city. This section focuses on Zayed's early efforts towards government reform, and the ways in which he integrated the ruling family, heads of major Abu Dhabi tribes, and some foreign employees into the new system. It then explores Abu Dhabi's role as a model for statehood, and explains how Sheikh Zayed's vision for unity and federation among the Trucial States influenced both governance and development in the city. Finally, the section looks specifically at the urban planning institutions involved in city-making as well as their policies and regulations, and provides insight on land allocation and ownership practices in the emirate.

Growing Pains

Upon accession, Sheikh Zayed immediately put into effect the outline plan for an administration that had been approved by his predecessor, but on which no action had been taken (FCO 8/827, 2 January 1967). Sheikh Shakhbut had permitted a few governmental departments to exist, but held a tight rein on budgets and decision-

making. To create a functioning government, Sheikh Zayed signed decrees creating departments from which his government would grow and selected their leaders. Acknowledging the lack of skilled or educated locals, Sheikh Zayed sought the help of the governments of Britain, Sudan, Jordan, and Bahrain in recruiting various experts and administrative staff (Al Fahim 1995; FCO 8/827, 2 January 1967; Enclosure 1011/66; FO 371/185529, 21 November 1966; FCO 8/2, 27 January 1967). While Zayed appointed members of the ruling family to various departments, and appointed himself as chairman of the finance department, he recruited a British citizen, Mr. Thompson, as its director. He also appointed a Jordanian judge, Mr. Sobhi Hijab, and a Bahraini, Mr. Ahmed Obaidli, as the ruler's private secretary and director of the ruler's *Diwan*, or Ruler's Court (NCDR File No. 14; FCO 8/869, Memorandum; Maktab al-Wathā'iq 1968). In 1967, he assumed control of the postal services from the British, although he hired a British postmaster to run it (FO 371/185558, 18 December 1966; FCO 8/827, 2 January 1967). While Zayed knew foreign leadership was essential to run the departments until appropriately qualified Emiratis were available, he also expressed his desire for a reasonable distribution of foreign officials in his administration to prevent one national group from dominating (FCO 8/833, 14 March 1967).

The Bahraini political resident described Sheikh Zayed as being "understandably impatient" to recruit these experts to whom he wished to give full responsibility (FO 371/185529, 21 November 1966), and the British government was more than happy to provide advice and assistance to Sheikh Zayed:

We should give it for three reasons: it is in our financial and commercial interests; the ordered, reasonably rapid and successful development of Abu Dhabi is in our short-term political interest; and the development of Abu Dhabi to a point where it can find its proper place, but not as a second-class citizen, in a wider Arabian grouping, will be to our political advantage in the long-term, when the time comes for [Her Majesty's Government] to retire from its special position in the Gulf (Enclosure 1011/66)

The British officials were persistent in advocating the creation of an efficient government system in Abu Dhabi, believing that a lapse in the internal system would reflect poorly on the external representation of Abu Dhabi, in turn reflecting poorly on the British, who had assumed responsibility for the emirate (FCO 8/834, 15 November 1967). Sheikh Zayed – who showed no more than "signs of boredom" at the "nagging" of the British (*ibid.*) – accepted their advice, but only because he instinctively recognized that the future of the administrative system depended upon finding effective and qualified leaders to fill the top tier of management and governance.

Everything was happening at once, as Sheikh Zayed simultaneously established the government apparatus and implemented development projects with the assistance of foreign labor; he felt he had no time to waste, as his people had suffered long enough; the time to ameliorate their suffering was at hand (Al Fahim 1995; Davidson 2009). By Emiri Decree No. 3 for 1968 – the same decree in which he presented the administrative body and its members – Sheikh Zayed called for the creation of a Planning Board or Planning Council to oversee Abu Dhabi's development. Its members consisted of the

ruler (Chairman); the deputy ruler; the ruler's influential uncle, Sheikh Muhammad bin Khalifa; the chairman of the departments of public works, electricity, water, health and education; the chairman of the department of agriculture; the chairman of the department of municipalities and land registration; and the director of the department of finance (NCDR File No.14).

1 Towards a "Bedoucracy"

Sheikh Zayed saw the need to integrate the ruling family into the new system and to make them an "effective instrument of government" (Wilson 2013). By granting each of them positions of responsibility and authority, Zayed secured their loyalty and support, avoiding the problems (or fate) of most of his predecessors and enabling the Al Nahyan family to become a "resilient and dynamic dynasty" (Davidson 2009). This arrangement obligated those who had committed themselves to the service of the system to prove their abilities, otherwise they risked being ostracized by their peers and/or demoted to less demanding roles. Sheikh Zayed was aware that delegating power in this fashion – yet retaining the final authority in his hands – would encourage stability and burden-sharing to modernize and legitimize the state apparatus. Thus, the creation of the first departments in Abu Dhabi involved Sheikh Zayed's brother, Sheikh Khalid; his nephew Sheikh Muhammad bin Khalid; his eldest son Sheikh Khalifa bin Zayed; five of the Bani Muhammad bin Khalifa: Sheikhs Hamdan, Mubarak, Tahnoon, Saif, and Surur;⁵⁷ and one of the Bin Butti (from his maternal side), Sheikh Ahmed Bin Hamid. This portfolio continued to grow over the years to include the sons of Bani Muhammad, other members of Bin Butti, and Sheikh Zayed's own sons.

To further widen the political and economic structure, Sheikh Zayed also brought into his government circle a group of then-newly educated Abu Dhabians as his advisors. These public servants included Ahmed Khalifa Al Suwaidi (thought to be the first university graduate), Mana Saeed Al Otaiba, and Mohammed Habrush Al Suwaidi, who became responsible for the *Diwan*, petroleum affairs, and the Department of Finance, respectively. Their involvement, as well as the establishment of a number of government institutions, represents Sheikh Zayed's attempts to balance powerful traditional networks with a modern form of bureaucratic rule, creating a hybrid political system that some scholars have termed "bedoucracy" or "sheikhocracy" (Al Rumaihi 1977; Abd-al-khaliq 1984; Al Kubaisy 1985).

The main characteristics of a "bedoucracy" or "sheikhocracy" include hierarchical authority; an overriding loyalty to family, tribe, and sect that replaces accomplishment and efficiency; a generally patriarchal approach; and nepotism in the selection of upper-level managers to fill government positions (*ibid.*). This relationship-

⁵⁷ The British archival reports describe the Bani Muhammad as "the only intelligent shaikhs" to whom Sheikh Zayed could entrust responsibility, and identify Sheikh Hamdan bin Muhammad as the "number two" in the emirate. See Political Agency, Abu Dhabi to Political Residency, Bahrain, 26 November 1966, on dissent within ruling family, FO 371/185578. See also Political Agency, Abu Dhabi, to Political Agency Dubai, 1 March 1967, review of character and attitude of Sheikh Zayed bin Sultan, FCO 8/833. For a comprehensive overview of the Bani Muhammad and their relationship to Sheikh Zayed as well as their role in supporting Zayed's position, see Davidson, Christopher (2009). *Abu Dhabi: Oil and Beyond*. New York: Columbia University Press.

driven culture is often fueled by a welfare state to ensure legitimacy and perpetuity. An open-door policy is also adopted, continuing the traditional process of having consultative bodies like the *majlis* to reassure citizens that the central government worked for them. At the same time, government bodies or formal institutions that have constitutions, boards of directors, and scheduled meetings are seen to carry the weight of a legal rational process, thus providing a much-needed veneer of accountability and transparency (Al-Abed et al. 2005; Davidson 2009). In Abu Dhabi, Sheikh Zayed's "bedoucracy" was tempered by his eagerness to ensure that those in positions of power were held to high standards. He believed that no tribal society could afford to have weak leaders, so he tested their competence in office and watched them carefully. If they did well, he gave them posts of increasing importance or assigned them more responsibilities; otherwise, he moved them to less demanding roles or had them completely removed. Zayed was firm in his belief that although the oil wealth was the right of his people, developing the city demanded excellence throughout his administration.

2 *Consolidation and Coordination*

The extensive and simultaneous changes in the urban, administrative, social, military, and economic development of Abu Dhabi, put into motion by a fledgling government, did not unfold smoothly. For example, rapid inflation posed a primary challenge, as did a series of labor strikes at the Abu Dhabi airport site and in the oilfields in late 1966 (FCO 8/827, 2 January 1967; FCO 8/2, 27 January 1967). While these incidents alerted Sheikh Zayed to the need to consolidate his government machine, by early 1967, the British records demonstrate ongoing concern over the inefficiency of the Abu Dhabi administration:

...during his absence [on tour in Pakistan] the government machine tended to grind to a halt and important policy decisions which I, as the Political Agent, had to discuss with him had to be left until his return. His absence had also shown that there was as yet no planning, coordination or control in Abu Dhabi. This reflected upon him since it tended to show that there was, in effect, no Government. This tended to weaken his own position since instead of there being an administrative pyramid which led clearly and unmistakably up to him as Ruler there now appeared to be a ruler floating in space with a certain amount of chaos underneath. If he was to maintain his control upon Abu Dhabi and its development he must pay early and close attention to planning, coordination and control (FCO 8/833, 14 March 1967).

Sheikh Zayed acknowledged these issues stemmed from trying to do too much at once and equally from people's reliance for his input on almost every detail. This is not surprising, considering Sheikh Zayed began his reign following almost forty years of "Shakhbutian" rule where essentially all budgets and decision making had been in the hands of the ruler. Sheikh Zayed was adamant about delegating responsibility and evolving from the traditional absolute rule of the past (Wilson 2013).

Accordingly, he commissioned an economic survey of Abu Dhabi with the goal of providing a framework within which longer-term development could take place. The Middle East Development Division of the Ministry of Overseas Development, in Beirut, Lebanon, conducted the survey. No copies of the economic appraisal were ever distributed, except to Nadim Pachachi, the ruler's oil advisor at the time (FCO 8/869, 30 May 1967; FCO 8/870, 7 June 1967; FCO 8/870, 15 July 1967); however, according to the British archival records, several urgent recommendations were made prior to its completion. The actions outlined in the preliminary recommendations fell into two main categories: The first required the recruitment of specialist staff to fill permanent positions in the Abu Dhabi government who would take charge of urgent matters: water engineer, port manager, town planning officer (to act as the head of the town planning authority), establishments officer, assistant finance director, and assistant director of public works. The second category required in-depth investigations by Consulting Engineers that would take some time to complete, such as a water resources survey. For this matter, the report recommended three firms to be invited to submit proposals: Sir Alexander Gibb and Partners, Sir Murdoch Macdonald and Partners, and Sir William Halcrow and Partners (FCO 8/869, 17 April 1967). The Ruler approved the immediate recruitment of staff to fill the positions suggested and to study the proposals from the British firms named for the water survey (FCO 8/869, 18 April 1967; FCO 8/869, 20 April 1967), but kept town planning in his own hands (FCO 8/869, 10 May 1967). Sheikh Zayed also wanted to consult an independent firm regarding low-cost housing projects (FCO 8/869, 20 April 1967).

The records mention only one of the recommendations presented in the final economic survey, which calls for the creation of the post of director-general of planning and coordination (FCO 8/870, 13 July 1967). The Ruler took this recommendation very seriously, considering the director-general to be his "own man" (FCO 8/869, 10 May 1967) and therefore instructing that the appointee must speak fluent Arabic. The political agent in Abu Dhabi, Archie Lamb, wrote, "If the man could not understand immediately everything the Ruler said, the whole point of his having a confidential advisor would be ruined. It was, added the Ruler, out of the question that he could ever employ an interpreter for his discussions with the Director-General" (FCO 8/869, 22 June 1967). Zayed was less concerned about the nationality of the candidate for the post and more interested in his caliber. Hoping to recruit someone who matched Nadim Pachachi's qualifications, he solicited Pachachi's advice in that regard (FCO 8/870, 7 June 1967; FCO 8/870 8 July 1967; Al Faris 2012). A British official at the Foreign Office recommended an Iraqi, Mahmoud Hassan Jumaa, for the job (FCO 8/870, 1 July 1967) and by Emiri Decree No. 8 of 1967, Jumaa was appointed director-general of planning and coordination with the following responsibilities: (a) the presentation of recommendations relating to actions required for implementing administrative, social and economic policies; (b) the coordination of annual programs and of their consequent execution with the various responsible departments; (c) the presentation of recommendations related to law and regulations and their implementation; and (d) the formation of committees responsible for different departments (NCDR File No.22).

After this announcement, bringing the administration under the control of the department of planning and coordination marked the next challenge. For example, the chairman of the public works department, Sheikh Hamdan bin Muhammad, suggested that Jumaa work in that department under him, but Sheikh Zayed clarified that the reverse was true: all departments must report to Jumaa. It also took some adjustment to the idea that tenders for any projects should be referred to the director-general for consideration rather than being presented to the Ruler himself (FCO 8/834, 30 December 1967). During the consolidation period (coinciding with the first few years of Sheikh Zayed's reign), several instances of corruption and bribery transpired in connection with development contracts, and some of the government's expatriate hires proved to be disappointing (FCO 8/834, 15 November 1967; FCO 8/1211, 4 August 1969). Furthermore, slow contract payments illustrated poor budgeting management and the need to identify development priorities (FCO 8/1509, 19 December 1967; Davidson 2009).

To ensure judicious spending, and in response to the gathering challenges, Sheikh Zayed announced a five-year plan detailing a deliberate long-term strategy for development in Abu Dhabi between 1968 and 1972. With an allocated budget of 300 million dinars (USD 592 million), the plan was dedicated to various projects in education, health, industries, public utilities, public buildings, and housing. It included an emphasis on agriculture and developing agricultural research stations to study new strains of crops and livestock that would be suitable for local conditions. Furthermore, it contained a focus on town planning and infrastructure development (Government of Abu Dhabi 1968; Center for Documentation and Research 1969; FCO 8/1000, 19 June 1969). The Ruler formed the Council of Planning to ensure smooth implementation of the plan.⁵⁸ The council was composed of the ruler; his eastern region representative; the chairmen of development, agriculture, finance, municipalities, the director-general of planning and coordination, and seven other prominent or experienced Abu Dhabians (e.g. merchants such as Abdeljalil Al Fahim, Khalifa Yousef, Yousef Al Sayegh and Khalaf Al Otaiba) (Government of Abu Dhabi 1968; Maktab al-Wathā'iq 1968; Department of Information and Tourism 1968; Al Fahim 1995; Center for Documentation and Research 1969).⁵⁹ A number of subsidiary councils were also created under the council, with a wide range of committees dealing with different interests such as trade licenses, electricity, customs, port affairs, and so on (Center for Documentation and Research 1969; FCO 8/1509, 19 December 1969). The department of planning and coordination was in charge of coordinating the various departments.

The council met on a regular basis as it began its fervent restructuring of the sheikhdom's administration. C.J. Treadwell, the political agent in Abu Dhabi, wrote:

⁵⁸ In some texts it is also referred to as Planning Council, Planning Board or Supreme Planning Council. In this study, I will use the term Council of Planning. The Council of Planning resembled and held the functions of a Cabinet.

⁵⁹ The following members were subsequently appointed in the Planning Council: Sheikh Sultan bin Surour, Khadim bin Butti, Mohammed Bin Butti, Sultan bin Matar, Said Bin Mubarak and Buti bin Hamed. See Maktab al-Wathā'iq wa-al-Dirāsāt (1968). *Two Glorious Years in the History of the Emirate of Abu Dhabi*. [Beirut]: [Beirut Print. Press].

Like avenging crusaders the Planning Council examined the composition of every department, save the Defence Force and the Police, and purged them of wasteful elements, in one case at least half of the establishment... On the planning side the Council (abetted by the Ruler) has behaved with reckless abandon, checking the details of contracts already approved and cancelling schemes without regard to the Government's contractual obligations; not only when they found evidence of corruption but also when they considered in the case of a contract fairly obtained that it was not now in the best interests of the Sheikhdome that it should be performed (FCO 8/1509, 19 December 1969).

This enthusiasm to improve the internal affairs of Abu Dhabi was likely spurred on by Sheikh Zayed himself: Knowing that everyone – from government officials to the people – would ultimately take their lead from him, he worked with a clear sense of purpose, hoping to inspire them. He had a special way of persuading others that the long-term benefit of Abu Dhabi lay in working hard and working together. This explained why many officials held several jobs concurrently or were spread very thin, despite relatively low levels of education or experience (Al Fahim 1995; Wilson 2013).

Moreover, it is notable that the council of planning included Abu Dhabi citizens outside the ruling family and who were not heads of tribes. This strategic move allowed Sheikh Zayed not only to inspire Abu Dhabians in nation building, but also to control any potential for corruption by diminishing any one person's absolute power:

Deprived of their absolute power, the Ruling family chairmen of spending departments no longer had opportunity to enrich their bank balances with the fruits of corruption and this evil has been suppressed, at least for the time being. In the same way, senior officials who took bribes as a matter of course, lost both the protection of their chairmen and their jobs (FCO 8/1509, 19 December 1969).

Again, Sheikh Zayed left no room for ineffective administration and held his senior officials to high standards. Graeme Wilson (2013) argues that the five year plan itself was fundamentally a political act and that it was an essential component of Sheikh Zayed's plan to consolidate the political structure of Abu Dhabi. By developing the emirate and providing fresh opportunities for Abu Dhabians' economic participation and self-enrichment, he won the public's confidence and encouraged the return of many who had left Abu Dhabi.

As the 1960s concluded, the government machinery was slowly adjusting despite British officials' concerns that it was still "chaotic, extremely inefficient and generally wasteful of resources, both financial and human" (FCO 8/1512, October 1970). Of course, it is natural for state institutions to take time to mature, and growing pains occur in every developing organization, city or country. Moreover, given Abu Dhabi's overwhelmingly tribal nature and the lack of experience its citizens had in dealing with a government bureaucracy, public institutions, or large organizations, the desired adjustment was especially challenging. Sheikh Zayed constantly worked to improve his administration while simultaneously balancing tribal expectations, making systematic changes as he saw fit and whenever he deemed necessary. Furthermore, no matter how

complex or inefficient his system seemed, Sheikh Zayed remained well informed on all matters in his sheikhdom and intervened accordingly. In order to move from the past to the future and realize his vision for Abu Dhabi, Sheikh Zayed needed to devise a system that both honored the legitimacy of tribal leaders and ensured that the most competent and hard-working individuals were in charge.

Abu Dhabi's Role in the Federation

1 Abu Dhabi: A Model for Statehood

Alongside the positive administrative and socio-economic developments occurring in Abu Dhabi, events in Britain would soon have a major impact on the Trucial States and Sheikh Zayed in particular. An economic crisis that led to the devaluation of the pound sterling triggered calls for the British government to drastically cut public expenditures to reduce a huge balance of payments deficit. Cuts in defense spending, particularly overseas, became an essential reduction. On January 16, 1968, the British government made a historic announcement: it was withdrawing its troops from the Arab Gulf by the end of 1971. Trucial States rulers reacted with anger and surprise at the British government's intention to break its word to them – the consensus was that the withdrawal of British protection would immediately expose them to intimidation or invasion. Sheikh Zayed, in particular, criticized the British government for leaving the area before creating a viable system of cooperation among the rulers of the emirates and for leaving many political issues unresolved.⁶⁰ Along with some of the other rulers, Zayed offered to assume the costs of Britain's military deployment in the area, but nothing would sway the British government's decision.⁶¹

Sheikh Zayed immediately took matters into his own hands, determined that a union of all the states in the Lower Gulf would be in their best political and economic interests. He began by making it clear that he and Abu Dhabi were committed to unity, and took the first steps by increasing military expenditure and expanding the Abu

⁶⁰ For example, Abu Dhabi had disputed boundaries with its neighbors, Saudi Arabia, Qatar and, to a certain extent, Oman.

⁶¹ The British government had high hopes for all the states in the Lower Gulf to become a single entity, as this would protect Britain's oil interests in the region. See Middle East Development Division, Beirut to Political Resident, Bahrain 14 March 1969, forwarding brief on "Future British aid to the Trucial States," FCO 8/1226. The British also hoped that the oil-rich states would give financial support to the poorer ones and tried to orchestrate this through the Trucial States Development Fund. They felt it was imperative that they leave some semblance of British achievement through encouraging development, in order to maintain their image in the international world (ibid.). Notably, Sheikh Zayed used his own diplomatic approach to promote development in the other emirates, recognizing that in order to give the other rulers the confidence in the idea of federation, he had to allow them to do things for themselves rather than going through the Trucial States Council. The Political Agent in Abu Dhabi, Archie Lamb, reports that Sheikh Zayed claimed: "...not all development work should be carried out in the Trucial States Council; that the individual Shaikhs themselves should be given a chance to carry out some of the projects, that it was impossible for him whenever he received a request for help to tell the Sheikh to refer to the Development Office, and that it was not in [the British government's] interest that all aid should be administered by the Trucial Council and the Shaikhs do nothing for themselves either from their own resources or from any funds which Sheikh Zayed was willing to make available to them on a direct basis." Political Agency, Abu Dhabi, to Political Residency, Bahrain, 14 March 1967, "Tour de horizon" with Shaikh Zayed: reporting talks following Sheikh Zayed's return from Pakistan, FCO 8/833. This is especially true given that much of the propaganda against the Trucial Council and the Development Office had been on the lines that the British government was using the Development Program to "give a little now with a promise of a lot later if the Trucial States would join together." Ibid. That is, the British government was using the Trucial Council merely as a means to enforce the unity of the Trucial States. Sheikh Zayed envisaged unity in cooperation and friendship with his neighbors, and not on British terms.

Dhabi Defense Force. At first, some of the other emirates worried that Sheikh Zayed would try to subordinate and pressure them for his own gain (Shainin n.d.; ECSSR 2013). Zayed, however, continually clarified that he wanted to establish a federation because he thought it necessary for their security and stability. Ultimately, he stated that his policy was to foster friendship and cooperation among the Gulf States, because his concept of unity was part of a broader strategy that “envisioned this state as a force for good in the Gulf, and in the Arab and Islamic world at large and...as a positive contributor to the whole of humanity” (ECSSR 2013). According to Zaki Nusseibeh:

Sheikh Zayed felt that here we are one people. He was, incidentally, a unionist from the outset, and he was a pan-Arabist as well – he wanted the entire Arab world to come together and work together in closer cooperation... in the Emirates, ... he felt that all the people belonged to the same community, shared the same history, the same traditions, the same heritage...(quoted in Shainin n.d.).

Sheikh Zayed’s political thinking embodied a strong idea of unity, a concept that he learned firsthand as a child sitting among tribesmen in his father’s *majlis*, who were all united within the community of the tribe (Wilson 2013; ECSSR 2013). Zayed was also committed to progress, believing that Abu Dhabi’s wealth was to be used for the benefit of all citizens of the new union. In fact, one of his first acts as Ruler of Abu Dhabi was to contribute £500,000 (equivalent to USD 1,380,800 as per 1967 exchange rate, which is approximately USD 822,750 in today’s dollars) to the Trucial States Development Fund (FCO 8/827, 2 January 1967).

Sheikh Zayed had demonstrated a commitment to the Trucial States Council since 1953, attending meetings even in Sheikh Shakhbut’s absence. His regular presence at these meetings allowed him to gain considerable experience in dealing with the rulers of the region as well as their heirs and other sons; through this forum, he came to know Sheikh Rashid of Dubai, who became its ruler in 1958 (O’Sullivan 2008). In February 1968, the two rulers met at a desert campsite near Ghantoot (an area between Abu Dhabi and Dubai) and agreed to an initial two-member union between Abu Dhabi and Dubai with a common approach to foreign affairs, defense and security, medical and education services, and citizenship (Davidson 2009; Wilson 2013; ECSSR 2013).⁶² Both leaders wanted to demonstrate to the other emirates how unity could work and be beneficial; later that month they invited the rulers of the other Trucial States (Sharjah, Ajman, Umm Al Quwain, Ras Al Khaimah, Fujairah) as well as Bahrain and Qatar to join them. Leaders of the nine states signed a document known as the Dubai Agreement, in which they agreed to collaborate on the formation of a unified federation, the Union of Arab Emirates. In late 1969, further discussions led to the appointment of Sheikh Zayed as president and Sheikh Rashid as vice president. In addition, Abu Dhabi was selected as the federation’s temporary capital, and a provisional constitution was drawn up (Davidson 2009).

⁶² This historic meeting also involved a resolution of a boundary dispute between the two emirates, with Sheikh Zayed agreeing to a settlement to Dubai’s advantage, through a minor exchange of territories. Sheikh Zayed believed that this move was in the interest of the region as a whole, using his diplomacy and political acuity to achieve his goal of federation for the ultimate good. See Emirates Center for Strategic Studies and Research (2013). *With United Strength: H.H. Shaikh Zayid Bin Sultan Al Nahyan: The Leader and the Nation*. Abu Dhabi: Emirates Center for Strategic Studies and Research.

In practice, the idea of this union proved to be a challenge, due to various inter-state tensions as well as disagreement on how the union would operate (ECSSR 2013). Sheikh Zayed, though aware of these challenges, remained committed to the idea of achieving union. With Bahrain and Qatar focused on their own interests, it became clear that the most realistic option lay in a union restricted to the Trucial States; however, Sheikh Zayed did not press and instead waited patiently for the other emirates to reach consensus. This was a strategy Zayed employed to assuage fears of the dominant power of Abu Dhabi, recognizing the importance of establishing trust and discovering mutual interests. In the meantime, Zayed focused his energy on building the strength and infrastructure of Abu Dhabi.

Sheikh Zayed believed that Abu Dhabi would be the engine of progress for the smaller and less wealthy northern emirates, and sought to create a model for what could be achieved in every other emirate. His conviction was that visible progress was necessary to instill confidence in the idea of federation. Even though the development of the Five Year Plan for Abu Dhabi (1968-1972) predated the announcement of British withdrawal, and despite the presence of other challenges – military spending increases in Abu Dhabi and a monetary liquidity shortage caused by oil selling for less than 50 cents a barrel – Sheikh Zayed still advanced major projects in Abu Dhabi, such as an electrification scheme and a desalination plant (FCO 8/1229, 10 July 1969). He also continued institutional reforms (e.g. hiring a new financial director and implementing new financial policies) to ensure Abu Dhabi's development would continue unabated and show people that the federal seat of government was functioning well. The establishment of the Abu Dhabi Chamber of Commerce in 1969 was a strategic move in this regard.

In the six months preceding the British withdrawal, Sheikh Zayed, concerned with ongoing (and frustrating) negotiations among the emirates, took some decisive steps. He announced that constitutional reform within Abu Dhabi would proceed independent of any agreed unification framework, making it clear that Abu Dhabi intended to move forward to statehood even if it were to go it alone (ECSSR 2013; Wilson 2013). In July 1971, Zayed dissolved the council of planning, replacing it with a Council of Ministers for Abu Dhabi, which was charged with cabinet-like functions. Chaired by the ruler's son and crown prince, Sheikh Khalifa bin Zayed, the council also included five other members of the Bani Muhammad. Its role was to determine all public spending in Abu Dhabi and to develop annual policy agendas that publicly listed all of its annual goals; it also crafted most legislation pending approval by the Ruler's Office and introduced as law (Davidson 2009; Wilson 2013). Eager to maintain a semblance of a reformist administration, the Abu Dhabi National Consultative Council (NCC) was also set up. Though not a decision-making institution, the NCC's role was to represent the views of the general public and provide the Council of Ministers with recommendations regarding interior and defense, health, labor, legal affairs, financial and economic affairs, education, agriculture, information, and more. The NCC consisted of an assembly of nominated tribal leaders, influential merchants, and some technocrats (Frauke 2004[1982]; Davidson 2009). In setting up these institutions, Sheikh Zayed's

message to the other emirates was that a functioning state needed to be created before the British date for withdrawal.

For the first time, Sheikh Zayed posed the question “union or not?” directly to rulers of the other emirates. Knowing full well that Abu Dhabi’s economic and security contributions to the federation were critical to the perpetuation of the union – and, therefore, to the survival of each of the emirates – the Trucial States rulers chose unity. On December 2, 1971, the new nation of the United Arab Emirates was launched, fulfilling Sheikh Zayed’s desire for federation with other Lower Gulf states. Thus, the provisional constitution for the Union of Arab Emirates was amended to reflect a seven-member United Arab Emirates, and Abu Dhabi was made the temporary capital of the federation.⁶³ Christopher Davidson (2009) describes the period from 1979 to 1996 as “the long struggle” as Zayed sought to implement federal coordination. Federal institutions were set up to further strengthen the state; however, Sheikh Zayed’s approach was to allow these new federal organizations to operate alongside the local institutions of each emirate, thus having each emirate be autonomous in its internal affairs.

The Expansion of Formal Government

Following federation, the number of government and semi-government institutions in Abu Dhabi grew exponentially. The majority of these entities were geared towards the oil and gas industry. In 1971, the Abu Dhabi National Oil Company was established, integrating the onshore and offshore oil and gas industries to include several subsidiaries such as the Abu Dhabi Company for Onshore Oil Operations (ADCO), Abu Dhabi Gas Industries Limited (GASCO), Abu Dhabi Gas Liquefaction Company (ADGAS), Zakum Development Company (ZADCO), Abu Dhabi Marine Operating Company (ADMA-OPCO), and others. The earlier days of one or two major concession holders were long gone: several foreign companies then held stakes in each of these companies, with ADNOC holding a controlling stake. This allowed Abu Dhabi stability and financial security while providing plentiful employment opportunities to its nationals. In 1988, to oversee the implementation of Abu Dhabi’s petroleum policy, the Supreme Petroleum Council (chaired by Sheikh Khalifa bin Zayed) was created and all roles, duties, and authorities of the Board of Directors of ADNOC were transferred to it. By 1999, Abu Dhabi began to venture into further oil refining, gas processing and chemical and petrochemical initiatives.

A number of sovereign wealth funds for overseas investment were also established. A fund for foreign development aid was established in 1974, known as the Abu Dhabi Fund for Development, and this was followed by formation of the Abu Dhabi Investment Authority (ADIA) in 1976, Abu Dhabi Investment Company (ADIC)

⁶³ In some texts, there is mention that the constitution defined the construction of a capital city in a “neutral” area between Abu Dhabi and Dubai, to be known as Karama. This never materialized, but as the constitution was made permanent in 1996, Abu Dhabi was made the permanent capital of the federation. See Al-Abed, Ibrahim, Paula Vine, and Peter Hellyer (2005). *The United Arab Emirates Yearbook 2005*. London: Trident Press Ltd. and Al Gergawi, Mishaal (2010). “Abu Dubai: A Forward Tale of Two Cities That Could Only Be One” in Archis+AMO+C-Lab. *Al Manakh 2: Gulf Continued*. Amsterdam: Stichting Archis.

in 1977, the International Petroleum Investment Company in 1984, and the Mubadala Development Corporation in 2002.

By the 1990s, membership in the Council of Ministers - which was renamed as the Abu Dhabi Executive Council in 1974 – had expanded to 17 members to include Sheikh Zayed’s sons who had come of age as well as several tribal heads. By the early 2000s, the expansion of formal government catered to a small number of sectors besides oil and gas, which included aviation, hotels (e.g. Abu Dhabi National Hotels) and tourism, transportation, agriculture, banking, health (e.g. General Authority of Health Services) and trade (e.g. Abu Dhabi Securities Exchange).

It was the expansion of the workforce (between 1975 and 1989, the number of workers is reported to have increased from 85,000 to 163,000 [Atkins 1990; Atkins 1991a]) and the growth of the population due to migration that fueled development, and while all of these entities influenced Abu Dhabi’s development in some way or another, it was the institutionalization of urban planning and public works that ultimately dictated the city’s morphology.

Urban Planning Institutions, Land Allocation and Ownership

1 Urban Planning Institutions

Between 1966 and 1974, administrative arrangements regarding urban planning and building regulation control in Abu Dhabi city were handled on an ad hoc basis. First, the consultant firm ARABICON dealt with town planning and land applications procedures (Sheikh Shakhbut assigned them the job in February 1966). In 1967, these responsibilities were transferred to the Abu Dhabi Municipality (ADM) under the supervision of a town-planning expert, Mr. Katsuhiko Takahashi (see section 5.3).⁶⁴ The number of employees at the municipality grew from six people in 1966 to 150 in 1967 and 300 in 1968 (Department of Information and Tourism 1968; Maktab al-Wathā’iq 1968). By 1969, Abdelrahman Makhlof, an Egyptian planner recruited by Sheikh Zayed through the United Nations, spearheaded the establishment of a town planning department within the ADM. The need for a town planning body became apparent at the end of the sixties when it was confirmed that Abu Dhabi city would be the capital of the Abu Dhabi emirate. Thus, by Emiri Decree No. 15 of 1969, the Town Planning Department (ADMTPD) was set up, with separate administration and financial arrangements from the ADM (ADM c.1996; Center for Documentation and Research 1969). Upon creation of the UAE in 1971, town planning was administered centrally in Abu Dhabi emirate through the Ministry of Municipalities and Agriculture (by 1974, the nomenclature “Ministry” was dropped in favor of “Department” once more). For the remaining part of Sheikh Zayed’s reign, the Abu Dhabi Municipality and Town Planning Department served as Abu Dhabi’s official planning authorities.

⁶⁴ The Abu Dhabi Municipality was a branch under the Department of Municipalities set up by Sheikh Zayed in 1966. The Al Ain Municipality was another branch of this Department.

At the time, the Municipality was responsible for land applications and registration, public health, agriculture and gardens, and issuing commercial and building licenses (Department of Information and Tourism 1968). Beyond developing a general plan for the city, the ADMTPD conducted studies on land usage, environmental issues, housing, social and economic aspects, and urban expansion and development. It also issued decrees regulating building projects and land use, and took the lead in executing plans (ADM 2003).

In 1966, the Department of Building and Public Works, chaired by Sheikh Hamdan bin Muhammad, also played a major role in the development of Abu Dhabi. At the time, the PWD had limited staff and engineers to execute projects like schools, clinics, and public or national housing as required, but then it grew to take on projects like roads, bridges, airport, port/harbor, hospitals, mosques, government buildings, police stations, and more. The PWD was responsible for most of the landmark projects in Abu Dhabi such as the al-Bateen Airport, Al Maqta' Bridge, Corniche waterfront, *Mina Zayed* (Zayed Port), as well as the Municipality building. Importantly, the highway system was administered at two levels: the national strategic network was the responsibility of the PWD, while ADM provided and maintained the town roads. Road planning, design, and the supervision of works were substantially the responsibilities of international consultants (PWD c.1997; Atkins 1990). The PWD was divided into four directorates: Transport and Services, Government Buildings Projects, Technical Services (containing the General Maintenance Department, Surveying, Land Leveling and Vehicles Fleet Departments) and Finance and Administration (PWD c.1984; PWD 1993; PWD 1995; PWD c.1997). Later, another directorate, Dredging and Reclamation, was created.

According to interviews with key informants, the PWD was a strong institution responsible for much of the early road planning and building construction in Abu Dhabi. Some competition seemed apparent between the PWD and ADM:

It was more like who was going to get the assignment to develop – let's say for example the government wants to build a road, they compete, like ADM says we'll do it and PWD says we'll do it. Then slowly, slowly the PWD was less powerful. (Interview #13)

Also,

In the sixties the ADM and the PWD were really, the ADM didn't have a real effect, it was all the PWD really. Although after federation the PWD was basically just off the island and the ADM took over the island. It was almost as if the PWD was the senior one and ADM was the junior part of the PWD. It had a huge role certainly until the federation in '71. (Interview #34)

With the PWD's dimming light, ADM assumed responsibility for much of the city's development.

It is common knowledge that Sheikh Zayed liked to be directly involved in planning Abu Dhabi, and that planning decisions were ultimately his. An informant comments:

To be frank, Sheikh Zayed was the guy behind the planning of Abu Dhabi. Whenever we do anything, it must be approved by Sheikh Zayed and he used to follow all the developments of the town whenever he was in town. Every morning after his morning prayers, he goes out with the director of town planning and goes around the city and sees what's going on. He gives instructions whilst doing this. Even if you thought about proposing something, the director would tell us that when you make a proposal, make the proposal self-explanatory because Sheikh Zayed doesn't like to be told to do this or that; he just takes the proposal and hands it to him then Sheikh Zayed will decide (Interview #10).

Nonetheless, by 1971, as Sheikh Zayed focused more on matters related to the federation, planning approvals began to follow the decisions of the Abu Dhabi Executive Council with advice from the Department of Finance. The General Projects Committee of the Town Planning Department served as a consultative body to the Executive Council on project feasibility and evaluation. Schools, hospitals, and health centers, which were initiated and funded by the Federal Ministry, became exceptions to the rule (Atkins 1991b).

2 *Planning Regulations, Development Review and Permits*

Projects in Abu Dhabi during Sheikh Zayed's rule were handled by a handful of implementing agencies: the Public Works Department, the Abu Dhabi and Al Ain Municipalities, the Water and Electricity Department (WED), and Etisalat (telecommunications operator). In general, every building project required the approval of these implementing bodies as well as the Civil Defense and Police. According to an informant:

After we finished the building we had to get it signed off by the Municipality. And they were always the last to sign off. You had to get it signed by the WED and I think Etisalat. And then much more recently they had the civil defense who had to sign it off for fire and safety and then the very last, when all those had signed off the police would sign it off to say that all the roads and foot paths were in accordance with the accesses of the land. It would be traffic police who are just making sure that there was access to the building and it was done correctly. And then the municipality would sign off and then the building owner could take possession of it. The only people that are really involved from the beginning were town planning, civil defense, Etisalat, water and electricity, drainage department. From the beginning you have to have their approval before you start any construction (Interview #15).

Building permits were handled by the Building Licensing section in the municipality, while approvals of architectural drawings were granted by the Heritage Committee within the ADMTPD (more on this entity in section 5.4). To obtain a building permit, a

project went through several reviews: The Town Planning Department reviewed drawings in relation to building regulations and architectural merit, the Municipality Engineering Section checked the engineering drawings, and then the Municipality Drainage Section looked at drawings. Upon approval of all of the above, a building permit would be issued to the applicant and once the building was completed to the satisfaction of the municipal inspector, an occupancy permit was granted, enabling the owner to have all utilities connected to the building.

The planning and building process was not always so streamlined. Before the late 1970s, it is arguable whether a system even existed. An interviewee comments:

Back then, there was no system, everyone was still learning. Engineers would come from Egypt and try to apply the Egyptian system. Jordanian engineers would come from Jordan and try to apply the Jordanian system... You would see some departments that were completely controlled by Sudanese for example. Town Planning Department was controlled by Egyptians. Between Town Planning and the ADM, it was between Egyptians and Sudanese (Interview #33).

Another interviewee notes:

In the past when you used to apply for a building permit you used to go through really complex processes and they took forever and it depends on the engineer and everyone had a different opinion. There was nothing written, there were no building regulations written, until late. And then when the ADM finally wrote down some building regulations they were just in Arabic, there wasn't anything in English, so the Western consultancies didn't know how to design. They didn't have regulations so they would take them to translate and the translation would come out wrong because the translators don't really understand the concept, and the regulations are very primitive anyway (Interview #5).

As "primitive" as they were, the Building Regulations offered the main tool for the control of development in Abu Dhabi for a very long time. The Building Regulations were issued by Law No. 4 of 1983, amended in 1985 and then again in 1994. These were administered by the ADMTPD under general powers granted to the Municipality by the ruler. The regulations deal with very basic planning matters, like plot coverage, height, setbacks, and projections, and are generally written in a tabular form. In some instances, there is an attempt to restrict actual uses (e.g. mezzanines in commercial buildings not to be used for residences) but no clear objectives or systematic application of discernible principles appears to be involved. Moreover, the regulations failed to foresee the impact of car parking and the demand for larger-scale commercial development, and there is no separation of planning-related matters from those related to architectural and engineering standards and design criteria. Furthermore, no explicit land use allocation or zoning plans exist to guide developers. Planning matters were usually handled by reference to individual plots or otherwise defined areas such as industrial sites; thus, there has been little or no attempt to consider the urban fabric of Abu Dhabi as a whole and to guide development to meet planning and urban design objectives (Atkins 1990; Atkins 1991a). When Atkins began work on the Comprehensive Development Plan in

1989, the firm synthesized the existing zoning arrangement according to nine broad zoning categories based on land use. These were:

- private residential – 1-2 story housing, owner occupied
- investment residential – villas or apartments, 3 stories + penthouse
- commercial residential – 10-26 stories, mixed use
- commercial – shops, offices, showrooms, hotels
- special residential – palaces
- special use – defense, security, airport
- industrial – manufacturing, workshops, warehousing, oil industry
- public facilities – government offices, utilities, transport-related, etc
- recreation and open space – sports facilities, parks and gardens

Unfortunately, Atkins' recommendations for a zoning schedule were not adopted and planning continued as usual. It may be argued that the planning practitioners in Abu Dhabi preferred the status quo, such that planning decisions were easily manipulated, and they might have found the implementation of a zoning code too complex and rigid (this situation re-presents itself in the next period; see section 6.2).

3 *Land Allocation and Ownership*

The system of land holding and land allocation grants plots of state-owned land to nationals of the Emirate. Once land is granted it becomes privately owned and can be passed by inheritance to legitimate heirs. In principle, every married citizen with a passport issued in Abu Dhabi is entitled to a residential plot (for private residence/owner-occupation), a residential investment plot or a mixed commercial and residential plot (that can be leased or rented to non-nationals), and an industrial plot. In rural areas, nationals are also entitled to an agricultural plot. During Sheikh Zayed's tenure, land plots were granted to nationals either through a direct grant from the ruler or crown prince or by means of a written application to the municipality (or directly to the chairman of the municipality).

Land allocation is generally controlled through the Municipality and Town Planning Departments of Abu Dhabi and Al Ain Municipality; it has helped shape land use patterns to a large degree. Applications must be made for each type of plot and are considered in relation to a number of criteria prior to allocation.⁶⁵ Land allocations are usually made on a block basis in accordance with a subdivision plan prepared by the Town Planning Department, which controls the size of the plots and the plot layouts. Government departments and institutions also forwarded land requirements to the ADMTPD. The mechanisms of land supply provide the Municipality and Town Planning Department with centralized control over the supply of land. By concentrating all planning and subdivisions in the hands of the Town Planning Department, the system prevented the development of private subdivisions and kept foreigners with

⁶⁵ The Land Committee at the Municipality assigns plot sizes, taking into consideration family size and rank. The application is then passed to the Land Section in the Town Planning Department which prepares a land file and a site plan, following which the Land Registration Section in the Municipality registers the land ownership in its records.

large real estate portfolios from dominating the land market. In addition, the land market is controlled and relatively restrained; no land can be released, sold, transferred or developed without prior approval of the public authorities concerned. The absence of a land market reinforces the government hold on development, eliminating processes such as comprehensive private developments which are associated with free land market mechanisms. This means that foreigners are restricted from owning land or property.

In 1976, following an economic recession, the government created a special committee called The Khalifa Committee to administer the investment, funding, and construction of building projects by advancing loans on behalf of nationals. "In other words," writes Salma Samar Damluji, "national capital is channeled to finance each building project in order to facilitate the ownership of property by its citizens." In 1981, the committee became a full-fledged government agency, the Department of Social Services and Commercial Buildings (DSSCB). The Directorate of Social Services received applications for public housing or "low-cost houses," duly named because they are in fact built at minimal cost and distributed to nationals who have relatively low income levels (PWD c.1997). This label was later dropped in favor of *buyut sha'biyya* or "the national house." Every married citizen who is a head of household has the right to apply for a low-cost house, provided the applicant does not already possess a house or land of their own. Priority is usually given to larger households (six persons or more). The Social Services Directorate within the DSSCB received applications for low-cost housing and took charge of the allocation of units while the PWD undertook the direct construction of all public housing projects (although prior to 1976, some of the housing projects were built by the ADM). The Directorate of Commercial Buildings received applications for investment residential and commercial buildings (built and owned by nationals and then usually leased or rented out to non-nationals), and provided finance, rental, and maintenance services (Atkins 1990; Damluji 2006; Al Fahim 1995).⁶⁶ By 1990, however, the Social Services Directorate was dissolved and its responsibilities were delegated to the Municipality. The Municipality continued to receive applications for private residential plots, while the DSSCB played a huge role in the development of the urban sector and also in ensuring that Abu Dhabi nationals received housing and revenue streams.

By the early 1990s, the interaction between the above control mechanisms and social and cultural considerations had generated a number of development characteristics and trends, which include distinctive parts of the urban area dominated by nationals and others dominated by non-nationals; a clear distinction in citizen areas, between higher-income developments on private residential plots and public or low-cost housing; a clear distinction in non-citizen areas, between family housing areas and communal housing areas, with the latter generally occupying older low-cost housing areas and lower quality development; a trend towards redeveloping older low-cost

⁶⁶ Salma Samar Damluji provides a detailed overview of the process from preliminary approval to the appointment of a consultant, to detailed design review, tenders for contractors and through to construction and leasing. See Damluji, Salma Samar (2006). "Brave New Cities: Architecture in Context, An Overview" in Damluji, Salma Samar (ed.). *The Architecture of the United Arab Emirates*. Reading: Garnett Publishing Ltd.

housing areas and relocating low-income citizens off the island; and a trend, initiated since 1976, to locate most low-cost housing developments in Bani Yas and Shahama on the mainland (see Figure 5.4) (Atkins 1991).

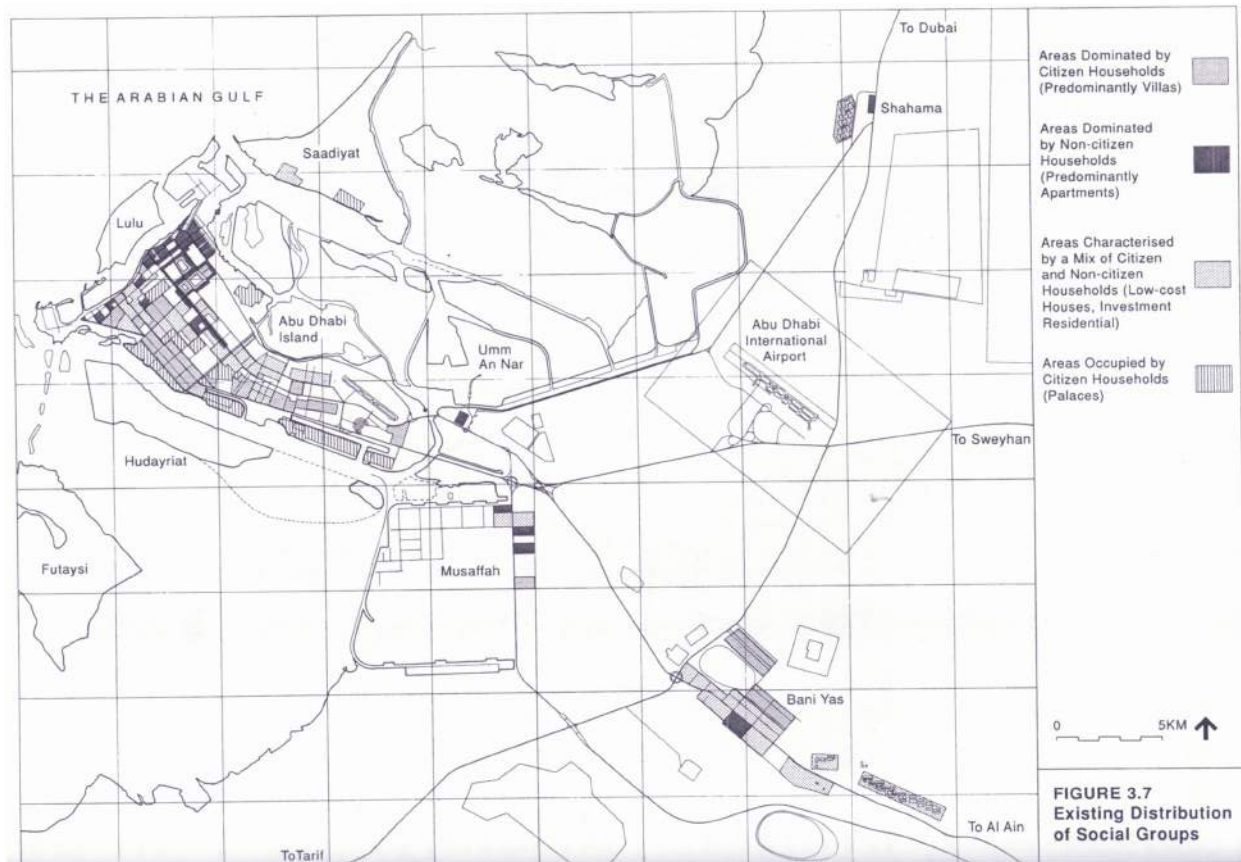


Figure 5.4 Citizen and non-citizen housing distribution in the early 1990s

5.3 Plans of the Experts: Human City, Modern City

By the time of Sheikh Zayed’s accession, the British consortium ARABICON had already been working on the planning of Abu Dhabi’s main roads and street lanes (see Chapter Four). This section examines ARABICON’s increased role in developing a town plan for Abu Dhabi, and looks at the four subsequent plans drawn up by Katsuhiko Takahashi, Abdelrahman Makhlof, De Leuw, Cather International Limited, and WS Atkins & Partners Overseas respectively.

ARABICON, Part Two

When Sheikh Zayed became ruler, he immediately “set in train a number of development projects, including the construction of roads, water pipelines, houses, hospitals and schools, and plans for construction work to cost about £15 million (USD 22,809,300) have been drawn up by the ARABICON consultants” (Press Announcement,

undated). An informant explained that ARABICON was one of the biggest consultants in Abu Dhabi, and that they took most of the consulting jobs (Interview #34). Corroborating this, as the urban planner for ARABICON, John Elliott wrote, “As the only consultants on the block ARABICON got everything. Roads, pipelines, corniche [sea] walls, housing, clinics, schools, etc.” (Elliott to Wimsatt 2009).

ARABICON was engaged in a series of civil engineering and construction projects – yet these were based on a loose plan devised by Sheikh Zayed, basically detailing the Airport Road and the Corniche Road. It was not until an experienced urban planner named John Elliott joined the company in the latter half of 1966 that full formal development plans for the town were drawn up, even though Sheikh Shakhbut had awarded the town planning of Abu Dhabi to ARABICON in February 1966.

1 *John Elliott*

In 1959, John Elliott graduated from the Architectural Association School of Architecture in London (commonly known as the AA). That same year, he took a course in product design; this, with his AA Diploma, won him a Finnish Government scholarship to the Technical University in Helsinki to study the influence of wood across the design disciplines. His time in university was followed by three years of work in Ralph Erskine’s office in Stockholm, where Elliott practiced some town planning. “Erskine was of the old school, happy to design a chair or a city and because of that I ended up working on the town plans for three small town expansions in Sweden,” wrote Elliott (Elliott to Wimsatt 2009). After leaving Stockholm in 1965, Elliott held a teaching post at the AA. It was there that he met fellow unit master Freddie Webb and his journey with ARABICON began. Elliott recalls:

In 1966 the consortium ARABICON was formed with some engineers and architects. One day in that year, they came to me and said, ‘John, you did some planning in Sweden and Finland. We’ve got an amazing project for you. There’s this island in Abu Dhabi. Do a master plan.’ So we were sketching away a master plan of the island (Elliott quoted in Reisz 2007)

Talking to Freddie Webb [one of the founders of ARABICON] one day he found out that I had had the Town planning experience in Sweden and immediately offered me a job. So I started doing the first options during the winter 1966-67 (Elliott to Wimsatt 2009)

According to Elliott, the planning situation in Abu Dhabi was a simultaneous design-build process: “Streets were built and buildings built even as the next phases of the design were being drawn and reviewed” (Wimsatt, unpublished). All of the work was carried out in London, with Ian Cuthbert as ARABICON’s Abu Dhabi agent. For eight months, designs and instructions flew back and forth by telex and by airplane (Wimsatt 2010). At some point in 1966, the company set up an office in Abu Dhabi and Ken Mitchell, an architect, moved from Lahore, Pakistan, to head up the Architecture and Town Planning division. Elliott writes,

Ken was overwhelmed by the extent of the work and after I relieved him, arriving in Abu Dhabi on the 14 June 1967, he moved to the municipality and soon after retired... The early days were a feeding frenzy with anybody speaking Arabic and English hired on the spot (Elliott to Wimsatt 2009).

Elliott also recalls,

We ran the town planning department in a little office in a semi-air-conditioned building. It was funky stuff, right out of the Wild West (Elliott quoted in Reisz 2007)

The ARABICON offices had served as defacto town planning offices for Sheikh Zayed (Wimsatt to author 2014). In late 1967, the Abu Dhabi Municipality assumed responsibility for town planning. According to John Elliott, Sheikh Zayed offered him the position of town planner, but Elliott declined, preferring to focus on the design of the National Houses and the Central Market (Wimsatt 2010). Planning was thus placed under the supervision of a Japanese-American architect, Katsuhiko Takahashi. Over time, the ARABICON Architecture and Town Planning staff, along with the land applications procedures and paperwork, was transferred to ADM.

By late 1968, however, ARABICON lost its contract, according to John Elliott, “due to major failures of the road paving materials and structural faults in the seawall construction” (Wimsatt 2010). ARABICON’s invoices went unpaid (Elliott to Wimsatt 2009). It is unclear how long ARABICON remained in Abu Dhabi and if they had other projects there (Meeting minutes from July 1969 show that Elliott attended a meeting with the director of the ADMTPD on behalf of ARABICON, but it is unclear what for [“Minutes” 1969]).⁶⁷ The company was eventually dissolved and the partners left for Spain (Elliott to Wimsatt 2009). After spending some time in places like Saudi Arabia and Hong Kong, Elliott moved back to the UK in 1991 and founded Wimberly Allison Tong & Goo's (WATG), which specialized in Middle East projects.⁶⁸ Elliott passed away from pneumonia in 2010.

2 *The ARABICON Plan (1967)*

The only documents available to represent the ARABICON plan (see Figure 5.4 and 5.5) do not have any accompanying text detailing policies or recommendations. All the elements of the plan discussed here are pulled from the two interviews that John Elliott ever gave about his time planning Abu Dhabi -- to Todd Reisz in 2007 (Reisz 2007) and Ann Wimsatt in 2010 (Wimsatt 2010) -- as well as from my personal email exchanges with Ann Wimsatt, which she has given me permission to share. Ann also generously shared with me some excerpts of her email correspondence with John Elliott

⁶⁷ Interestingly, a Mr. J.P. Woodcock from Brian Colquhoun & Partners was also in attendance (see Chapter Four, section 4.3 for some background on Brian Colquhoun & Partners).

⁶⁸ After Abu Dhabi, John Elliott seems to have returned to his architectural profession, focusing on iconic or large-scale developments such as palaces, hotels and resorts. He is renowned for his design of Abu Dhabi’s Emirates Palace Hotel, built in 2004.

(Elliott to Wimsatt 2009) as well as an unpublished paper she wrote on the subject (Wimsatt, unpublished).

John Elliott's experiences in Finland and Sweden shaped his beliefs in the progressive and social concepts of what he called "people-empowered" town planning (Wimsatt 2010). Part of this approach involved being sympathetic to the landscape, which was very different from "the traditional British grid or the Corbusian [approach that were popular at that time]" (Elliott, quoted in Reisz 2007). His beliefs influenced the development options that Elliott put forward in Abu Dhabi, and these coincided with the vision of Sheikh Zayed.

Despite coming from radically different backgrounds, the two men had strikingly similar aspirations for Abu Dhabi: "a young man who was 'on fire about social welfare' and a bold Sheikh who was determined to strengthen his people and his country" (Wimsatt 2010). Elliott looked back on their "concordance" with fondness:

It is strange that the Scandinavian social values that I arrived with should coincide so closely with Sheikh Zayed's vision and his commitment to Islam...Sheikh Zayed had a vision of a garden city with parks and space and the Quranic values of the rights of people to a clean, safe environment. Initially working in London, 3,500 miles away, I had the same ideals, and my drawings and plans gave him what he wanted....Personally, I think the story is in the common vision...What created his and what led to mine, the application of the facts of climatically responsive architecture at an urban design level, which has rarely been achieved in practice, rather than the theory of Brasilia and the Ville Radieuse; the amazing similarity of aspirations of post-war socialist Europe and Islamic faith (Elliott, quoted in Wimsatt 2010).

Indeed, both Elliott and Sheikh Zayed had social intentions for Abu Dhabi. Zayed "saw in building a city an opportunity to resolve many of the social problems that confronted the emirate" (ECSSR 2013), and with Elliott's help he planned Abu Dhabi as a state built around the people's needs and welfare, allowing room for social, medical, and educational opportunities to flourish.

The two also bonded over their appreciation for trees and greenery, and particularly shared a passion for horticulture. When Elliott experimented with irrigation and cultivation methods at his house, Sheikh Zayed often paid his garden a visit (Reisz 2007). According to Elliott:

One day Zayed turned up to see this little garden and we became very close through this whole gardening thing. I was explaining to him how Abu Dhabi should really have parks and that there should be tree-lined boulevards. He loved England. He used to go there a lot. He loved the green. I would like to think that I was one of the contributing factors to Abu Dhabi being green (Elliott, quoted in Reisz 2007).

[Sheikh Zayed] really loved the idea of parks and trees, and his vision was that families should be able to sit on the grass under trees. It was similar to the Scandinavian thing again, the tree-lined streets and the integration of inside and outside (Wimsatt 2010)

This mutual admiration for greenery therefore led to the incorporation of trees and parks in the building plans for Abu Dhabi.

Elliott credits Sheikh Zayed for planning Abu Dhabi, stating that “I was 29, I really didn’t know what I was doing,” (Reisz 2007) and, “[Sheikh Zayed] always used a camel stick and drew in the sand. He had a unique ability to be able to transpose something from his head into the sand. And he instinctively understood scale and adjacency” (Wimsatt 2010). The architect took pride in being “the first person to put [Zayed’s] plans to paper” (ibid.), producing a whole sequence of plans that Zayed either accepted or rejected.

One of Elliott’s earlier plans involved a series of canals dug across the island, with the major roads going in the perpendicular direction with bridges over the canals (Reisz 2007). He was inspired by the island’s low elevation (at the time, only five feet above sea level) and also by how the shallow Gulf forced ships to anchor offshore:

The plan was to put in canals from Bateen Creek to [Saadiyat] Creek, east to west across the island, rather like the road system we ended up with, so that barges could bring the produce into the canals and unload and at the same time so we could use the land we dredged up while building the canals for landfill. We were going to have the roads going the other way (Wimsatt 2010).

Much to his disappointment, Elliott’s canal plan did not make it past the conceptual phase: “Sadly, it was too visionary...you’re a dreamer at that age” (Elliott, quoted in Wimsatt 2010).

With frequent input from Sheikh Zayed, John Elliott led the creation of the ARABICON Plan. This plan guided development in Abu Dhabi from 1967 to 1968. The Emirates Center for Strategic Studies reports that the selected plan was in part based on the 1962 Abu Dhabi Consultants’ plan, having to accommodate its “fundamentally Western model of the built environment” and its “underlying bargain of modernity, of becoming a ‘machine for living,’ as promised by the Swiss architect...*Le Corbusier*” (ECSSR 2013. Emphasis in original), so as not to delay the city’s development. John Elliott, however, comments that he had not heard of the Abu Dhabi Consultants’ plan and was under the impression that he was starting from scratch (Elliott to Wimsatt 2009). He does mention that “it was probably too late to change anything because the roads were well underway” (ibid.), so perhaps his plan did have to accommodate the roads being built prior to his involvement.

Elliott’s plan attempted to imbue a sense of humanism and embody the spirit of an Arab town. Ann Wimsatt wrote, “the Sheikhs were intent on launching a nation, a home for their people, not building an oil town,” and thus the ARABICON plan for Abu Dhabi evolved around the social needs of the people (Wimsatt 2010).

Besides tree-lined streets and parks, the ARABICON plan’s unique elements included the “ingenious” design of multi-use superblocs (which were designed with

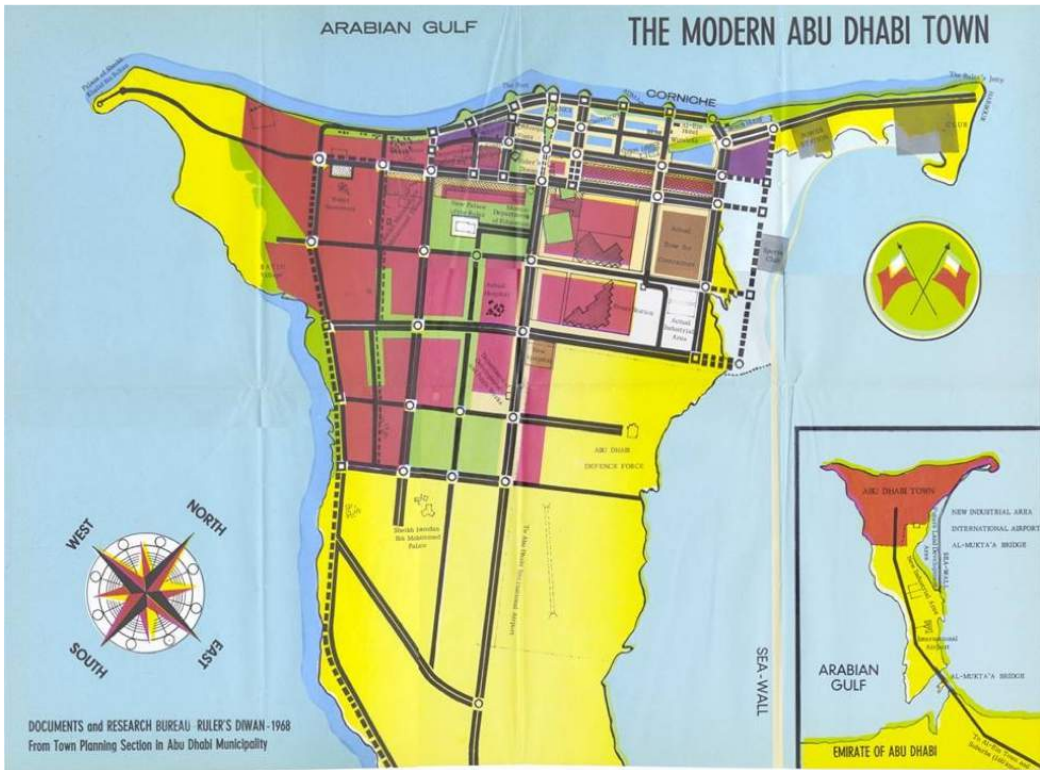


Figure 5.5 ARABICON plan for Abu Dhabi

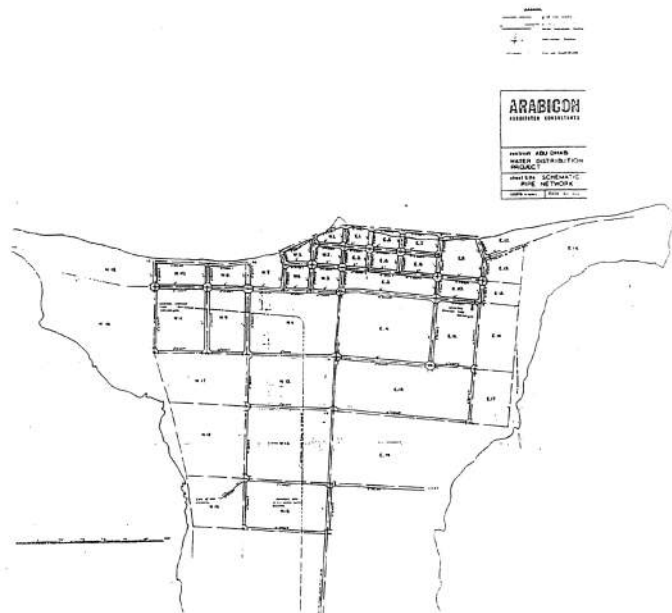


Figure 5.6 ARABICON water distribution plan

inner landscaped courtyards) (Wimsatt to author, November 2014), and innovations in slip street utilities, such that public utilities were accommodated in the road cross sections. The influence for these was Baron Haussman's boulevards in Paris, "with the slip roads and [four] lines of shade trees" (Elliott to Wimsatt 2009). Elliott's design, however, was an "improvement on Haussman," because it included 2-meter (3 foot) high service ducts at each of the incoming roads connecting the slip roads. The plan also included roundabouts, inspired by English planning ("Traffic lights were unnecessary because there wasn't the volume of traffic," says Elliott [Elliott to Wimsatt 2009]).

Moreover, John Elliott's plan included climatically responsive architecture. He developed an advanced urban wind acceleration system through allowing tall buildings to deliberately catch and funnel the prevailing northwest wind thereby accelerating the air stream and casting shadows at the same time (Wimsatt, unpublished; Elliott to Wimsatt 2009). He explains that the physiological effect of the draught created by the local wind towers cools the body by increasing the evaporative effect of perspiration (Elliott to Wimsatt 2009). This was the logic behind the positioning of the gaps between the buildings (to improve the micro climate).

A balance between modern and traditional elements marked another important aspect of the plan. For example, this plan accounted for the large Muslim population through its plentiful provision of mosques that became the focus for individual neighborhoods (ECSSR 2013). Tucked behind the apartment blocks on the wide main streets were people-centric, "family ghetto[s] in all the best meanings of that word" (Elliott to Wimsatt 2009). Sheikh Zayed also felt strongly about having mixed uses and mixed-income households in every superblock, so although a strict grid system was already incorporated in the plan, the city functions were not entirely separated.

As described above, Sheikh Zayed gave out plots of land (residential, commercial, industrial and/or agricultural) to Abu Dhabians. Consequently, according to Ann Wimsatt (Wimsatt unpublished), Sheikh Zayed steered the ARABICON plan in such a way that it became "a master class in wealth creation," which encouraged Abu Dhabians to become real estate developers. To that effect, John Elliott and a team at ARABICON held project management and commercial construction lessons for citizens.

Sheikh Zayed instinctively realized the need for Abu Dhabi to act as a magnet for the rural population, in order to boost population numbers. Coupled with this was Zayed's belief in social development: He was confident that giving a home to a poor Bedouin family would yield a number of benefits in the long run, because once the Bedouin family was "urbanized" or "comfortable" it would be able to contribute productively to society and to the emirate's growth and development (PWD c.1997; ECSSR 2013). His aim was to lure them "...to governmental jobs, trade, farming and of course a booming oil industry" (Elsheshtawy 2008a). He wanted to inspire in people the feeling of belonging and commitment, hoping to make them partners in the building of the nation – yet recognizing that their loyalty merited financial support. According to John Elliott:

Anyone who called themselves an Abu Dhabian or said they were from Bani Yas was asked to turn up in Al Ain...If they were accepted, they received the princely sum of £1,000 [Dh5,832] in Marie Theresa silver talers, the common currency at the time, and were promised a national house (Elliott, quoted in Wimsatt 2010).

Ann Wimsatt (2014) writes,

Keep in mind that in 1965 there were only 4K Abu Dhabians... One of the first things [Sheikh Zayed] did, according to John [Elliott], was advertise for more citizens – offering land and money to any Bedouin who had some Abu Dhabi connection. Overnight 31K Bedouins signed up to be Abu Dhabi citizens – a population of 35K in total but nearly a ten-fold increase! Presumably, Sheikh Zayed had this plan in operation as he was working with ARABICON to design the city plan.

The Ruler's first efforts at encouraging the regional nomadic tribes to settle began in concert with ARABICON's town planning. His program for development "has always been conceived within a political and diplomatic framework" (ECSSR 2013).

The plan took to heart Sheikh Zayed's desire to provide a home for every citizen, and included a massive extension of housing outside of the island. Zayed worked closely with John Elliott and ARABICON to develop a standard housing unit, or "national house." Each house was built on a plot measuring 80 feet by 80 feet, and the distance apart one cubit as proscribed either in the Quran or one of the *hadiths* (Prophet Muhammad's sayings that constitute the major source of guidance for Muslims apart from the Quran). The national house included a front and back garden – where the Bedouins kept their sheep, goats, and camels – a date store, a kitchen, and a living room. All over Abu Dhabi (mostly outside the island), Sheikh Zayed marked out several little villages of clustered national housing, sometimes using his own soldiers as markers to designate the perimeters (Reisz 2007). There was no specific housing type planned for non-nationals; they were expected to rent out apartments in the city center.

The ARABICON plan had merit. First, accommodating and amending the Abu Dhabi Consultants' Plan meant flattening and raising the ground level by reclamation to design the main roads in the northern part of the island, which were based on straight lines. This proved to be successful in that it protected the island from the risks of flooding. Second, being sensitive to tribal dynamics, it encouraged and maintained the organic growth of traditional villages rather than completely superimpose a foreign design. Third, its provisions for affordable or low income housing and integrating them in mixed income neighborhoods with mixed uses were very progressive concepts. Jane Jacobs (1961) encouraged this kind of diversity, claiming it was beneficial towards the livability of cities.

Notably, the 1966 urban design was flexible, able to accommodate a continual modernization process because it considered the option of growth beyond the original scale (Wimsatt 2010). When an informal census was carried out prior to development of the plan, the then-estimated current population of Abu Dhabi was 35,000 - but this

number only represented Abu Dhabians. John Elliott mentions that there were also 40 Western expatriates and many Yemeni dockworkers, and that a large number of laborers at that time were Baluchis, while most of the clerical staff were Anglo-Indian or Goan Christians (Elliott to Wimsatt 2009). ARABICON created the plan with a projected ultimate population of 350,000 people, as Berj Aprahamian, a former employee of ARABICON explains:

For ARABICON town planners then as well as other knowledgeable people, 350,000 people was a big jump from hardly eight thousand people on this DESERT ISLAND. So the [number] 350,000 was palpably finite. Nobody could imagine the tremendous growth of population in the coming decades (Aprahamian to author 2015).

According to him, this number included both nationals and non-nationals, and "...the roads, drains, substations and everything were laid down with that [number] in mind" (Elliott, quoted in Wimsatt 2010). The major infrastructure services could be extended if needed, and that, along with the design of the superblocs (which housed the non-nationals), later allowed for "rapid and repeated building and rebuilding of the buildings at higher and higher heights" (Wimsatt to author, November 2014). The slip roads provided a location that could be dug up without affecting the main traffic street. Also, the setbacks and building lines provided by the ARABICON plan worked for the short term and long term, and the flexibility of the grid with the many crossroad junctions that had roundabouts allowed for expansion and the absorption of the increase in density and population. In other words, the master plan was designed and built to allow for a smooth and rapid build-demolish-rebuild cycle. Two major issues can be identified, however. The superblocs with small sidewalks were not pedestrian friendly. Also, there was no consideration for the inevitable increase in vehicle use and therefore no consideration for parking. Nonetheless, the ARABICON plan's fundamental intention and long term vision has stood the test of time.

Katsuhiko Takahashi and the General Plan for Abu Dhabi

1 Katsuhiko Takahashi

Some time in 1967, Sheikh Zayed decided to place Abu Dhabi's town planning directly under the purview of the Municipality, and initiated the search for someone to run the department. Katsuhiko Takahashi later arrived in Abu Dhabi to assume his duties as chief town planner.

Not much is known about Takahashi's background, other than that he had graduated with a master's degree in urban planning from Columbia University in New York. Studying planning in the mid-1960s, Takahashi was "extremely influenced by the International Style and the ideas of Le Corbusier...He also learned to be more pragmatic," claimed an interviewee (Interview #32). John Elliott recalls that Takahashi was also "very pro" Reyner Banham, who started at the Ville Radieuse (Elliott to Wimsatt 2009).

Shortly after graduating, the then-30-year-old man received a phone call from the Japanese ambassador in Kuwait, who had recommended Takahashi to Sheikh Zayed (Attwood 2008b; Reisz 2013). The specific reasons for Takahashi's selection are unclear. John Elliott asserted that the U.S. government pushed for Takahashi's hiring. Says an interviewee: "At that time, there was no Japanese embassy in Abu Dhabi; there wasn't even an airport here," so Sheikh Zayed reached out to the embassy via Kuwait. The travel agency in New York "...had no idea where Abu Dhabi was, and some of them asked... if it was a new town in the Caribbean," remarked Takahashi (Takahashi, quoted in Attwood 2008b). Nevertheless, the young man made it to Abu Dhabi, ready to dream up a plan for the city. In a detailed diary entry, John Elliott records his first encounter with Takahashi:

The first time I met Takahashi was at 0900 on Sunday 17th September 1967 when he arrived at the Arabicon office and announced he was taking over on behalf of the Municipality. We (Ian Cuthbert) asked for formal authentication as there were fees outstanding. Takahashi and his American wife were very angry and upset. I think they had expected to be given an office and staff. Eventually the planning staff and all the paperwork shifted to the Municipality so that by the time I got back from holiday, it was the Abu Dhabi Planning [Department] (Elliott to Wimsatt 2009).

In his new role, Takahashi organized the ARABICON plans and developed a general plan for Abu Dhabi (ADM 2003).

2 *Takahashi's Plan (1968)*

Takahashi's general plan for Abu Dhabi included a land use plan, a circulation plan and a zoning plan. Unfortunately, while the plans are available, they are not accompanied by any text, making it difficult to understand the planner's intentions.

The plans show only the extent of Abu Dhabi Island. Upon close inspection, it appears that the urban form is basically a linear one, with the main spine the Airport Road. In the upper part of the island, which is wider, a gridiron system is superimposed onto the landscape. Rudayna Abdo and Geoffrey M. Batzel write:

[The plan] has a strong modernist form comprised of a grid of high-speed arterials encasing a collection of rectangular superblocks, which are themselves rigidly programmed with point towers on the periphery that step down to low-density villas in the interior. All in all, it stands as a fine example of the functionalism of the period whose aim was to create a better life through engineering (Abdo and Batzel 2011).

Indeed, the structured approach reflects the modernist values of efficiency and movement, oriented primarily around the car. According to an informant, "this resulted in a city that was engineered and not designed" (Interview #27). Another interviewee claims that there was more to adopting this style:

[Sheikh Zayed's] insistency to have this gridiron...he saw something similar in his visits to Pakistan and Lahore and he liked it. The idea is that this gridiron system...imposes

some sort of philosophy that everybody is equal. They all have the same opportunity (Interview #36).



Figure 5.7 Takahashi land use plan 1968

This point reflects the balance between Takahashi's modernist influence and Sheikh Zayed's socialist ideas. During his time in Abu Dhabi, Takahashi was tasked with giving out plots of land granted by the Sheikh to the people, starting with the area between the waterfront (Corniche) and the airport, in the center of the town. Takahashi considered these plots to be "the prime real estate in town and were valuable for future use either residentially or commercially" (Takahashi, quoted in Attwood 2008b). Takahashi wanted to design Abu Dhabi "like a pyramid, in the middle all the high rise and gets lower towards the four waterfronts..." Further, "...his original idea was not to have any high rise buildings near the sea front, but to have the high rise buildings further back and lower buildings near the sea front, so you had a gradient and the people further back can see the sea as well," says an informant (Interview #37).

It is hypothesized that the gridiron system was also a result of Sheikh Zayed's "strong military intentions," according to an informant. "He was wary of possible attacks, and therefore one of his primary aims was to secure and maintain the borders..."

in my opinion, Sheikh Zayed’s plans brilliantly illustrated the tight wire between nation building and national defense,,” writes Ann Wimsatt (Wimsatt to author, November 2014). Two important features of Takahashi’s plans that may have accounted for military planning are the wide, direct road from the army/airforce base to the center of town (ibid.) and the design or layout of city buildings in a way that they would be visible from four sides (Interview #37).

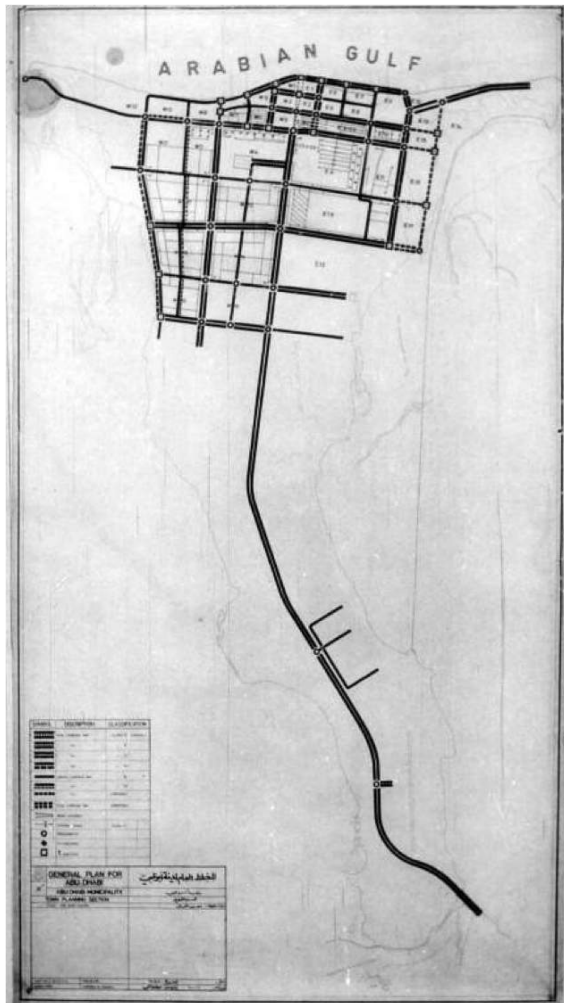


Figure 5.8 Takahashi circulation plan 1968

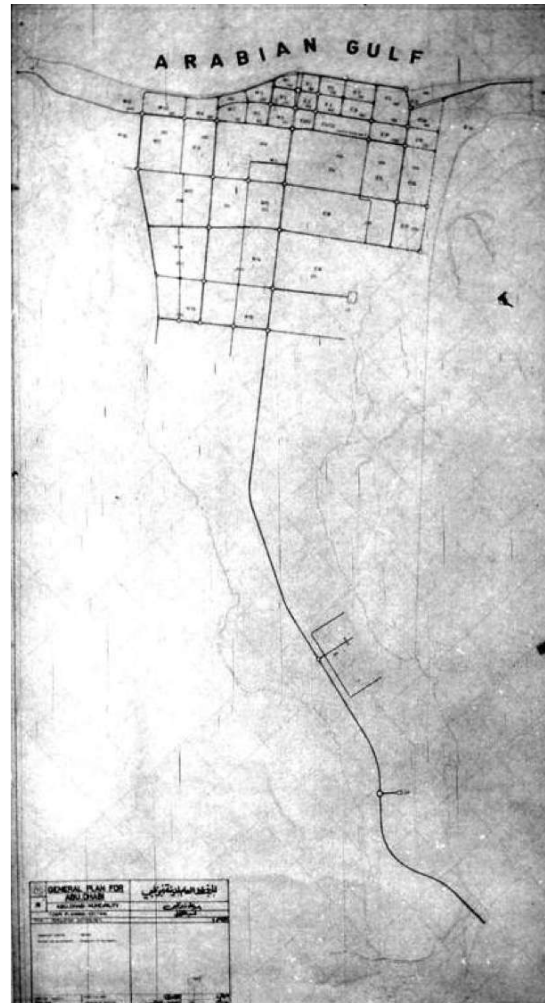


Figure 5.9 Takahashi zoning plan 1968

Military intentions or not, it is common knowledge that Sheikh Zayed favored accessibility, and is quoted as saying, “The shortest distance between two points is a straight line” (Reisz 2013). According to an interviewee, Zayed was very keen on making the emirate accessible:

...[H]e would himself draw road designs on the sand and say I want a road to pass through here. I mean, I remember him telling us for instance in Al Ain, even before he had the funds in order to build anything, he started helping to make tracks because Al Ain was then supplied perhaps once a week only by some kind of transport that brought

them food, brought mostly from Dubai, sometimes from Abu Dhabi but it was a very rough journey and mostly done on camel back, and so from the beginning and in order to facilitate the entrance of trucks or vehicles into Al Ain, he started laying out tracks and putting even fronds from palm trees so that the wheels can have friction. In his mind, I mean, always having roads, access roads that was an important part of developing because he knew that it meant people can come together quicker, that you can supply a community faster and more efficiently by that way, and similarly in Abu Dhabi he wanted roads from the outset but roads to be not complicated so that people can get around and this why we have this grid which is amazing... (Interview #6).

From a review of documents and interviews, the overlaps between ARABICON/John Elliott's plans and Takahashi's are not clear; some claim that Takahashi was responsible for starting "the real planning," and that ARABICON was solely responsible for infrastructure planning, while others like John Elliott argue:

Takahashi thought he was going to create the city but layout and bones were already done. All he inherited was the admin. He tried to fiddle with it by linking the zones with green pedestrian routes. The major roads already had the slip roads, were already 100m. I was the one who got the tree specs for the medians between the slip roads and the main carriage way (Elliott to Wimsatt 2009).

Similarly, there are differing opinions about which of the planners integrated the gridiron road pattern and greenery across the city. John Elliott explains that Takahashi wanted green corridors to run from block to block "but it was too much a temperate climate idea" (Elliott to Wimsatt 2009).

According to several interviewees, Takahashi also hoped to create a new area on the mainland, a Government Center and Central Business District of sorts, to be known as the Capital District (Interviews #6, 13, 32, 34 and 36) -- although there are no plans to demonstrate this. The idea of planning a Capital District developed from Takahashi's belief that the current city was going to face difficulties in the future because "it's a cul-de-sac" and "it would need a lot of dredging and reclamation or refilling because it was so low," says an informant (Interview #6). He also warned that, "...with further expansion, Abu Dhabi Island would not have been big enough to cope with an influx of population," says Mohamed Al Fahim (Al Fahim, quoted in Attwood 2008a). Takahashi proposed to Sheikh Zayed that the main city of Abu Dhabi be established in the Mafraq or Bani Yas area while leaving Abu Dhabi Island to serve as a resort with villas and small residential buildings, and to include a deep water harbor connected by causeway to the Island with adjacent storage facilities (Arahamian to author 2015). Unfortunately for Takahashi, his idea did not resonate with Sheikh Zayed, most likely because Zayed thought that building a Capital District might give the impression that Abu Dhabi was supplanting the other emirates (ECSSR 2013). At the time, Sheikh Zayed was eager to form a federation, and wanted to avoid the criticism that Abu Dhabi was trying to dominate its fellow Union members.

The first who was insisting on having Abu Dhabi as a capital city was Sheikh Zayed. Actually, when there was this idea of creating an alternative city, he's the one who

rejected it and said why should we create a new city, Abu Dhabi should be the capital and stay the capital. At the same time, because of the culture of Sheikh Zayed and Islamic culture, I think, he rejected all the ideas of creating sort of flagship projects to make the capital. The first one who did that was Takahashi in the area that I told you. He was proposing to create a sort of capital district there, but Sheikh Zayed rejected it. He was always trying to create a more humble city with a spirit...He rejected until the end of his life the idea of capital district. He didn't even accept to talk about it...After the problem with the CBD or the capital district, if you want to call it, this was the end of their story...it seems to me that this project was the reason there was a big falling out between him and Takahashi. (Interview #20)



Figure 5.10 Sheikh Zayed and one of his advisors examining Takahashi's plan

Different reasons are offered for Takahashi's short-lived experience in Abu Dhabi (he lasted less than a year there). "He was not a great success. Let's put it that way," says an interviewee (Interview #15). "Sheikh Zayed wanted someone who spoke Arabic, without having to go through an interpreter all the time," says another (Interview #36). Another informant asserts that Takahashi had a Corbusian-like arrogance:

He was like a surgeon... It was stupid; because Sheikh Zayed was telling him "I don't want this" or "remove this" with his stick, the famous stick. Takahashi became red-faced angry, like those typical proud young engineers, planners, and architects, and said: "Well, your Highness. If I will do as you're saying, it won't be my project; it'll be your project." Of course, it was Sheikh Zayed's and not his. They kicked him out of the country in 24 hours and I think Sheikh Zayed was completely right in doing this. He has all the right to do this. The first lesson in planning schools... they tell us as planners, we are just advisors and not decision-makers. We just advise and tell the pros and cons of any planning decision, but you are not the one who decides. Leave the decisions to the politicians (Interview #13).

In an interview with *The National* newspaper, Takahashi himself admitted he was disrespectful, boldly telling Sheikh Zayed that he was the one with the experience and education, and that the Ruler should listen to his opinions on how things ought to be done (Attwood 2008b). In a tribal place like Abu Dhabi where respect for elders is highly valued, Takahashi had crossed the line.⁶⁹

While it is unclear how Takahashi's basic planning of Abu Dhabi affected what was actually built, the gridiron road network remains a fundamental aspect of the island's layout.

Abdelrahman Makhoulf and Comprehensive Urban Development

1 Dr. Abdelrahman Makhoulf

Following Takahashi's swift departure, Sheikh Zayed reached out to the United Nations Development Program in search of an Arab planner. The UNDP recommended an Egyptian expert at the United Nations Technical Support Office in the Middle East, Abdelrahman Makhoulf.⁷⁰ "The UN representative was a Sudanese man I knew during my time in Saudi Arabia. At the time, there were many Sudanese working in the region. And the Sudanese often called on Egyptian experts. He sent me a cable that said that Sheikh Zayed wanted to see me," says Makhoulf (Makhoulf, quoted in Reisz 2013).

When Makhoulf arrived in Abu Dhabi in November 1968, Sheikh Zayed was away in Geneva. Makhoulf wasted no time, however, surveying the area and making some rough sketches of how he thought the city should be developed (Ghazal 2013). His

⁶⁹ Upon leaving Abu Dhabi, Takahashi joined the United Nations Center for Housing, Building and Planning. He remained there for ten years, and according to an interviewee, he is now working in private development, spending time between San Diego and New York (Interview #13). Takahashi returned to Abu Dhabi in 2008, when he was invited by the Abu Dhabi Urban Planning Council to participate in the Capital District Symposium, and again in 2009, when he was invited by Abu Dhabi Gas Industries Ltd. (GASCO) to give a lecture titled, "Grand Vision of Sheikh Zayed bin Sultan Al Nahyan: Abu Dhabi and Beyond." Any attempts at retrieving his contact information or any of his presentation material for the sake of this research project were consistently blocked, and I have therefore had to rely on interviews with other informants and on John Elliott's email correspondence with Ann Wimsatt, as well as on the two articles in *The National* newspaper to help piece the story together. See John Elliott to Ann Wimsatt, November 2009; Attwood, Karen (2008a). "Author laments architect's departure" in *The National*, September 11; and Attwood, Karen (2008b). "Building a city from the sands" in *The National*, September 11.

⁷⁰ According to an interviewee, Sheikh Zayed had reached out to the UNDP because "...the UNDP until now it is the international organization that helps all developing countries in making their economic development plans and other development plans. They were sort of the aid agency... and they were offering expertise" (Interview #10).

first meeting with Sheikh Zayed took place sitting on a spot of sand near the current location of the Intercontinental Hotel; there, the Ruler inquired about Makhlouf's history and then admitted that he did not have a map of Abu Dhabi. Makhlouf recalled assuring Sheikh Zayed that he could draw one up in two weeks, despite the disbelief of Zayed's advisor. Makhlouf then created a hand drawing showing Abu Dhabi and its landmarks from scratch, using some of the past consultants' plans and converting the scale of measurements from imperial to metric (Reisz 2013) (see Figure 5.11).⁷¹

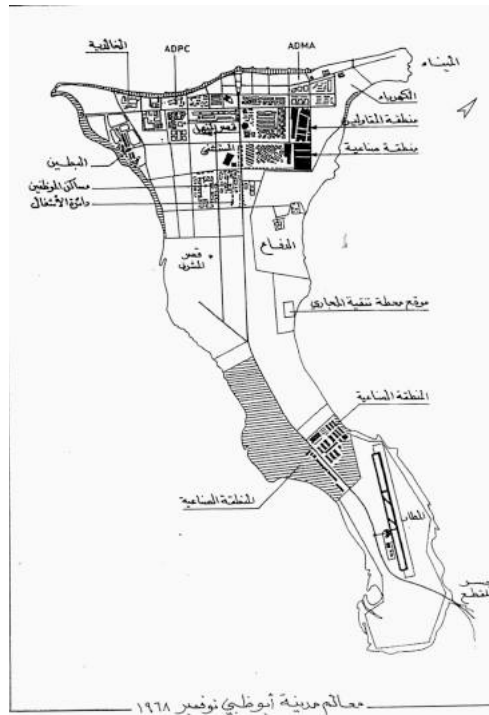


Figure 5.11 Abu Dhabi and its landmarks 1968

During the meeting, Sheikh Zayed also prompted the planner to convey his intentions for Abu Dhabi. According to an informant, when Sheikh Zayed asked Makhlouf about his plans and whether he would give Sheikh Zayed a map or if he would follow the Ruler's intentions, Makhlouf replied that he would present Sheikh Zayed with options, from which the Ruler could make his selection (Interview #36). Makhlouf went on to submit a report titled *Report Number One*, in which he presented drawings and plans for Abu Dhabi, described the task at hand, and suggested creating an institution that would be solely responsible for planning the city. At the time, 'planning' (as opposed to 'town planning') occurred through the Department of Planning and Coordination (see section 5.2). The Municipality, on the other hand, was mainly in charge of land allocation. Makhlouf explained, "Abu Dhabi needed more than

⁷¹ Makhlouf mentions that he was not supplied with any of the previous documents and plans, and therefore had to dig for information. With the help of a female employee at the Municipality, he managed to acquire some of these plans from England. See Reisz, Todd (2013). "Plans the Earth Swallows: An Interview with Abdulrahman Makhlouf" in *Portal 9* n.2 (Spring). Available at: <<http://portal9journal.org/articles.aspx?id=92>> (Accessed January 5, 2014).

making something visual like a master plan...planning is not something that an expert will give...as drawings" (Makhlouf, quoted in Reisz 2013). He met with Sheikh Zayed once again, this time in the Ruler's home, where he presented *Report Number One*:

It was like a lecture on city planning, so that he understood I wanted to do more than just give him drawings. The real task of a planner is to provide options for the problem measured within the means and time available. And it was from that conversation I wanted him to support opening a town-planning department (ibid.).

Sheikh Zayed was convinced, and Abdelrahman Makhlouf became Abu Dhabi's first director of town planning at the Abu Dhabi Municipality and Town Planning Department (ADMTPD) or, in the words of an interviewee, "the godfather of the town planning department" (Interview #10)

The Egyptian planner was born to the Grand Mufti of Egypt, Sheikh Hassanein Mohammed Makhlouf (1890-1990), who was renowned in the Muslim world. Abdelrahman Makhlouf earned a bachelor's degree in architectural engineering from Cairo University in 1950 and was one of a small number of students who studied town planning as part of their curriculum (Reisz 2013). Makhlouf's professors and mentors were among the "best Egyptian architects...of his generation...who were in the process of revolutionizing the Cairene landscape" (Hassan 2001). These included Ali Labib Gabr, Sherif No'man, and Sayed Kurayem; after the Second World War, several other prominent names were added to this list, such as the architect Hassan Fathy. As Makhlouf commented:

Most of the distinguished architects who lectured and trained us had studied in France, except for Ali Labib Gabr, who had spent his student years in England...It was a time of great enthusiasm, a sort of architectural revival that followed the war, with ideas coming from Europe and, for the first time, from the United States (Makhlouf, quoted in Hassan 2001).

Abdelrahman Makhlouf's mentors certainly shaped his understanding of and approach to urban planning. For example, Sayed Kurayem, having trained in Europe, introduced him to "...the discipline of modern architecture, informed by the school of Le Corbusier, which was completely novel in Egypt" (ibid.). Hassan Fathy's work on vernacular architecture inspired Makhlouf to continually negotiate the meeting of (Middle) East and West both locally and regionally. And perhaps to an even greater extent, his upbringing as the grandson of a renowned rector and teacher at Al Azhar Mosque, and as the son of the Grand Mufti of Egypt, ingrained the values of Islam in his approach to building cities: "Islam gives us the rules of living," said Makhlouf (quoted in Reisz 2013).

While he took on a teaching assistant job at the department upon graduation, Makhlouf was eager to pursue a PhD. His mentor, Ali Labib Gabr, suggested he take this up in Germany, which was rebuilding from the massive destruction of World War II. Gabr thought the German reconstruction offered a good way for Makhlouf to see how the nation was rebuilding its cities; that way, he could "see urban planning and

architecture in the making” (Hassan 2001; Reisz 2013). Thus, Makhoulf joined the Technical University of Munich (*Technische Hochschule Munich*) in 1953 and studied under the architect Georg Werner.

After graduating in 1957, Makhoulf returned to Cairo University to teach as a lecturer. In 1959, Sayed Kurayem recommended him to the United Nations as an urban planning expert and he was selected to plan the city of Jeddah in Saudi Arabia. At the time, Saudi Arabia was undergoing momentous changes, and Makhoulf was retained to plan several other towns including the holy cities of Mecca and Medina. He completed his five-year mission in Saudi Arabia in 1963. Shortly after, Makhoulf once again returned to Cairo, serving as an associate professor of city planning at the university from 1964 to 1968, and designing the plan for Greater Cairo in his role as director general of the Department of Urban Planning for Greater Cairo.⁷² By the time he was summoned to Abu Dhabi, Abdelrahman Makhoulf had participated in and witnessed some of the most significant moments in the urban history of the Arab Gulf and Egypt.

Makhoulf served eight years as director of town planning at ADMTPD, and was awarded UAE nationality by Sheikh Zayed because of his dedication to building Abu Dhabi. Makhoulf left the ADMTPD in 1976 to establish his own private practice in Abu Dhabi, the Arab Office for Planning and Architecture.⁷³

2 *Makhoulf's Plan (1968)*

Abdelrahman Makhoulf came to work very closely with the ruler of Abu Dhabi. He felt confident that he would be able to translate Zayed's vision for the town, claiming that “[Sheikh Zayed's] way of looking at the plans of the city matches my way of thinking” (Wassman 2002). An interviewee comments, “[Makhoulf] certainly did get on well with Sheikh Zayed. He understood Sheikh Zayed” (Interview #35). Indeed, the Egyptian planner related to Sheikh Zayed's vision for Abu Dhabi, which was to create a modern city that was not only functional and aesthetic, but also able to carry out its role as “a capital of a then-anticipated federation” (MEED 1998; Ghazal 2013). It had to be self-sufficient and primarily serve the citizens. Sheikh Zayed believed “...that with planning, he could ensure his people had opportunities” (Reisz 2013). Makhoulf himself was strongly influenced by Aristotle's ideas that the ideal state ought to be arranged to maximize the happiness of its citizens,⁷⁴ and he believed that “planning is a social mission” (Makhoulf, quoted in Reisz 2013).

Sheikh Zayed was also keen on preserving historic sites and landmarks, as well as protecting trees and green areas while making room for agricultural projects.

⁷² For further reading, see Muhairbi, Mariam Al (2010). “According to plan: the man who worked with Sheikh Zayed to make modern Abu Dhabi” in *The National M Saturday Magazine*, April 17 and Wassman, Ingrid (2002). “Building Abu Dhabi” in *Arabias Trends*, November.

⁷³ At 90 years old, Abdelrahman Makhoulf is still donning his infamous tailored suits and welcoming work at his office.

⁷⁴ See Swanson, Judith A., and C. David Corbin (2009). *Aristotle's Politics: A Reader's Guide*. Continuum Reader's Guides. London; New York: Continuum.



Figure 5.12 Sheikh Zayed examining Makhlouf's plan with some advisors

Moreover, he insisted that all buildings have an Arab-Islamic character, and encouraged the integration of local tribes through the provision of housing areas close to each other (MEED 1998). Makhlouf worked tirelessly to put the Ruler's vision on paper, with the help of only one draftsman, surveyor, and architect at the time (Wassman 2002).

When developing his plan for Abu Dhabi, Makhlouf considered a population of 250,000, "as it will [eventually] be a fully fledged city" (ibid.), although a report by ARABICON covering the period 1965-1975 anticipated the population would reach 62,000. Makhlouf believed that Abu Dhabi would be able to handle a larger number of inhabitants in the future, and that urban expansion would follow accordingly. They had to be prepared: "If you expect a bigger population, then you make plans for more services and accommodations," he says (Makhlouf, quoted in Ghazal 2013). According to the Minutes of Project Control Meeting No. 5 (1969), when asked "...where people would come from and what were they going to do," Makhlouf estimated that 40 percent would work in the service sector and 30 percent in industry and shipping, with the remaining 30 percent consisting of merchants and Abu Dhabi nationals. Although there is no further information about where the influx of people was envisioned to come from, the 1968 government census indicated that non-nationals would comprise of people from Pakistan, India, Iran and East Africa (Government of Abu Dhabi 1969).

Makhlouf summarized his planning goals for Abu Dhabi as follows: (1) the study of the city and its functions as a component of a system of cities at a regional level (Abu



Figure 5.13 Makhoul's plan for Abu Dhabi 1968

Dhabi and other emirates), with the intention of achieving coordination and integration of the related group of cities economically, socially, and physically; (2) providing the necessary conditions and elements within the urban fabric of Abu Dhabi that would secure comfortable and safe living conditions for all citizens (as in, nationals and expatriates); meet their needs for living, working, and recreation; and help develop their talents and skills; (3) encouraging social spirit and ties among all city inhabitants of various nationalities and cultural backgrounds while striving to form them into a cooperative, coherent, and social entity; (4) providing all conditions necessary to make the city a place of efficient production; (5) generating an expression of the city that should reflect the personality of the place with all of its historical, cultural, natural, and human aspects; and (6) improving the aesthetic values of the city, such that the standard of the city's physical formation should be stressed as a goal that goes hand in hand with other functional, economic, and social goals (Makhoul 2006). Based on these objectives, it is clear that Makhoul placed significant emphasis on social and functional values, as well as city beauty and identity.

The Comprehensive Master Plan for Abu Dhabi Island is comprised of drawings showing land use, density, road networks, and detailed plans for some sectors as well as the Central Business District, and housing and public utilities projects. Makhoul's

concepts for the proposed plan evolved from the integrated concepts adopted to shape up the three systems: the system of relations between the major city elements of housing, communal services and work places, the system of movements for people and goods, where there is a hierarchy of channels for different velocities of movements, and finally the system of urban growth, such that the expansion of the town is to be directed and planned in new self-contained communities that would each include housing, community services and work places (Makhlouf 2006).

Specific design interventions included dredging canals around the city, with the dredged material reclaimed to raise the island's overall elevation (MEED 1998; Wassman 2002), as well as the use of landfills to expand the island's borders along the western coast. An informant explained that Sheikh Zayed saw roundabouts in Bahrain and liked them; hence, the plan included roundabouts at each major intersection. He remembered that Zayed placed a police officer at each roundabout to direct traffic (Interview #26).⁷⁵

For the detailed plans, Makhlouf prepared the site plans of the northwestern part of the island known as Khalidiyah, under the management of Sheikh Zayed's brother, Khalid. He also integrated some elements into the plan that were previously designed in detail by ARABICON and Takahashi.⁷⁶ Additionally, he created a plan for the redevelopment of the city center, planning it as a Central Business District. Here, plot sizes were increased to 60 feet by 80 feet or other variations with a maximum size of 100 feet by 100 feet to accommodate more buildings, with a height cap of 8 to 10 stories. To ensure sufficient open space and car parking, buildings on each side of a road were planned to be at least 200 feet apart. The central area project also made provisions for a *souq* or central market, a cultural center around the Al Hosn Palace, and a Capital Park (ADM 2003).

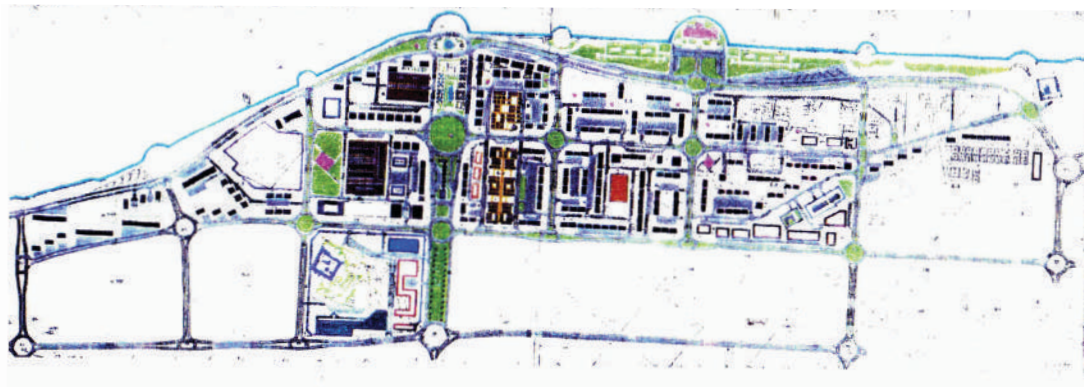


Figure 5.14 Central Business District Plan for Abu Dhabi, Makhlouf

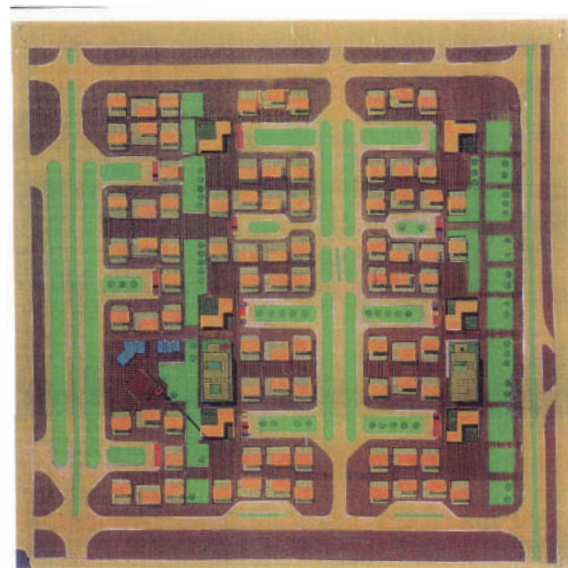
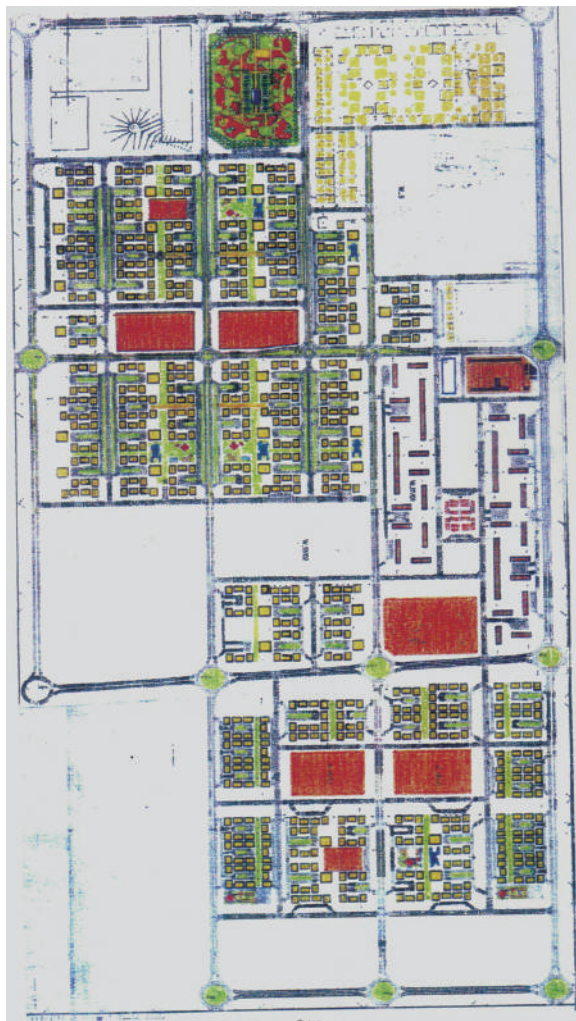
⁷⁵ Rym Ghazal (2011) reports that they were British police officers. Ghazal, Rym (2011). "When Abu Dhabi Had 30 Cars." *The National*, November 3.

⁷⁶ Unfortunately, no drawings are available for comment.

By the time Abdelrahman Makhoulf took over planning Abu Dhabi, the national housing trend continued. Having written his PhD thesis on the theory of the neighborhood unit, Makhoulf was an expert on the subject:

The title of my thesis, translated from the German, was “The Neighborhood Unit and the Analysis of its Sources, Plans and Designs.” I focused on Europe because that is what I could learn there, not just from books but also by traveling. So while I was looking at old city centers and faraway places, I was doing this because I wanted to make something for us, the Egyptians. I studied urban planning in Scandinavia. I looked at Abercrombie’s plans for London, Stevenage, and the other British New Towns. I looked at the German and American roots in the neighborhood unit theory and ideas about road hierarchies. I studied Hilbersheimer, Camillo Sitte, and Corbusier’s Chandigarh (Reisz 2013).

With this information in mind, and with his interpretation of “the rights of the neighbors” in Islam (Ghazal 2013), Makhoulf developed plans for a “residential community unit” with the aim to “achieve social cohesion between inhabitants” (Makhoulf 2006, translated by author). The purpose of the plan was “to fill



تصميم البيت الشعبي (٦٠ × ٨٠) مجلس + عرقين نديم
 مخلص أماني للتخطيط ومنقول خاص لأهل البيت.
 - مع إمكانية زيادة عدد الغرف فيه.

Figure 5.15 Residential unit, Makhoulf

Abu Dhabi's grid with housing" (Makhlouf, quoted in Reisz 2013). Each unit contains seven houses in a cluster, with some space between them and the next collection of houses. The units are equipped with mosques, services, and schools, as well as a meeting point where neighbors gather after evening prayers (Menoret 2014; Reisz 2013; Ghazal 2013). "My plan reflects their traditions," said Makhlouf (quoted in Reisz 2013).

The residential unit incorporated Makhlouf's design for "the national house," or *sha'biyat*, which is built on a plot size of 80 feet by 60 feet. The house is a large one-story structure of concrete blocks, with two bedrooms, a kitchen, bathroom, garden, courtyard and other open spaces (Howe 1972; Makhlouf 2006). According to Pascal Menoret (2014),

[T]he courtyards...are either cut out in the middle of the house or formed at the exterior, framed by houses or compound walls. The courtyard was vital to people adjusting to a sedentary lifestyle. It is also part of an essential ventilation system that lets the *Sha'biyat* breathe in temperatures as high as 45 degrees Celsius.

Open space is not limited to the courtyard; additional space can be found on the rooftop. Moreover, the house contains two entrances: one for guests, with a wall hiding the women's quarters, and a private family entry. Finally, the houses were designed to be flexible and modular, with space for future additions should the family choose (Makhlouf 2006; Menoret 2014). There was no specific housing type for non-nationals; they were expected to reside in the CBD.

Makhlouf's housing unit design was applied until his 1976 departure from the Municipality. The Public Works Department later assumed the responsibility of building national housing. Over time, plot sizes and gross floor space standards developed for these houses began to increase (Atkins 1990). By 1987, the typical low-cost house consisted of 4 bedrooms on a plot measuring 36 meters by 45 meters (120 feet by 150 feet) with a gross floor space of 490 square meters (5,300 square feet) (ibid.).

An architect working in Abu Dhabi since the 1980s reflected on the influence of the Egyptian style of planning in Makhlouf's work:

...the problem is not in the grid system, it's in the plot allocations, the distribution of the plots and the regulations they imposed that are very similar to those in Cairo. With regards to commercial plots, they made either 50 by 80 feet or 80 by 80 or 100 by 100 or 80 by 100 feet. They split them between the streets on the grid and he kept 10 feet between plot and plot, that's it. Then he said, when you build something on this plot, if you have a neighbor from here and a neighbor from here, you can build on your plot but you cannot project. From the other two sides you can project 1.5 meters [(around 5 feet)]. This is exactly what's in Egypt. Then you see, you know, buildings became plot after plot so they're one after the other and between them 10 feet, and there's a mix, underneath it's usually commercial, then mezzanine which is usually offices, then residential above. Even in the commercial heart of Abu Dhabi! That was a bad mix, mixing these three all together in one building. This all came from Cairo. I mean *mashaAllah* [praise be to God] there's land, so why 10 feet between building and

building? And then all buildings became the same thing, you have a base and then a cantilever and it goes up and up, so all the same. And they determined heights so the city ended up not having... the skyline is not interesting, it's like a line (Interview #33).

A limited number of building types and designs have resulted from the current building regulations. These have given a stereotyped and sometimes monotonous appearance to many parts of the city. Some of the main shortcomings of existing regulations concern their failure to foresee the impact of car parking and the demand for larger-scale commercial development.

De Leuw, Cather International Limited, and Abu Dhabi's Transportation and Roads Improvement Program (TRIP)

1 De Leuw, Cather International Limited

In 1978, a couple of years after Makhoul left the Town Planning Department, an American firm, De Leuw, Cather International Limited (DLCI), was hired as traffic and transportation planning consultants. DLCI was tasked with extending and improving the transportation and roads network, which was a "total roads scheme" known then as Abu Dhabi's Transportation and Roads Improvement Program (TRIP). "It was a long scheme because the whole total road network was designed by them...the project turned Abu Dhabi upside down," remarked an informant (Interview #14).

The Los Angeles-based firm, Parsons, founded in 1944 by Ralph M. Parsons, was doing business in the Middle East as De Leuw, Cather International Limited. Their work in the Arab Gulf began in 1958, with the design and construction of Saudi Arabia's Dhahran Airport. In the 1970s, the firm completed several infrastructure and construction projects across Saudi Arabia and Kuwait before it won the Abu Dhabi project.⁷⁷

2 The DLCI Plan (1979)

The 1979 DLCI plan (or TRIP) is based on a rectilinear structure. The main features include an extension of the road system amounting to 5000km (3107 miles) of surfaced roads, 70 percent of which were constructed between 1978 and 1983 (Atkins 1990); replacement of roundabouts by traffic lights ("everywhere there was a roundabout; a roundabout here, a roundabout there, a roundabout at every junction. It worked fine to begin with but then the increase in traffic volume made it necessary to switch to signal control at the intersections," says an informant [Interview #21]); changing the dual two-lane carriageways to three lanes (previously, the principal roads were mainly constructed to two traffic lanes); and building bridges and tunnels at some

⁷⁷ Parsons still has a large visibility in the United Arab Emirates, being awarded a multitude of projects, both big and small, to this day. These include the expansion of Abu Dhabi Corniche (east and west), building the infrastructure of Saadiyat Island, designing the Dubai Metro and Etihad Rail (the national rail project) and several highway projects across the UAE.



Figure 5.16 De Leuw Cather International plan 1979

important road intersections (Atkins 1990; Makhoulf 2006). The 1979 study also made recommendations on public transport, car parking, truck routes, road hierarchy, and block access and internal circulation.

While the 1979 DLCI plan was useful in coordinating the road system and providing capacity (by 1989, many of the roads were operating at 10 percent to 30 percent of their capacity and therefore able to accommodate substantial growth [Atkins 1990]), it provided few effective facilities for pedestrians in Abu Dhabi. Because planners paid little attention to the design of intersections, pedestrians found crossing at signals unsafe because they were often obscured from drivers' view by vegetation or plantings along the roadsides or central reserves (*ibid.*). Another issue resulted during implementation of the plan: the plan stressed the need for adequate car parking arrangements and included designs for multi-story car parking structures for public parking, yet no such provisions were made. Furthermore, while TRIP significantly altered the urban road network, it failed to address land use despite being created and implemented during a time of horizontal and vertical expansion, and increased economic activity. Increased density without a commensurate addition for parking and open spaces is largely problematic, however.

Thus far, the plans drawn up for Abu Dhabi were still failing to keep pace with the city's growth – a failure that was reflected in unsafe intersections and a lack of additional parking and open spaces. Nevertheless, although not a city plan per se, the DLCI plan still affected the city's development (see section 5.4).

WS Atkins & Partners Overseas: A New Comprehensive Development Plan

In the twenty years following Makhlouf's plan for Abu Dhabi, much of the city's development took place in a piecemeal fashion, with planning handled by architects and engineers. An informant emphasized that the ADMTPD had no urban planners from Makhlouf's departure in 1976 until the late 1980s. He said:

In the beginning there were no urban planners, ...because what were planners were actually architects and architecture is a completely different field. Planning was one of the subjects they used to take [in university] but they were not proper planners, that is why they were carrying on with the same procedures that they used to when the town planning [department] was established. ... They were doing some layouts here and there without consulting the actual planning proposals which should be considered when preparing a proper layout...[they were used] to working according to the instructions from authorities ... [who] would ask to go and prepare a plan for such a tribe, this is for Qubaisat, this is for Mazrouie, this is for Sudan, and according with that planning, and [the planners] did not take into consideration all the criteria required for proper planning, so just made some sketch layouts and implemented it (Interview #20).

By 1988 there was considerable liquidity in the market, and with planning happening haphazardly or on a piecemeal basis, the Executive Council decided to reassess the whole planning process and stressed that a comprehensive plan for the city was needed to manage growth. The ADMTPD, with the help of an Egyptian and a Latin American expert from the UNDP, as well as British consultancy W.S. Atkins & Partners Overseas (Atkins), developed the Abu Dhabi Comprehensive Development Plan. It is interesting to note that for the first time since the concept of town planning was introduced to Abu Dhabi, the ruler is no longer directly involved in the process. The Executive Council – or, in effect, its chairman, who until recently was the crown prince – has assumed the responsibility of reviewing and driving the plan.

1 Atkins

Sir William Atkins (who was knighted in 1976) established the company W.S. Atkins and Partners (Atkins) in London in 1938, which grew from his contracting company London Ferro Concrete. In its early years, the company specialized in civil and structural engineering design, and gained a good reputation during the Second World War for delivering complex engineering solutions, such as anti-aircraft defense. Following the war, the company added planning, architecture, project management, and engineering sciences to its list of services. After a string of challenging and successful projects in the UK, including the design of the first non-military nuclear power station and the extension of the Abbey Steelworks at Port Talbot, Atkins took its

expertise overseas and continued to garner international acclaim.⁷⁸ The master planning of Abu Dhabi was the company's first undertaking in that field.⁷⁹

Commissioned in 1988, Atkins spent a few years on the formulation of the plan, pausing during the first Gulf War and finally issuing a nine-volume set of reports, plans, and policy recommendations in 1991. In 1993, after two years of reviewing the plan, it was presented to Sheikh Khalifa bin Zayed, then the Crown Prince of Abu Dhabi and Chairman of the Executive Council.⁸⁰

2 *The Abu Dhabi Comprehensive Development Plan: Master Directive Plan for Abu Dhabi City and Environs (1990-2010)*

The Abu Dhabi Comprehensive Development Plan (CDP) covered the period 1990-2010, and comprised five technical reports dealing with development issues, regional development, the city and environs, rural settlements, islands and marine areas, action areas, and implementation. These are accompanied by planning manuals for new residential areas, industrial areas and business parks, and redevelopment and urban renewal. The new plan stood out from its previous counterparts by representing the first attempt to introduce a comprehensive approach to physical planning in the emirate, which examined the region as a whole and its component sub-regions in an integrated manner. It also included a very detailed study of the development issues facing the emirate, as well as an implementation plan and a capital investment plan. When addressing development issues, it examined policies, mechanisms, opportunities and constraints relative to the following areas: physical features and natural resources; the socio-economic context; rural development and settlement patterns; housing; social services and cultural facilities; transport and communications; public utilities; urban land market and land use; design and development controls; and environment and coastal zone management.⁸¹ Moreover, the plan was concerned with planning administration and institutions, policies and regulations, and design standards and controls.

In keeping within the scope of this research project, particular attention is devoted to the Master Directive Plan for Abu Dhabi City and Environs (MDP) (Atkins 1991a), along with its implementation proposals (Atkins 1991b). The MDP is based on the development of the role of the city as a major center for administration, commerce, business and industry in the Emirate, and as an important node for transport and

⁷⁸ See "Celebrating 75 Years: Our Founder, Sir William Atkins." Available at: <<http://www.atkinsglobal.com/en-GB/media-centre/features/our-founder-sir-william-atkins>> (Accessed November 25, 2014).

⁷⁹ After completing the master-planning project in Abu Dhabi, Atkins continued to land a range of jobs in the UAE, including the design and construction of the famous Burj Al Arab hotel in Dubai, the construction of Abu Dhabi's current Central Market, and the masterplanning of Khalifa Port. It is still working on a number of projects across the UAE.

⁸⁰ The UNDP experts worked together with the ADM to review the plan, and their contract ended in 1994.

⁸¹ The report mentions that it is based on the review of published and unpublished data collected from government departments, ministries and agencies, interviews with government officials, businesses and other informed persons, and supplemented with preliminary information collected through field surveys. See WS Atkins & Partners Overseas (1990). Abu Dhabi Comprehensive Development Plan. Technical Report 1: Development Issues.

telecommunication services. It also acknowledged the city as one of the two main gateways to the UAE (the other being Dubai) and anticipated its growing role in tourism and recreation. The MDP is primarily focused on the direction and shape of future expansion, recommending a substantial expansion of the urban area of Abu Dhabi City to avoid “excessive concentration” of development on Abu Dhabi Island.

The MDP identified four major development issues: the requirements of different social groups and the future expectations of citizens; the quality of urban development; the efficiency of the urban land use system; and the flexibility and adaptability to changing conditions. The development goals of the MDP stem from these aforementioned issues and a total of eighteen objectives are outlined.

The MDP anticipated an Abu Dhabi with 712,000 people (219,735 nationals and 492,265 non-nationals) and 302,000 jobs in 2010. It forecast an increase in the proportion of citizens in the total population and a slow increase of the non-citizen population, reflecting a decrease in the demand for foreign labor. It also anticipated the largest segment of the labor force in 2010 would be engaged in commerce, services, and public administration. Additionally, it forecast major structural changes in Abu Dhabi’s industrial, financial, and retail sectors “so that they may play a more positive role in future economic development” (Atkins 1991a). In its proposal, the MDP outlined three major growth scenarios for Abu Dhabi and, following an in-depth evaluation of the scenarios against a set of qualitative and quantitative criteria, recommended “Option 3: Integrated Mainland and Island Development” to form the basis for the preparation of the plan (see Figure 5.17). This option divided growth evenly between the mainland, Abu Dhabi Island, and nearby islands. Specifically, it called for some spatial restructuring “that would benefit the future functioning of the city and enhance its image.” Thus, the MDP involved a multidirectional expansion that would occur south towards the mainland, west toward Hudayriat Island, and east toward Saadiyat Island.

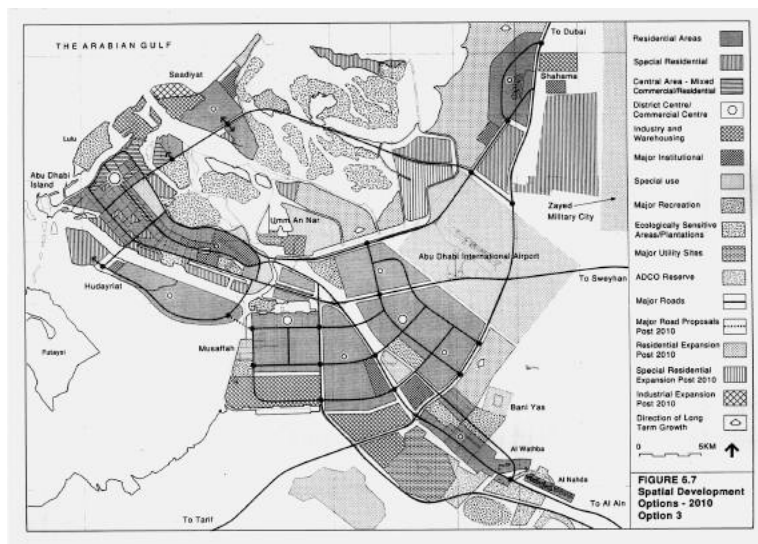


Figure 5.17 Option 3 for Spatial Development, Atkins

The six main principles underlying the proposed urban structure included the adoption of a two-tier structure for residential development, with neighborhoods of between 6,000 and 8,000 inhabitants forming the basic unit; districts with a population of 24,000 to 32,000 inhabitants, meanwhile, formed a larger unit that offered a wider range of community facilities. Second, the plan proposed adoption of a four-tier hierarchy for the provision of retail and services which included, at the highest level, the city center, followed by a number of district centers, major centers and local centers. Third, it envisioned locating industrial areas at the periphery of development, well served by freeways and primary roads. In contrast, major government and institutional uses would be sited in major centers and on prominent sites along primary roads and freeways. Fourth, five integrated development zones would be established, constituting major nodes of activity and employment, each anchored on a main institutional, industrial, commercial or recreational function or a combination of activities. Fifth, the emirate would adopt a five-tier road hierarchy (freeways, major regional roads, primary roads, distributor roads, and local and access roads). Finally, the plan set as a goal a balance between development and conservation to permit the exploitation of the visual assets provided by the coastline and islands while ensuring the protection of marine resources in the mangroves and shallow waters surrounding Abu Dhabi Island.

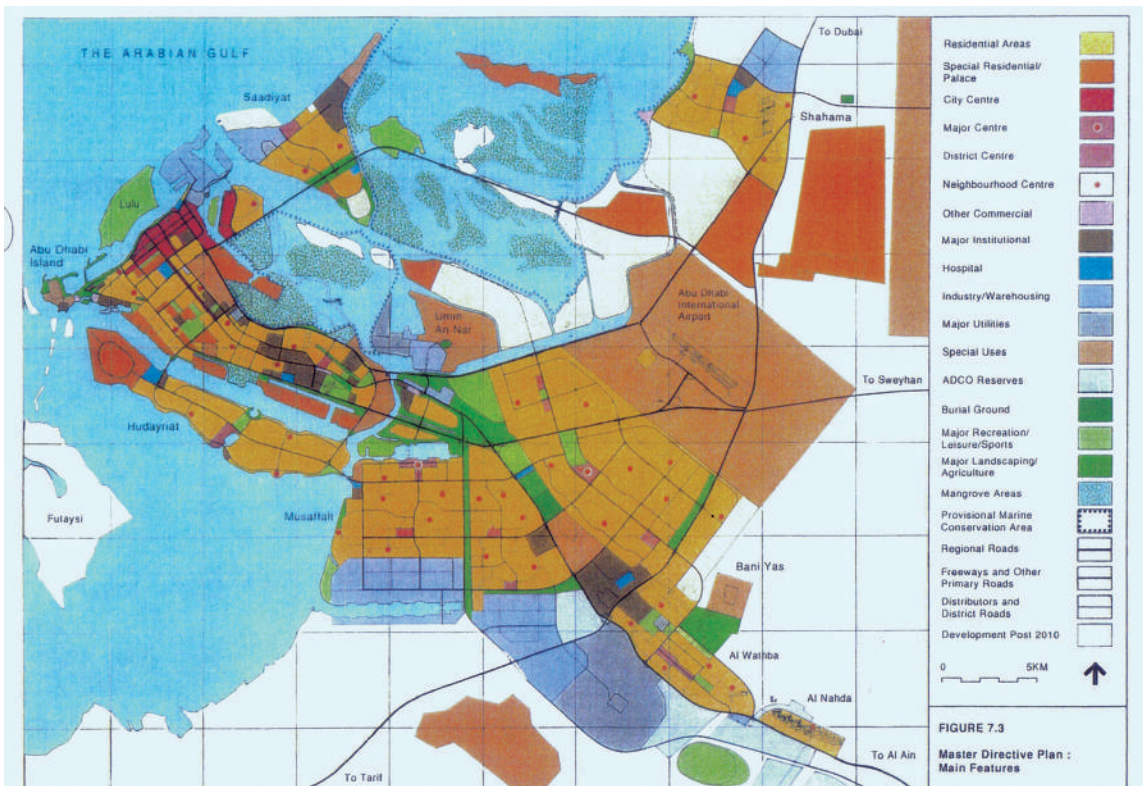


Figure 5.18 Abu Dhabi Master Directive Plan, Main Features, Atkins

Of note, the MDP's proposed community structure, which is based on a three-tier hierarchy (district, neighborhood, and local housing clusters) considers residential areas that account for both nationals and non-nationals (illustrated in Figures 5.19 and 5.20). The size of a district is governed by the catchment population required to support certain community facilities such as secondary and intermediate schools and other social and public services, containing community ranges from 24,000-32,000 people. Each district is composed of three or four neighborhoods of 6,000-8,000 residents, with each neighborhood supporting primary schools, a local mosque, a number of shops, and a local park. Neighborhoods are further divided into local groups of housing, accommodating 1,000-2,000 people, and are served by a local mosque, local open space, and a local shop.

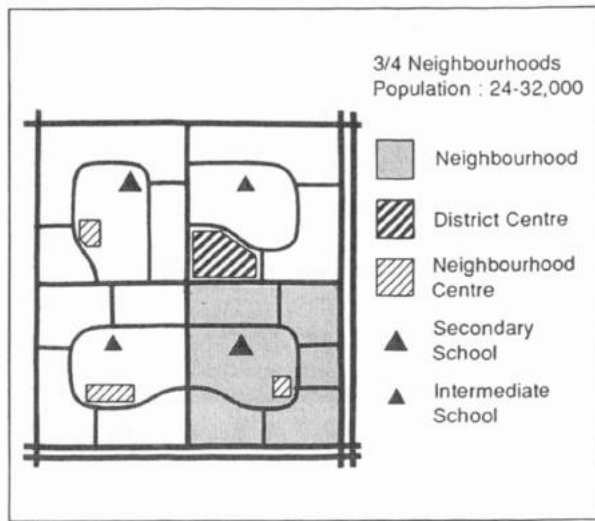


Figure 5.19 Theoretical District Structure, Atkins

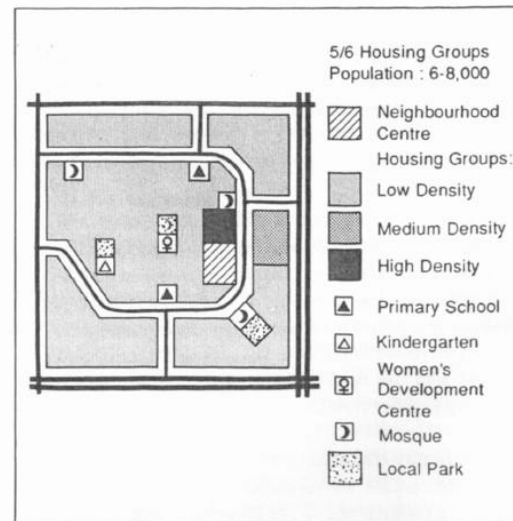


Figure 5.20 Theoretical Neighborhood Structure, Atkins

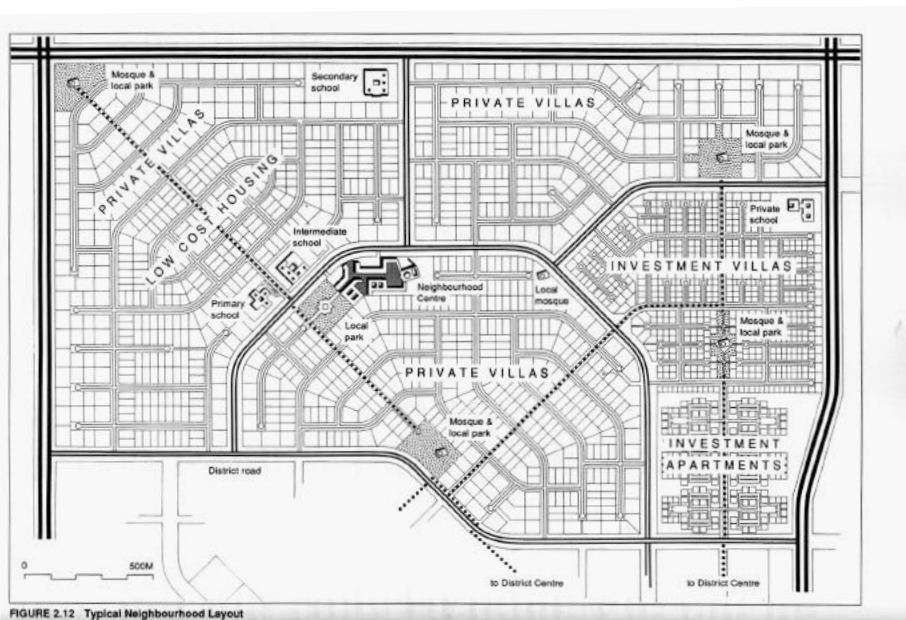


Figure 5.21 Typical Neighborhood Layout, Atkins

A typical neighborhood layout is presented, demonstrating the proposed community structure, road hierarchy, housing densities and distribution of facilities and related standards. Distributor roads define residential neighborhoods and districts with a limited number of entrances servicing an individual neighborhood. District roads link to distributor roads and provide the basic structure of the neighborhood, while local and access roads provide direct access to individual plots. There is a mix of national (private villas and low-cost housing) and non-national (investment villas and apartments) housing within each neighborhood, with varying densities, and the higher density non-national housing located towards the outskirts of neighborhoods (see Figure 5.21). Community facilities serving the neighborhoods are located on the district roads, while facilities serving the local housing group are located on local or access roads or pedestrian routes. With regard to landscaping, due consideration is given to the constraints imposed by the harsh climate, poor soils, and shortage of water, as well as to visibility, framing viewpoints and shading. These are all explained in both the MDP and the Planning Manual for New Residential Areas (Atkins 1991a; Atkins 1992). Plot sizes and typical plot arrangements were also discussed for the varying types of housing. Alongside these, suitable interim development controls were outlined, determining floor-to-area (FAR) ratio, building bulk and parking spaces for residential use. The manual then detailed road layouts, parking guidelines, and utility design guidelines.

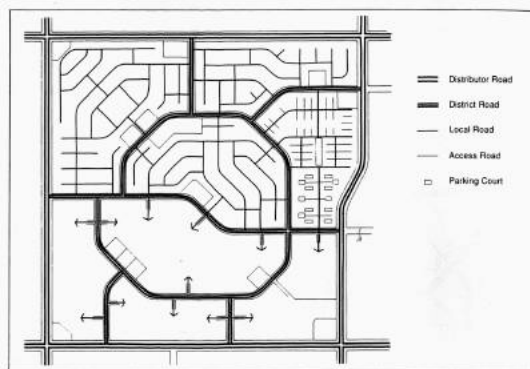


FIGURE 2.13 Road Hierarchy

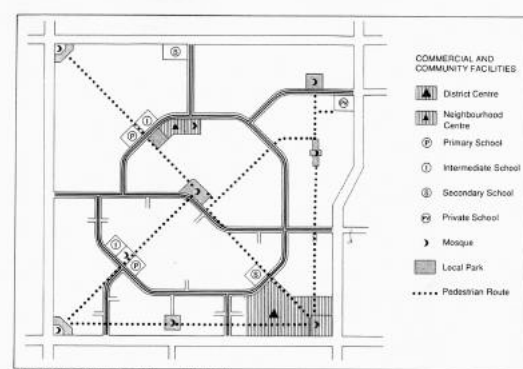


FIGURE 2.15 Distribution of Community Facilities

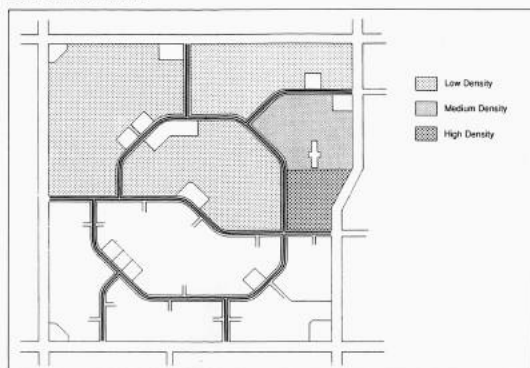


FIGURE 2.14 Residential Densities

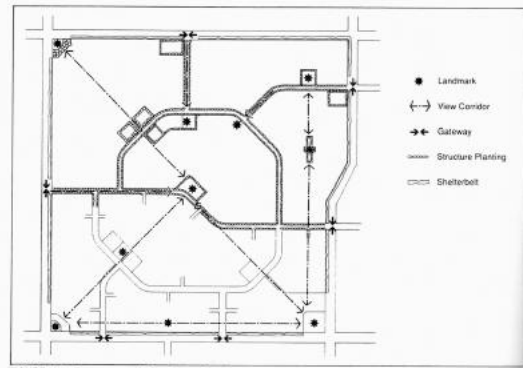


FIGURE 2.16 Townscape and Landscape Structure

Top Left: Figure 5.22 Road Hierarchy, Atkins; Bottom Left: Figure 5.23 Residential density, Atkins; Top Right: Figure 5.24 Distribution of community facilities, Atkins; Bottom Right: Figure 5.25 Townscape and landscape structure, Atkins

While developing their plans for Abu Dhabi, one of the objectives that Atkins listed in the MDP was “to satisfy the requirements of different social groups in terms of housing and community facilities.” They considered that new housing development in Abu Dhabi would continue along the trend common at the time: villa-type accommodation for nationals, where 68.6 percent of rural citizen households resided in low-cost housing, mainly in Bani Yas, Al Wathba and Shahama (Atkins 1990). According to an informant:

The satellite townships of Baniyas, Shahama, and so on...when I first came here, they were not seen as being part of Abu Dhabi, it was a long way away. You would go off Maqta Bridge, straight up to Mafraq, and either go straight to Al Ain or turn left to go up to Dubai. The first village you pass by was Shahama. So, Shahama, Baniyas, and Al Wathba were not built to be suburbs of Abu Dhabi city, but to be areas where Zayed would try to encourage the Bedouins to settle or when immigrant Arabs from the peninsula would arrive, that’s where he would give them land and houses (Interview #2).

The Atkins plan, however, acknowledged an inability to meet the demand for low-cost housing. Socio-economic forecasts for the period 1990-2010 were also noted, reflecting that increased citizen participation in the labor force and advances in educational attainment would reinforce a trend toward nuclear family-based households.

In its report, Atkins proposed Abu Dhabi review its government policies on national housing (both gifted land plots backed by loans to finance private building and the supply of readily constructed low-cost houses), arguing that “the criteria for eligibility and for allocation are not always systematic and require rationalization,” and that the policy of providing large plot sizes for private villas and national housing presented major problems in that low-density development tended “to dilute any sense of community in residential areas, and leads to an inefficient utilization of land and increased costs for infrastructure provision” (Atkins 1990).⁸² The report recommended that achieving higher densities in future layouts should be considered, providing two options for low-cost housing. The first option was to keep plot sizes as they were (100 feet by 145 feet or 120 feet by 150 feet), reducing and standardizing the rights-of-way of local roads, and “reducing incidental open spaces and side spaces separating adjacent plots.” The second option was to reduce the plot sizes – to 100 feet by 80 feet or 100 feet by 100 feet – and adopting a “climatically more efficient 2-storey low-cost housing prototype” (Atkins 1991a).

As for other housing types, the MDP forecast a major shift in the composition of non-citizen households, with a larger proportion of family-based households and an expected reduction in the percentage of collective households. For the former, plot layouts and sizes are considered for investment villas, low- to medium- rise investment apartments, low-income investment housing and medium- to high- rise investment

⁸² Atkins defines low density as 2-9 units per hectare, mainly comprising villa areas and owner-occupied low-cost housing areas. See WS Atkins & Partners Overseas (1991). Abu Dhabi Comprehensive Development Plan. Technical Report 3: Master Directive Plans. Volume 1: Abu Dhabi City and its Environs.

apartments. As for the latter, Atkins believed that collective households would still have to be provided for, and emphasized the importance of locating these group housing schemes separately from the main areas reserved for family households. With all these issues in mind, Atkins prepared the MDP and housing proposals accordingly.

The plan identified seven “spatial development units,” namely Abu Dhabi Island, Musaffah, Umm An Nar and mainland expansion areas, Bani Yas, Shahama, Saadiyat Island and Hudayriat Island, and developed physical development proposals for each (see Figure 5.26). Notably, the MDP proposals for housing distribution for Abu Dhabi Island accommodate low-density units for nationals and apartment units for expatriates located in existing mixed use areas in the city center and associated corridors. In addition, 297 acres of land for citizen villas and 74 acres of residential land for investment purposes is allocated adjacent to the district center to be located within the Bateen Airport site. The redevelopment of low-quality housing areas, located on the periphery of the city center, in favor of higher-quality lower-density developments, is also proposed. As for Musaffah, The total amount of net residential land allocated to cater for additional growth is approximately 6178 acres, of which about 80% would be for citizen low-density villas or low-cost housing. In addition, the Musaffah development would provide sites for low-income accommodation for non-citizens and housing for a number of families relocated as a consequence of redevelopment schemes on Abu Dhabi Island. In Umm An Nar and surrounding mainland areas, an additional

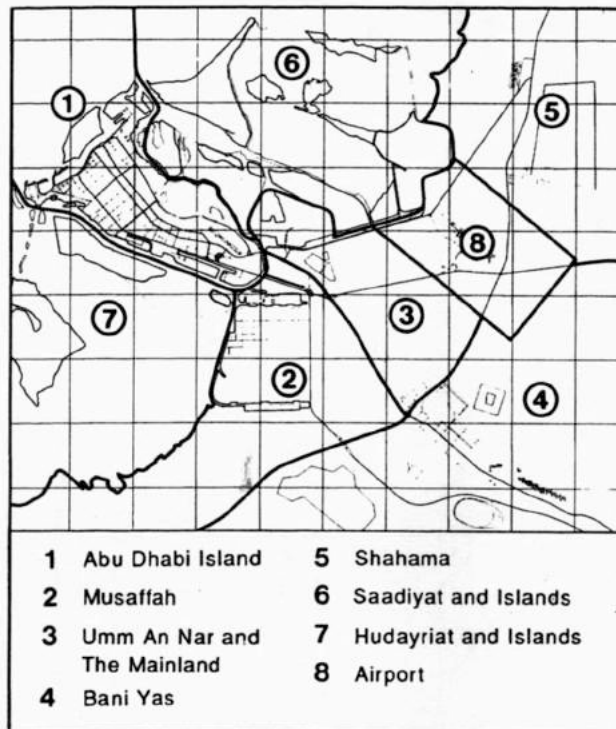


Figure 5.26: Delineation of spatial development units, Atkins

7370 citizen and 6300 non-citizen dwelling units are proposed. The Bani Yas Area, which includes Al Mafraq, Al Nahda and Al Wathba, was proposed to be redeveloped for medium density residential use, primarily for non-citizens, on a site of 321 acres, and additional land is also provided for citizen residential accommodation within Bani Yas and also on a limited scale at Al Wathba and Al Nahda. In Shahama, the total amount of net residential land required to accommodate this additional growth was thought to amount to approximately 3311 acres, over 90% of which would provide sites for low-density citizen accommodation. The majority of the residential development was slated to take place on Saadiyat Island, where 80% of the residential land would be developed for low-density villas and low-cost houses, mainly for citizens. Finally, the MDP proposal for Hudayriat allocated land for approximately 3700 citizen and 3200 non-citizen housing units. While this is the first plan that truly considers both citizen and non-citizen housing in a detailed manner, it is not clear whether or not it tackles labor accommodation associated with construction or other sectors that import migrant labor. It groups these labor camps under "Special Housing Areas" or "Other," along with low-cost housing for municipal workers, housing for teachers, nurses, and defense and security personnel, as well as palaces, and mentions that planning for these special areas "will continue during the plan period" (Atkins 1991a). There is no further elaboration.

The MDP detailed policies for residential development, commerce, industry, government institutions, social services and public facilities, urban design and landscape, environment, transport, and public utilities. Of these, the following are significant for implementation: the six principles stated above, the provision of affordable housing options, the replacement of substandard housing, and the improvement of public bus services and road safety measures. The implementation program included three phases of development related to the short term (1990-1995), the medium term (1995-2000) and the long term (2000-2010), and presented a capital investment program for the first five years estimated at AED 21,341 million (approximately USD 5,810 million). The MDP also recommended the selection of a number of "action areas" for detailed planning prior to implementation, namely Central Markets, Bateen Airport, Musaffah, Hudayriat and Bani Yas (see Figure 5.27).

Finally, the MDP laid out some of the issues related to planning administration and emphasized the need to enhance the forward planning and urban design functions of the ADMTPD. It stated, "Taken in the broader framework of planning administration, the advent of the Master Directive Plan should be seen as a catalyst to review the existing system, improve it, and adapt it to the increasingly complex requirements of modern development." The plan specifically proposed clarifying planning powers (e.g., the definition of authorities responsible for different planning functions in the Emirate, the designation of a single autonomous authority responsible for land use planning, a review of the development control system, etc.), the review of the Town Planning Department's administrative structure, and the review of the scope and content of development control regulations.

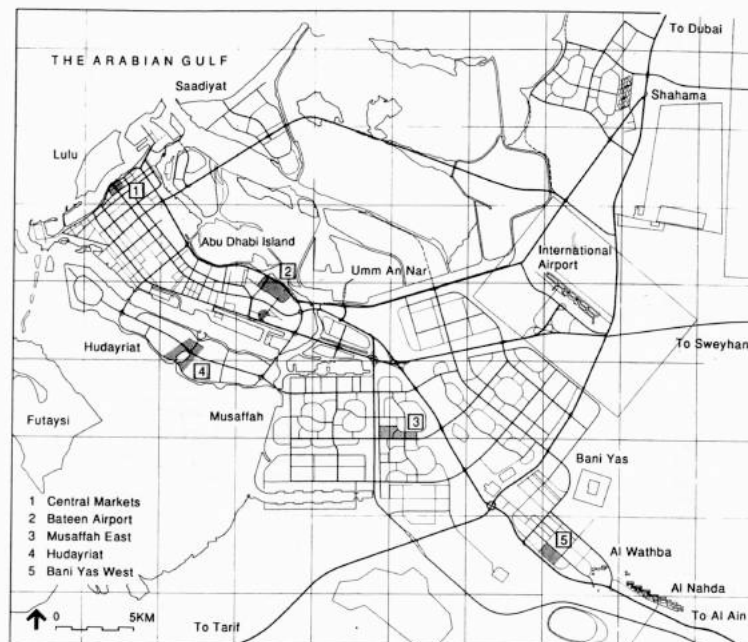


Figure 5.27: Location of proposed action plans, Atkins

Overall, the Master Directive Plan or the Abu Dhabi Comprehensive Development Plan is much more sophisticated in scope and content than any of the previous plans. The methods by which it arrived at identifying key development issues and the level of detail involved in proposing development options and design concepts are commendable.

Sadly, the Atkins plan did not receive a positive response, although an interviewee noted that the Municipality used parts of it as a reference for development. According to another informant:

My conclusion about the story of the Atkins plan was that the plan was born dead and an orphan. Dead in the sense that it was nothing new, orphan in the sense that it had no political support. If Sheikh Khalifa didn't even support it, he just left twenty minutes into the presentation... It was just a nice set of green volumes... Very interesting, very beautiful to put on the bookshelf, but nobody was using it (Interview #13).

The plan was generally not communicated to the public either. After Atkins' consulting work ended, planning regulation in Abu Dhabi went on in a manner best described as "business as usual." When asked if his firm had to comply with the Atkins plan, an architect practicing in Abu Dhabi since the 1980s responded: "Not at all. I knew of the Atkins plans but I didn't have any encounter with their plans..." (Interview #15). This was a standard response from other architects interviewed.

The very sophisticated and dense reports that make up the CDP may be just the reason why the Atkins plan was considered "dead and orphaned" or left as "pretty books on a shelf." Further, a critical problem with the CDP is not in its development

proposals, but in its suggestions for the plan's implementation. One example is that the plan calls for an "overhaul [of] the way in which development and building is regulated" and "the total system should be recast." At an institutional level, this was problematic because the system had not yet fully evolved, nor were there enough qualified staff to carry out the work required to develop planning documents and procedures, as well as regulations and design standards. Most of the staff at the ADMTPD was Egyptian and Sudanese at the time, and the majority of them were architects who preferred the status quo. Most of the recommendations followed a western way of planning, which they probably were not familiar with. After delivering the plan, Atkins and the UNDP did not stick around to help through the implementation process so a lot fell through the cracks. The issue was also in the lack of explicit land use allocation or zoning plans to guide development: In Abu Dhabi, planning matters are generally handled by reference to individual plots or otherwise defined areas such as industrial estates, and there has been little or no attempt to consider the urban fabric as a whole. Maintaining this "way of doing" planning was essential if the unspoken system of *wasta* or clout was to be upheld. To introduce a new planning law with explicit zoning regulations would have severely hampered this system and nobody wanted that. Also, without the backing of the Crown Prince or the Executive Council, total restructuring of the planning administration and a review of the building regulations would have been difficult.

Furthermore, the ADMTPD put together a report in 2003, detailing some issues with the plan's implementation. The largest issue pertained to the basic building block of residential neighborhoods, outlined by the plan as low density, single-family homes in a suburban pattern, arranged into outlying districts and served by high-speed highways. While Atkins carefully planned the major tracts of land required for this proposed pattern, major drawbacks soon arose for several reasons: First, due to the much higher than forecasted birth rate of Emirati citizens, the land to be used in the scheme was densely populated. The report states that, "all areas allotted for residential use and within the cordon of the masterplan were reclaimed, replanned and approved, which means there is no more land for residential use within the framework of the masterplan" (ADM 2003). This limited the direction of growth to the Dubai axis; the Western region axis consisted mainly of low *sabkhal* requiring costly treatment, while the Al Ain axis "takes us far away from the island" (ibid.). Thus, to cope with the rapid growth of development, several areas along the Dubai axis and outside the MDP framework were developed. Second, this pattern set the stage for endless sprawl along the Dubai axis, causing concern for infrastructure support and stressing of resources already in short supply (e.g. water). Third, the focus on low-density citizen housing meant that only moderate provisions were made for high-density expatriate housing. This proved problematic in terms of the insufficient provision of public transportation options; as the expatriate population can only live in rental housing - the location of which is strictly controlled and which are not necessarily equipped with parking spaces - it relies more on denser fabric and public transit to meet its daily needs (Abu Dhabi Urban Planning Council 2007a). Also, many lower-income expatriates typically do not own or lease cars.

Implementation also steered away from the proposed use of the islands, particularly Saadiyat and Hudayriat Islands, such that uses on Saadiyat were not agreed upon and the reclamation on Hudayriat was halted. Moreover, the bridges meant to link the islands with Abu Dhabi Island were not constructed; the Musaffah area remained industrial despite a proposal in the plan to convert it to residential uses; the proposed locations of institutional buildings, such as the Government Ministries complex at Bateen Airport, were changed; proposed major capital projects, such as a national library, a national museum, and a major public square, were not considered; and the high-technology industrial area planned for Shahama was not created.

The Atkins Plan is full of many interesting concepts and approaches. Though hardly or fully implemented, it outlived its usefulness before its targeted horizon of 2010.

5.4 The Modern City Built Twice Over

Throughout the period of Sheikh Zayed's rule, the impact of those involved in shaping the built environment in Abu Dhabi is apparent. This section divides Abu Dhabi's development into five stages: 1966-1967; 1968-1973; 1974-1979; 1980-1988; and 1989-2004, thus divided because each period embodies different design-build processes, utilizes different construction techniques and materials, and is guided by different regulations that ultimately changed the appearance of the urban fabric. All of these factors were also influenced by the economic context of each period, such as booms and recessions. The purpose of this section is to examine what actually happened on the ground -- what was actually built and why -- regardless of the expert plans discussed above.

1966-1967: Paving the Path to Modernity

When Sheikh Zayed became Ruler, he immediately set in motion a number of projects that put Abu Dhabi well on its way to becoming a modern city. With limited water supply, electricity and basic infrastructure in the small town, Sheikh Zayed awarded contracts for more electrification (Hawker Siddeley obtained a contract for a 4000 KW power station in addition to a 3000 KW station) and a second water pipeline between Abu Dhabi and Buraimi with an 18-inch diameter producing 1.5 million gallons per day (the existing pipeline was only nine inches and produced 400,000 gallons per day) (FCO 8/2, 27 January 1967; FCO 8/827, 2 January 1967). A water storage tank was built on a high hill overlooking the city and an internal network of pipes installed to distribute water to houses (Department of Information and Tourism 1968). Sheikh Zayed also commissioned from CANSUL, a consortium of Canadian consulting engineers, a hydrological survey and water conservation study covering the Buraimi area (FO 1016/841, Trucial States Council minute "Water Resources Survey"; FO 1016/841, 15 November 1966).

Before the modernization push, travel around the island was difficult and could only be undertaken in a four-wheel drive vehicle. An advocate of accessibility, Sheikh Zayed ordered road construction in Abu Dhabi as well as a road linking Abu Dhabi and Buraimi/ Al Ain. The first roads were paved in the northern tip of the island where the main activity of the town took place, and where the first roundabouts and superblocks began to take shape. According to an interviewee, roundabouts were used because of a lack of sufficient electricity for traffic lights at major intersections, so Sheikh Zayed proposed them for safety measures as well as for beautification. In addition to the roads, Sheikh Zayed ordered the construction of a new international airport to replace the rudimentary airport sand strip that Gulf Aviation used for daily flights to Bahrain, Doha, and Dubai. At the time, the strip represented the only way to fly into and out of the island.

The Ruler was also concerned with protecting the island from “the ravages of the wind and sea” (Al Fahim 1995), bearing in mind the flood of 1959, and ordered the construction of the Corniche waterfront area with rock fortification. Moreover, because the island was low-lying, its elevation was raised by one meter through dredging and reclamation at the recommendation of experts (MEED 1998; Wassman 2002; ADM 2003). An informant commented:

You were given levels that you had to be a meter or whatever it is above high tide. This is why even today there’s a pavement around a building and then there’s a step down to another foot path and then a step down to a lower foot path by the road or something, it was all different levels...(Interview #34).

Because the island was also too low in elevation, and the waters around it were too shallow for a proper harbor, shipments were often dumped on the sandbank. To create a harbor sufficient for deep-draft ships, Sheikh Zayed ordered the construction of a new deep-water jetty that was awarded to a British firm, Sir Alexander Gibbs and Partners.

Building projects were off to a steady start, with a few buildings put up by the oil company ADPC (their residential and office compound was built along the northern shore), and construction of the Maqtaa Bridge, Al Manhal Palace and Grand Mosque beginning during this period. At the same time, *arish* huts were cleared for road construction and trees were planted on the sides of roads, as well as in medians and roundabouts (ADM 2003). The hospital that was erected during Sheikh Shakhbut’s time was finally up and running in 1967 after Sheikh Zayed ordered all the equipment that Shakhbut had failed to order (Zbal 2001). There were also two boys’ schools and one girls’ school in Abu Dhabi, and Sheikh Zayed set his sights on more. A British Director of Education, Mr. Spencer, took up his post in March 1967 (FCO 8/869 Memorandum).

In December 1966, the Ruler agreed to allow International Aeradio Limited to take over the Abu Dhabi Telegraph and Telephone Company (FO 371/185558, 18 December 1966; FCO 8/3, 17 January 1968), and on January 1, 1967 the Abu Dhabi Government assumed the operation of Abu Dhabi’s postal services from the British General Post Office. The emirate’s new postal service marked a great transformation;



Figure 5.28 ADPC accommodation 1966



Figure 5.29 Abu Dhabi Post Office c.1966

Saleem Zbal (2001) explained that before the Abu Dhabi Post Office was erected, everyone in Abu Dhabi had an address via either the BBME or Ottoman Bank, where each morning a bank employee would read out names and distribute the mail. The Pakistanis had their own address at a Pakistani restaurant. Only three banks existed in Abu Dhabi before 1967 - BBME, Ottoman Bank, and Eastern Bank. Starting in 1967, though, Sheikh Zayed encouraged other banks to open up (contrary to how the British felt about competition). By the end of 1967, the Bank of Oman, the United Bank of Pakistan, and the newly formed Abu Dhabi National Commercial Bank were operating in Abu Dhabi (Al Faris 2012).⁸³

The preliminary stages of development were evident during this period, as Sheikh Zayed was simultaneously setting up his government apparatus while pushing

⁸³ Abu Dhabi National Commercial Bank was created by Emiri Decree No.5 of 1967

city building projects. As Zaki Nusseibeh describes it, Abu Dhabi was then the “El Dorado of the Arab world” (quoted in Shainin n.d.), with construction happening everywhere. An informant said that, “Sheikh Zayed’s interest lay only in what was getting started, not when it would be completed,” referring to the emphasis the Ruler placed on paving the way (quite literally) for the modern city to emerge (Interview #35). Al Fahim (1995) remarks: “Work was undertaken on major projects even before town plans were completely finished. Where we turned something was under construction – government building, homes, roads, telephone lines...” A report by the Development Office (British archives) notes that up to 1966, less than £2 million (equivalent to USD 5.6 million as per 1966 exchange rate, which is approximately USD 3.29 million in today’s dollars) had been spent on development as a whole; in 1967, the figure allocated to capital expenditure was £18 million (equivalent to USD 49.71 million as per 1967 exchange rate, which is approximately USD 29.62 million in today’s dollars) (OD 34/246, undated). Abdelrahman Makhlof (2006) reports the figure for development expenditure in 1967 to be AED 126,300,000 (equivalent to USD 34,476,170 as per 1967 exchange rate, which is approximately USD 34,386,079 in today’s dollars).⁸⁴

1968-1973: From *Arish* to *Sabsoub*

In early 1968, following Britain’s announcement to withdraw from the Gulf by 1971, Sheikh Zayed embarked on a massive housing program with the goal of providing residential accommodation to Abu Dhabi citizens, and the regional nomadic tribes in particular. The old *arish* town was slowly being torn down and replaced with simple, functional buildings that lacked any kind of ornamentation. The local inhabitants who were forced to abandon their old palm-frond dwellings were compensated handsomely by the government, however, and with that money they could build new homes and establish small businesses – Sheikh Zayed’s strategy for putting seed capital directly in the hands of his people and jumpstarting the local economy. In addition to monetary compensation the Ruler gave each Abu Dhabi three, and in some cases four, pieces of land to develop (residential, commercial, industrial, and agricultural). Because of this, construction marked the largest economic activity by 1969 (Government of Abu Dhabi 1969), and many of the leading merchant families began to import construction goods. In due course, the first generation of non-traditional houses and buildings were built from reinforced concrete. According to an informant:

Our major item was cement and we would get it from five or six places, there was an Iraqi place, a Pakistani place, very good, English...then it used to come from Russia or Romania. We got a lot of raw material from Al Ain...We used to mix the cement powder with sand from the beach called *sabsoub* or with sea water...We mixed it by hand at first and then later in the early 70s it was semi automatic...mixed by simple mechanical mixer...and we made the cement block or breeze block on site (Interview #6).

⁸⁴ Currency was in Bahraini dinar at that time. The Bahraini dinar replaced the Indian rupee in mid-1966, and 1 pound sterling was equivalent to 1.333 Bahraini dinar.

The resultant buildings were of mediocre quality because the buildings were erected quickly to satisfy immediate demand, and because contractors gave limited concern to detailing, construction materials and techniques, and servicing and environmental control.



Figure 5.30 Abu Dhabi buildings 1968

This technique was also applied to housing built to accommodate the large influx of foreigners into Abu Dhabi, for whom a housing shortage existed. Many of the expatriates then coming from around the Arab world went into the construction business, selling materials or construction know-how and supervision. To ensure that a certain percentage of the profits generated as a result of successful enterprises would be re-circulated into the economy, the government issued a decree saying that all foreign companies had to be either sponsored by or in partnership with a local businessman (Interview #23).

By 1973, the population of Abu Dhabi town reached 81,000, a fourfold increase in just five years (ADM 2003). There is no specific data to explain the ratio of citizens to non-citizens, but it can be estimated from the official census of 1975 that it was about 20:80 (Statistics Center 2011). The population increase also came with a doubling in the number of motor vehicles, from 6,297 in 1969 to 13,704 in 1973 (Government of Abu Dhabi 1973). During this period, the internal network roads in Abu Dhabi town were completed, as was the road leading to Al Ain as well as the al-Maqta' Bridge. The use of roundabouts at main intersections continued from the previous period. Furthermore, the new Bateen airport was built to replace the old sand strip, while Sir Alexander Gibb and Partners started work on the harbor scheme on the northeastern end of the island that came to be known as Mina Zayed (c.1971) (Department of Information and Tourism 1968). More dredging and reclamation was carried out around the island, and a canal

was dug around the island with a considerable depth that permits navigation and marine guarding (this canal is shown in Figure 5.44). By 1973, the area of Abu Dhabi Island had been increased from its original size of 6000 hectares to 6500 hectares (ADM 2003).

Abu Dhabi's utilities continued to expand to accommodate the growth. This period saw the opening of the second water pipeline, as well as a water desalination plant that provided Abu Dhabi with 5 million gallons of distilled water per day by 1972. Moreover, a new power station was inaugurated in 1968, bringing the total electricity-generating capacity to 13,000 KWs for Abu Dhabi town (Department of Information and Tourism 1968). Makhlouf's drawing of landmarks in 1968 shows a sewage treatment facility located outside the main area of the city, somewhere between the Central area and the Bateen Airport. He mentions that in the period (1966-1968) the PWD hired Brian Colquhoun and Partners to work on the sewerage network, but the only mention of sewerage found in official documents from the ADM and PWD show that the first phase of sewerage project began in 1976. The Five Year Development Plan, however, provided for sewerage projects to be completed by 1972 (Government of Abu Dhabi 1968).

Notably, in 1969 Makhlouf's Central Area project was introduced, located in place of the old settlement. Here, standard plot sizes measured 60 feet by 80 feet with variations up to a maximum size of 100 feet by 100 feet, and buildings of 8 to 10 stories. The *souq* was also built in the central area, as a rigid grid of around 200 shops connected by narrow alleyways "...to recapture the idea of the Arab city in medieval times where people can walk around in the open spaces of the market" (Al Muhairbi 2010).



Figure 5.31 Central Market *souq* c.2000

Another significant development during that time was the formation of an area in the northwestern part of the island called Khalidiyah. Here, around 70 buildings were constructed along with 800 homes and villas (Rashed 1988). Separate areas on the island were established for contracting companies' camps, employees' housing, and

senior officials' villas. Work continued on the Corniche waterfront and began on the Capital Garden, the site of which was selected by the Ruler himself (Center for Documentation and Research 1969). Other significant buildings included a new hotel, the Hilton Hotel (1970) and the Grand Mosque (1973). At the same time, an important landmark, the Otaiba mosque, was demolished in 1977 (Leech and Al Hashemi 2012). Saadiyat Island, to the northeast of Abu Dhabi, encountered some activity as well: a team from the University of Arizona engaged in an agricultural scheme for growing fruit and vegetables under polythene sheets while making use of desalinated water (FCO 8/1509, 19 December 1969).



Figure 5.32 Hilton Hotel in Abu Dhabi c.1970

According to the political agent, CJ Treadwell (FCO 8/1509, 19 December 1969), the second half of 1969 saw a “dramatic leveling-off in the development graph,” due to the cancellation of several projects by the Council of Planning. He wrote:

On the instructions of the newly formed Supreme Planning Council, several projected works were cancelled while some already showing above the ground were abandoned. The incentive for this action was a sudden awareness that free spending had stopped the flow of cash. Government debts were not being paid on time, contractors and local traders were feeling the pinch and censorious comment was being heard from abroad about the stripling force in the Arab world which fancied itself as an oil El Dorado. For a time development virtually ceased; and was then resumed at a less urgent pace...[T]he appearance of Abu Dhabi has become less aesthetically displeasing. It is quieter without the constant hammering of some months' ago and the painters are out and about more putting finishing touches to the buildings. (Ibid.)

While the first few years of the 1970s were quiet in terms of physical development, politically, Sheikh Zayed and Abu Dhabi were working their way to federation; therefore, it is not surprising that the majority of background work took place prior to

1971. In 1968, the Abu Dhabi Municipality (2003) recorded the urbanized area (built up area) of Abu Dhabi Island as 272 hectares (equivalent to 1.05 square miles) (4.53 percent urbanized) – up from 54 hectares (equivalent to 0.21 square miles) and 0.9 percent urbanization in 1958; by 1973 this had increased to 389 hectares (equivalent to 1.5 square miles) (5.98 percent urbanized), demonstrating the steady development that took place during this period. But the slow, steady pace did not last long. In October 1973, the Arab-Israeli War led to an oil embargo that caused oil prices to spike. While the “oil shock” reverberated through much of the Western world, triggering shortages and slowing economies, the additional revenues accelerated urban development in Abu Dhabi in the following years.

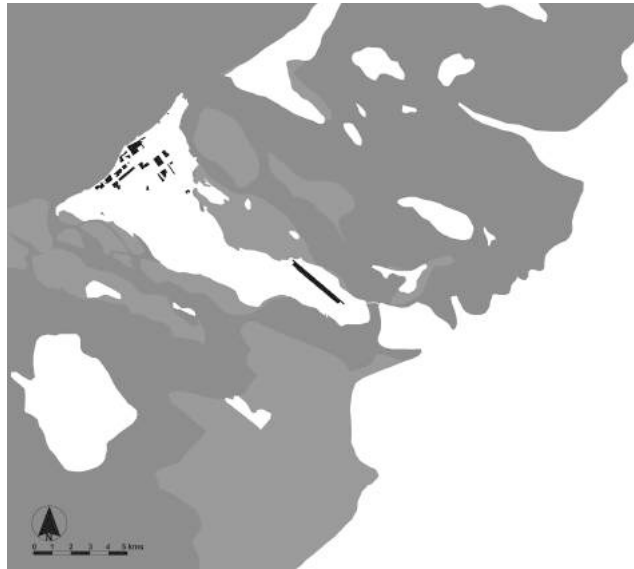


Figure 5.33: Abu Dhabi built up areas 1969



Figure 5.34: Abu Dhabi circulation network 1969



Figure 5.35: Abu Dhabi Land Reclamation 1969

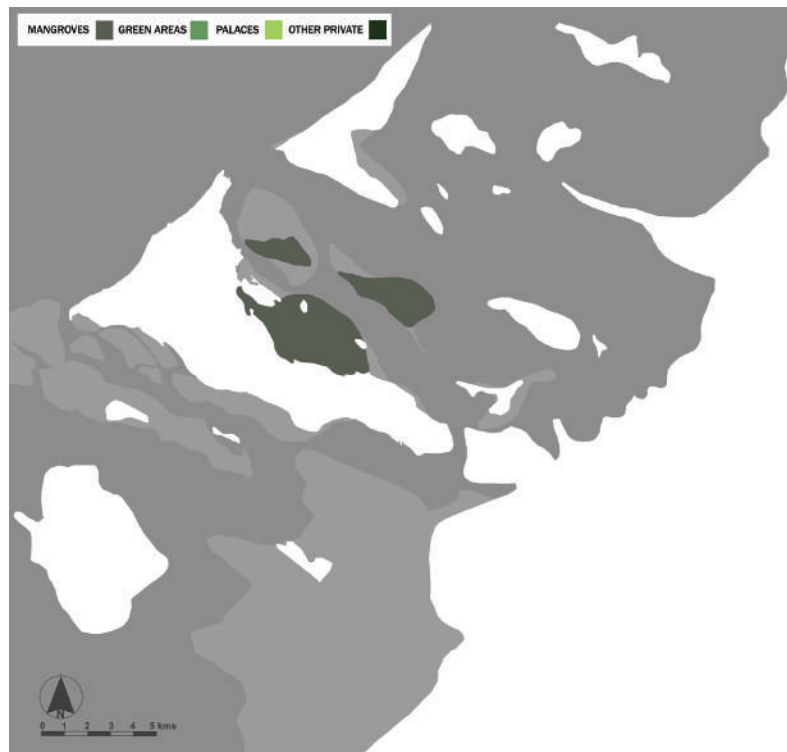


Figure 5.36: Abu Dhabi green areas 1969

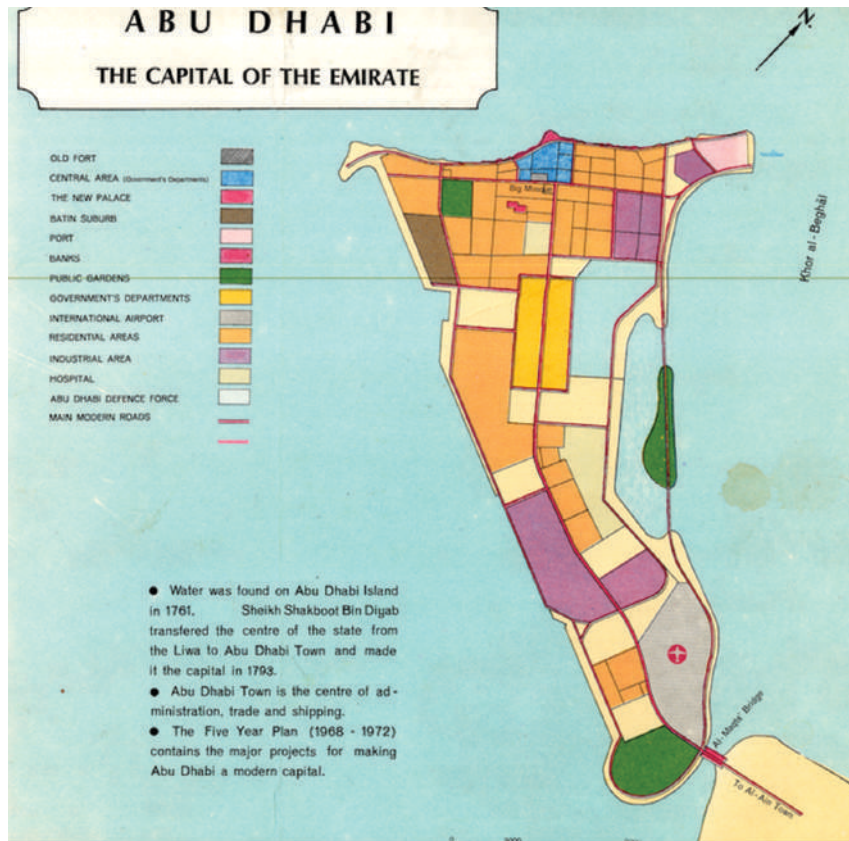


Figure 5.37: Abu Dhabi land use 1972

1974-1979: Rapid Growth and the Modern Vernacular

The increase in oil prices produced an economic boom in Abu Dhabi that allowed for large-scale development projects and the horizontal spread of the island to the North, West and South. This period is characterized as giving Abu Dhabi its “first face lift” (Hume 2008): Apartment buildings were rapidly constructed to satisfy the high demand generated by an expatriate population that was attracted to working and living in Abu Dhabi (Chabbi and Mahdy 2011).⁸⁵ The Central Area emerged during this time, while work began on the Tourist Club area (an area to the northeast of the island, close to Mina Zayed) and new residential areas for nationals sprouted with low-cost houses

⁸⁵ The primary economic sector that attracted employment was oil extraction, transportation and marketing. This generated further employment in the construction and service sectors. Frauke- Heard Bey explains that initially the construction of new buildings was aimed at providing offices for the large number of companies, including oil company services, shipping agents, importers, consultants and banks, and later more office space was needed for the expanding local administration, schools and the fledgling military establishments. With no housing available for rent anywhere in the city, and because the local style of living in arish dwellings was not considered suitable for most expatriates arriving in Abu Dhabi (often with their families) to work in these sectors, new housing had to be provided. See Ahmad, Nazar Othman (2006). “Urbanism and Town Planning: Observations on the Development of Abu Dhabi” in Damluji, Salma Samar (ed.). *The Architecture of the United Arab Emirates*. Reading: Garnett Publishing Ltd. See also Heard-Bey, Frauke. “Adapting to Change: An Historical Background to Traditional and Modern Living Conditions in the UAE” in Damluji, Salma Samar (ed.). *The Architecture of the United Arab Emirates*. Reading: Garnett Publishing Ltd.

and villas.⁸⁶ Community services such as mosques, clinics, schools, and markets were also provided in residential neighborhoods. Development even took place on the mainland, with the establishment of settlements such as Al Wathba, Bani Yas and Mafraq. Furthermore, the greening of Abu Dhabi was stepped up, with several public gardens and parks as well as trees allocated throughout the city (ADM c.1995).

Programs were set up to establish grand hotels (e.g. Sheraton Hotel and Resorts, completed in 1979; Al Ain Palace Hotel; Khalidiya Palace Hotel), public buildings, hospitals (e.g. Al Jazeera Hospital, Beach or Corniche Hospital), and departments and ministries (e.g. Ministry of Finance, erected in 1979). Cinemas (e.g. El Dorado Cinema), bookshops (e.g. All Prints), shopping centers (e.g. Hamdan Center), and embassies (e.g. Swiss, Egyptian, Sudanese, and Iranian) opened. Sheikh Zayed commissioned architects to build large sports or cultural complexes and government buildings such as the National Theater (1977), the Courthouse (1977), the Zayed Sports Complex (1978), and the Cultural Foundation (1979). The architecture during this period resembles the modern international movement from the second half of the twentieth century because “the architects enlisted to build the city were coming out of a time and place where modern architecture was the holy grail of design” (Menoret 2014).⁸⁷ The buildings were built for functionality, following Le Corbusier’s idea that “the house is a machine for living in” (Le Corbusier 2007), with simple designs including right angles, circular

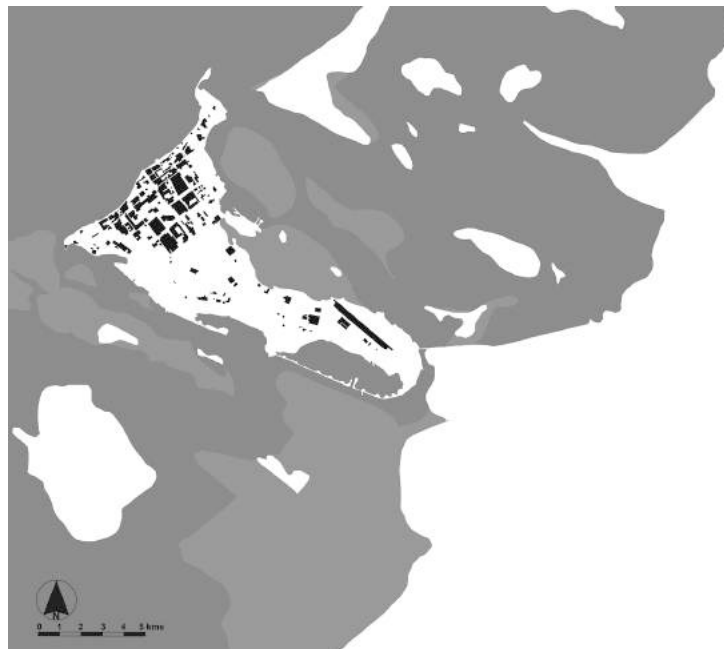


Figure 5.38: Abu Dhabi built up areas 1974

⁸⁶ The area became known as Tourist Club when a beach was built by the government in the 1970s to provide more recreation for people in Abu Dhabi. See Ahmad, Anwar. “Residents Welcome New Names of Abu Dhabi’s Tourist Club Area and Zayed City.” *The National*, February 10, 2014.

⁸⁷ Salma Samar Damluji argues that, “The Middle East in general was not compelled to import the Western mode of urban planning in the 1960s and the 1970s because of a cultural vacuum or a lack of resource, but rather out of a preconceived economic mode of operation dominated by the international market.” Damluji, Salma Samar (ed.) (2006). *The Architecture of the United Arab Emirates*. Reading: Garnett Publishing Ltd



Figure 5.39: Abu Dhabi circulation network 1974



Figure 5.40: Abu Dhabi land reclamation 1974

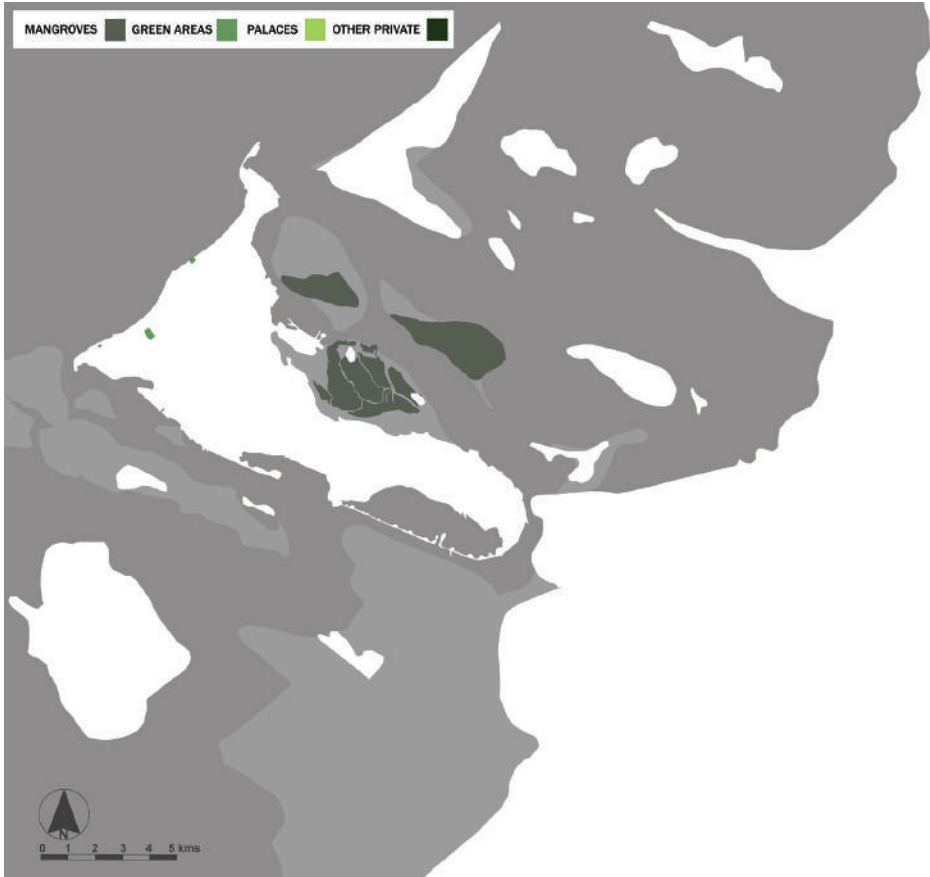


Figure 5.41: Abu Dhabi green areas 1974

forms, and minimal ornamentation. The predominance of this style within the first wave of buildings in Abu Dhabi has led some scholars to argue that “modernism is the vernacular architecture of Abu Dhabi” (Menoret 2014) or that a specific “Emiratization of the modern” had occurred (Chabbi and Mahdy 2011).



Figure 5.42: View of Abu Dhabi town showing Cultural Foundation

Commercial and mixed use building heights ranged between three and 10 floors. Between 1975 and 1979, 628 buildings were constructed in Abu Dhabi emirate, a significant increase from the 90 buildings constructed in the period 1970-1974 (ADM c. 1996). During that period, 1,292 single-story buildings, 347 two-story buildings, 647 villas, and 5,326 national or low-cost houses were also built, compared to 654 single-story buildings, 73 two-story buildings, 162 villas, and 1,664 national houses, respectively, between 1970 and 1974 (ibid.). According to an interviewee, construction techniques were carried forward from the previous period, with steel-reinforced concrete frames made from salty water and cement, or sand and cement, which easily deteriorated and caused the steel inside the concrete to corrode. At some point in the 1970s, mechanical cement mixers were introduced (“we used semi-automatic cement block” [Interview #2]), but construction quality was still poor.

Construction in the city was also affected by the Khalifa Committee, which was established during the 1976 recession to assist Abu Dhabians with the financing and building of housing and commercial projects. An informant explains these projects:

They called them commercial because they were mixed. Your understanding of commercial might be offices or malls, but here commercial buildings are not private residential but general residential. General residential were considered commercial because they were to generate money for locals so they called them commercial. So most of what we called commercial buildings were mixed use...Khalifa Committee used to finance these projects by granting every national owner a loan and then administer them. They'd finance them and supervise construction and manage them, and take a part of the revenues to cover the loan and then 70 percent went to the local [citizen]. The local doesn't do anything (Interview #33).

Indeed, the high-rise buildings identified as “commercial” buildings and owned by nationals, generally included two floors for commercial use, while the rest of the floors were rented out to middle- and high- income expatriates as residential flats. These were mainly located in the Central Area to the north of the island. The committee also assisted nationals in building private villas for owner-occupation as well as investment villas that could then be rented out to expatriates, which were mainly located to the south of the Central Area and in Khalidiya. The role that the Khalifa Committee played in shaping the urban development of Abu Dhabi during this time cannot be overemphasized. It is worthwhile to note that while housing for nationals and expatriates was accounted for, there was no government initiative for building labor accommodation except for some doctors and nurses accommodation on the mainland in the Mafraq area and a labor city in Mussaffah for blue collar industrial and service workers. As for the booming construction industry, Berj Aprahamian, a former ARABICON employee, explains: “To my knowledge the municipal entity of that time used to lease tracts of land to contractors and traders to build their own camps. They were permitted to construct workshops, warehouses and accommodation for their laborers and some of their staff” (Aprahamian to author 2015). It is not clear where these tracts of land were located, and it is likely that the conditions of these camps were subpar.



Figure 5.43: Example of building constructed between 1974 and 1979

The arterial roads in gridiron pattern, along with superblocks and the buildings within these superblocks, formed the urban layout of the city. The interior of the superblocks began to take shape during this period, with secondary service roads running parallel to the arterial roads and pathways between buildings for pedestrian movement. High-rise buildings were built along the perimeters of the superblocks, with the inner parts occupied mainly by lower-rise buildings. In areas nearer the Corniche, the inner parts of the blocks were also formed of high-rise buildings, while in another extreme the land use was allocated totally for low-rise residential villas or one- to two-story buildings. A mixture of the two forms also came about, whereby the inner part of the superblock consisted mainly of low-rise villas and the perimeters were made up of medium- to high-rise buildings. Parking was not generally accounted for, except within the secondary service roads and at-grade parking around the buildings wherever land was sufficient.

In 1974, Sheikh Zayed, Abdelrahman Makhoul, and a small group of men decided on the street names. The names were based on three main concepts outlined by the Ruler: Streets were to be named after members of the Al Nahyan family who had an important role in the development of Abu Dhabi (e.g. Hamdan Street or Khalifa Street); some streets were to be named after geographically significant locations linked to the story of Abu Dhabi (e.g. Delma Street); and finally, other streets were to be named in ways that made people feel happy (e.g. Al Salam (meaning peace) Street and Al Saada (meaning happiness) Street (Ghazal 2013). From 1974 to 1979, the main road network was extended to include the East Road or Al Salam Street, Western Corniche, Arabian Gulf Street and the Mussaffah road and bridge. A significant landmark, known as the Mercedes Roundabout, was also developed towards the southern end of the island near the Zayed Sports City area. The Bateen Airport was expanded a little in 1975, while work on a new international airport on the mainland was started in 1977. Development projects for electricity, water, telephone, and sewerage (first phase in 1976-1982) networks were also planned.

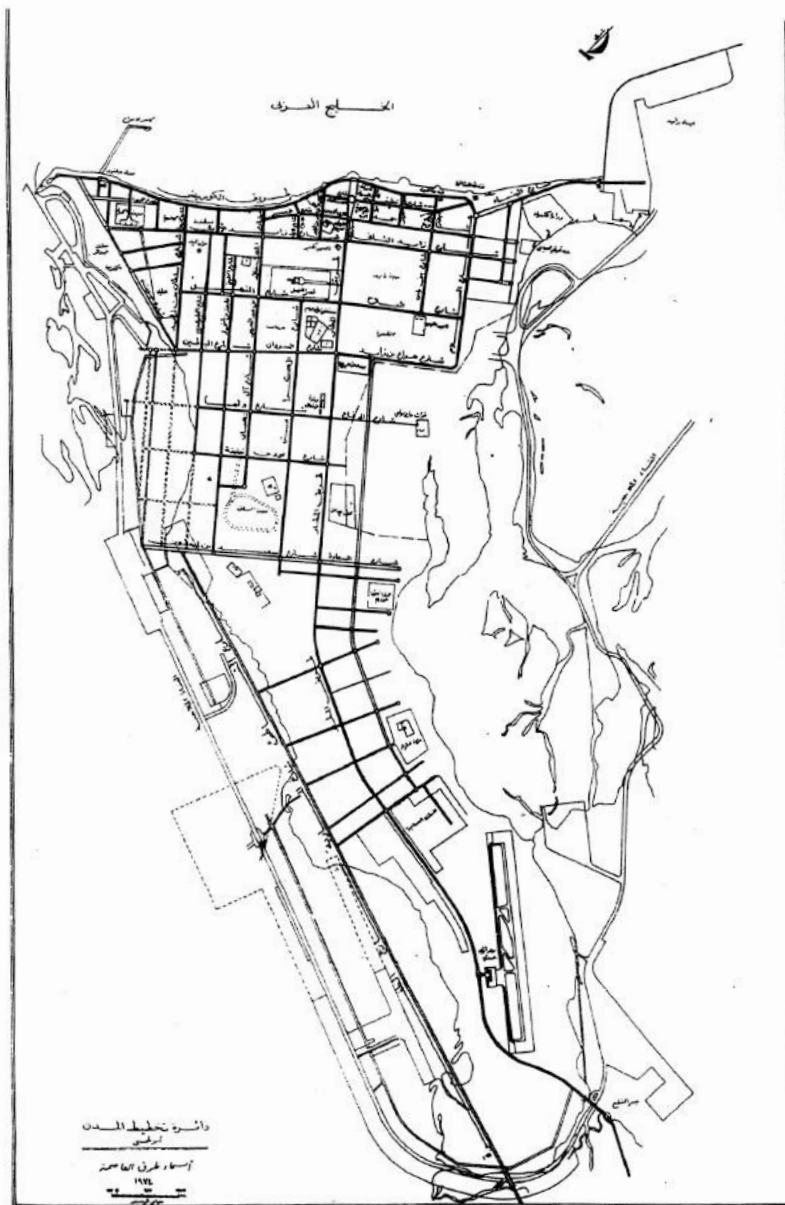


Figure 5.44: Abu Dhabi street names 1974

Dredging and reclamation continued during this period with more fervor. Significantly, an area to the west of the Corniche was reclaimed – named Ras Al Akhdar – and a breakwater built to protect the Corniche. According to an interviewee:

I remember, this would've been 1975 or 1976, I was looking out the balcony of my room in what was called then the Khalidiya Palace Hotel and you could see the dredges at work. So, where the Presidential Court is now, there was nothing there, it was all being reclaimed. Where the Emirates Palace is, it was a beach. That was all being reclaimed to create additional space on the island... The beach didn't go out as far. Sheikh Zayed ordered for it to be expanded one day by going down to the beginning of the breakwater that goes out to Marina Mall, which initially, there was no Marina Mall, it was a

breakwater to protect the Hilton and the Corniche. He wanted to extend that to make a bigger beach in that area and it was called Ras Al Akhdar. That had already been built by reclaimed land; it was basically empty, there was nothing there to begin with. And he went out a little bit along the breakwater. Sheikh Zayed said "I want to extend it out here. Go down there and you walk out until you see me waving my stick and stop." That's where he wanted the beach extended out to. The story goes that the guy went down to the far end, this is sort of the far side of Emirates Palace now, and he started walking along the edge of Ras Al Akhdar and Sheikh Zayed started waving, but the man kept walking or was too far for him to see, so he actually walked 100 meters further than what Sheikh Zayed originally intended, because the sea almost came up to the ADNOC building or just across the road. Eventually Sheikh Zayed saw it and just said, okay, extend it out to there. That created the space that Emirates Palace is now on. It was not Sheikh Zayed's original intention. So they developed in that area then the reclamation of the western side of the island...(Interview #7).

The extra land provided by Ras Al Akhdar and the west of the Corniche eventually allowed for the development of a Ladies Beach and the ADNOC headquarters and GASCO compound and offices. Other notable projects included the expansion of Al Bateen area and improving upon (deepening) its harbor; deepening channels and creating some islands around Abu Dhabi Island; reclaiming the Umm Al Nar industrial area and digging a channel to service the petrol harbor; deepening the Mina Zayed Port and building a breakwater for Saadiyat Island while its industrial area was in full operation; reclaiming and constructing the Mussaffah industrial zone (where industries close to the central area were relocated) with its attached labor city; building the Mussaffah channel; dredging a channel between Umm Al Nar and the new international airport; and reclaiming land between al-Maqta' bridge and Mussaffah (PWD c.1984; PWD 1995).

In 1975, the area of Abu Dhabi Island increased to 7,000 hectares, with 55.87 percent of the island urbanized. By 1980, the size of the island increased to 7,300 hectares and almost 92 percent was built up (ADM 2003). The Islamic/Iranian Revolution of 1979, as well as the 1980 Iran-Iraq War, would soon have another impact on oil prices, sending Abu Dhabi into another boom-fueled building frenzy.

1980-1988: Horizontal and Vertical Expansion

By 1980, the population of Abu Dhabi city had risen to 243,257, tripling since 1973 (ADM 2003); 85% of the population was non-national and 15% was made up of nationals, with about 70% of the non-national population being male, presumably due to an influx of laborers (Atkins 1990). The oil boom continued to draw a large number of people to Abu Dhabi, necessitating further development. De Leuw Cather International's plans for road expansion were in full effect and traffic lights replaced roundabouts at most intersections. Between 1980 and 1988, the Tourist Club area emerged on the northeastern side of the island, as did the majority of residential areas around the city (e.g. al-Karamah, al-Rowdah, Mushrif) as well as an area known as *Bein al Jisrein* (meaning "Between the Two Bridges") south of al-Maqta' and to Musaffah.

Further reclamation led to an increase of islands around Abu Dhabi, in particular Hudayriat Island and Lulu Island (an informant explains that “...the breakwater and Lulu island were created to protect the original Corniche from the impact of storms and high seas” [Interview #7]). The Mina Zayed port was also expanded, as was Umm Al Nar and Ras Al Akhdar. In the mid-1970s, the program for low-cost housing was discontinued within Abu Dhabi Island; by 1985, the majority of low-cost or national housing was distributed in Al Ain town and in rural areas (Atkins 1990). The development of settlements on the mainland was accelerated by further development in Bani Yas, Sweihan and Shahama, which was encouraged not only through low-cost housing schemes but also through a number of major projects that had a marked effect in spreading development on the mainland. The most notable are the International Airport (completed in 1981) and Jorh Yafoor.

Landmark projects during this period included the construction of the Presidential Court, the Intercontinental Hotel (1980), Le Meridien Hotel, the Abu Dhabi Chamber of Commerce (1985), and the Armed Officers Club (1987). Transportation projects in this period included the Al Difaa Bridge, the Sports City Bridge, and the Mussaffah Bridge, along with other bridges and tunnels. The greening of the city continued, with several more parks and gardens developed throughout. According to (ADM c.1996), bus stops, parking lots, curbstone pathways, irrigation lines, surface water drains, lighting, electrification, and sewerage (second phase started in 1982) projects were also implemented.

The 1980s are characterized as the city’s “second facelift” (Hume 2008), with several factors markedly affecting the urban structure of the city during this period: First, the mediocre quality of the first generation of buildings, as well as a heavy turnover of tenants and a housing filtering process, resulted in demolition and reconstruction efforts (urban renewal) throughout the city.⁸⁸ Second, the introduction and formalization of building regulations largely influenced urban form: by allowing building heights up to 17 or 20 stories, the city began to experience vertical expansion. Renewal inside superblocks saw a change in the building form from first-generation low-cost one and two-story housing into medium-rise (up to seven stories) apartment buildings, and in the central area high-rise buildings proliferated in place of medium-rise buildings. As a result, densities increased in these areas. Finally, in 1981, the Khalifa Committee expanded into the Department of Social Services and Commercial Buildings (DSCCB), and it pressed on with facilitating the process of building projects on behalf of nationals, from the design brief to construction and from maintenance to rent collection (see section 6.2). This was accentuated during the 1983 recession, following a drop in

⁸⁸ As citizens relocated to the periphery, or to “pristine” parts of the city away from the densely populated areas, the older buildings were sublet to expatriates and then to less affluent households. Some of the vacated low-cost or traditional houses were also internally subdivided by citizens and rented to low-income expatriates. After many years, with little to no maintenance, the buildings are in bad shape and earmarked for demolition. Since the return of investment of the majority has been paid back, this provided more reason to knock the buildings down and utilize scarce land for a more dense occupation with higher buildings. To read more on this subject, see Ahmad, Nazar Othman (2006). “Urbanism and Town Planning: Observations on the Development of Abu Dhabi” in Damluji, Salma Samar (ed.). *The Architecture of the United Arab Emirates*. Reading: Garnett Publishing Ltd.; Leech, Nick (2012). “Reinvention behind Abu Dhabi’s high rises, but can it continue?” in *The National*, October 17; and Chabbi, Amal and Mahdy, Hossam M. (2011b). “Virtuous Cycle or Vicious Cycle? Modern heritage and development in Abu Dhabi”. Paper presented at ICOMOS, Paris, France.



Figure 5.45 Intercontinental Hotel c.1980s or 1990s



Figure 5.46: Abu Dhabi waterfront with view of Chamber of Commerce

crude oil prices to below \$10 a barrel in 1982. The government wished to pump funds into the construction sector to keep this economic sector rolling, and did this through the DSSCB. At the same time, Sheikh Zayed once again devised a plan for redistributing the oil wealth throughout the emirate. He decreed that all residents who had lost their homes to development and town planning during the late 1960s should be compensated ten times the amount that they had originally received, a move that jumpstarted the economy by spurring on development (Al Fahim 1995). The ADM reports that compensation distributed between 1967 and 1988 amounted to AED 7 billion (equivalent to approximately USD 1.9 billion in today's exchange rate).

As a result of these factors some informants argue that during this period, architecture had become solely a business proposition, a sentiment also expressed by local architect Abbad Al Radi (1999). Because nationals were able to generate profits from their investment properties, recouping their capital in a short period of time, and returning more than double the original seed capital, they were eager to use vertical expansion as a way to maximize the utilization of their land (Rashed 1988; Al Radi 1999; Al Radi 2006). This, in turn, often led to poor design and building quality and corruption in some cases. An interviewee provides as an example clients whom the government has given land for free and the money needed to develop the land (Interview #15). The government instructs these clients to build a commercial building on the land. The client, however, because of the lack of a feasibility study and of program writing experience, does not know how to go about it. The interviewee explains how there used to be a *qarar*, or decree, by which the ADM had assigned a plot of land along with its deed to a local citizen. In this case, the deed was not in the national's name but was, instead, a government grant. So the office the interviewee worked for would explain the rights and responsibilities of the grantee in detail. They would provide guidance on how best to develop the land to maximize the grantee's benefits. The interviewee recalls:

I remember for example how the clients were so simple. I remember one of the VIPs from Sheikh Zayed's people, he came to our office and said he wanted to build a building; he has the land, so we asked him what do you like your building to be. He said, just a building. We said OK. In the *takhsees* [specification] of the ADM they write whether it's commercial or residential. In commercial they allow for example in Hamdan G+M+18 [Ground floor plus mezzanine plus 18 floors], in Khalifa G+M+10, whatever, Electra Street, whatever. So he says a building. We say OK do you know what kind of apartments do you want – the law allows you to have a showroom on the ground floor, offices in the mezzanine, and then apartments – so we ask him what kind of apartments do you want. He says *bash mohandis* [Mister engineer], why are you complicating things? I just want a strong building with windows, *binaya gawiyya feeha darayish*. (Interview #33)

In this typical case, the interviewee's office would do all they could to guide the grantee about constructing a quality building, especially given the client's inexperience and considering the client's main objective was to rent building space and generate income. Other consultant offices, the interviewee tells, unfortunately did not take the time to help clients in this way, and often many cheated the clients with poor construction, just for quick turnover.

The Khalifa Committee financed the buildings the interviewee discusses. Another informant explains that the committee specified a "golden rule": 4% commission for the consultant fees, 2% for design, and 2% for supervision; these were considered minimal compensation. Offices with high standards and those that adopted Western business practices considered these percentages prohibitively low and would not work at these rates. Some offices, conversely, accepted even lower rates. Corruption was rampant at this time: "...[E]ven the locals, for example, the local would come and say I have this building how much would you give me" (Interview#15). Developers

expected development companies to pay them a percentage to receive the contract. “It’s like the local was stealing from the government! It’s the government’s money! There were so many cases like this, there was lots of corruption...” (Ibid.) Because of the corruption, the interviewee explains, many building designs failed. This was seen as “Abu Dhabi’s tax” and was the reason Abu Dhabi had to be restructured about every ten years. The situation improved with time as people came to understand what was going on. Organizations became better, regulations and controls were put into place and enforced, and developers were held accountable.

Another problem an informant recounts is that most projects were built on a low budget. This provided a good, quick return on the investment, which prompted the developers to destroy the original building and build a taller one. “But it’s a shame to knock down these buildings – they were in good shape, and if you want to talk about how cities have historic buildings, it’s a shame...” (Interviewee #8). Although the first buildings were soundly built, subsequent ones were more cheaply built and were often unsafe. Inappropriate materials were used. No protections were made against the soil so that the buildings would corrode or develop cracks. When this happened, the developer often went to Khalifa Committee to get a surveyor to proclaim that the building was unsafe for habitation. Often the developers would falsify reports on their buildings, another type of corruption. The developer would get the Committee to recommend their buildings be demolished, so that they could rebuild. The problem seemed to be that the construction industry grew, generating more demand for architects and contractors to respond to clients who were generally in a hurry. Some small-time contractors took on much larger jobs than they were capable of handling, with insufficient or outdated technical know-how. At the same time, without a clear brief and a shortage of surveyed information, consultants moved from concept design to final design by copying and pasting or recycling old projects. Another interviewee commented:

...[B]ecause the work was commercial, meaning they don’t care, they’d say *yalla yalla yalla* [(hurry, hurry, hurry)] every month whatever, in a months’ time, any office for example would start concept design schematic, normally in a design stages, if you want to go proper, first of all [you do] data collection and research, then concept, then concept development, then schematic design, then detail design or design development then finally design documentation. (Interview #33)

Instead of going through the whole process, they would take shortcuts, skipping essential steps. This resulted in many mistakes and poor workmanship. They did not take time to research the design. Because developers did not keep up with the times in terms of building design, designs were repeated and there was no innovation.

The lack of site-specific designs and style choices, as well as the speed of development, yielded a cookie-cutter approach in the city. And while some consultants or contractors failed to keep up with new market trends, overall the city experienced a shift in construction quality with the introduction of ready-mix and fully automatic cement block. Eventually, the buildings underwent a design-based change: a Heritage

Committee was set up as part of the ADMTPD, which specified design guidelines that required buildings to have an Arab-Islamic style. This follows the trend captured by Nelida Fuccaro (2001), who points to the ways in which a number of Arab architects and town planners in the Arab Gulf challenged the adoption of western patterns of urban development by attempting to “indigenize urban forms in tune with the Arab-Islamic tradition.” Abbad Al Radi argues that this was at best a superficial intervention and too often resulted in “architectural pastiche” (Al Radi 2006), as buildings were superficially “Islamicized” by arches and exaggerated motifs. Because the architecture profession was comprised of people from different backgrounds and nationalities who often lacked knowledge of the local heritage, the result was an experimental field and a hodgepodge of building façades that could be described as Orientalist at best.

The “architectural pastiche,” coupled with the planning regulations that defined plot coverage, plots sizes, heights, setbacks, and allowable projections,⁸⁹ produced an urban structure made up of building after building with similar massing treatment on similar plot subdivisions, with a diversity of uses (since property owners were given the right to ground floor and mezzanine commercial uses) and with almost no sense of urbanism.⁹⁰ Relatively little regard was given to providing parking, connectivity, or public open space. According to an informant, no rules obliged property owners or developers to provide the correct supply of parking spaces, and the limits of architectural maneuvering did not permit underground parking; therefore, parking was assigned to the secondary service roads or inside the superblocks where, sometimes, cars parked illegally between rows of multistory buildings (Interview #14). Moreover, the layout lacked proper urban spaces, like squares or plazas, which act as a focus for social activity and civic pride. Landscaping is concentrated on road medians and is very ineffective elsewhere. “The result,” write Rudayna Abdo and Geoffrey M. Batzel, “is a city that is largely utilitarian, only occasionally aesthetic, and integrated or connected along only a single plane, that of the arterial road network” (Abdo and Batzel 2011).

From 1980 to 1988, 798 towers, 5,336 villas, 7,907 national or low-cost houses, 2,885 single-story buildings, and 912 two-story buildings were built – the majority constructed between 1980 and 1984 (ADM c.1996). Statistics for the year 1985 show that the island was around 96 percent urbanized (ADM 2003). By 1988 there was considerable liquidity in the market, and with planning happening haphazardly or on a piecemeal basis, the Executive Council decided that a comprehensive plan for the city was needed to manage growth.

⁸⁹ Probably the single most critical bylaw which has led to the monotony of buildings in Abu Dhabi is the system of allowing for cantilevers of 1.5 meters (approximately 3 feet) above mezzanine level. The demand for an absolute maximization of floor space as permitted by town planning regulations has led to cantilevers being taken up all around the plot to the maximum possible, and balconies are considered as waste of usable floor-space. See AlRadi, Abbad (1999). “Aspects of the Modern Arab/Islamic City: Architecture and Urban Fabric in Abu Dhabi” in Abed, Jamal (ed.). “Architecture re-introduced: new projects in societies in change.” Aga Khan Arch, Regional seminar held in the department of Architecture and Design at the American University of Beirut, November. See also AlRadi, Abbad (2006). “Constraints and Opportunities: Contemporary Architecture in Abu Dhabi” in Damluji, Salma Samar (ed.). *The Architecture of the United Arab Emirates*. Reading: Garnett Publishing Ltd..

⁹⁰ It is very common to have a residential flat next to a doctor’s or dentist’s clinic or an architect’s or lawyer’s office. In other instances it is not uncommon to find large polyclinics or government departments occupying several floors of an apartment block.



Figure 5.47: Abu Dhabi built up areas 1980



Figure 5.48: Abu Dhabi circulation network 1980

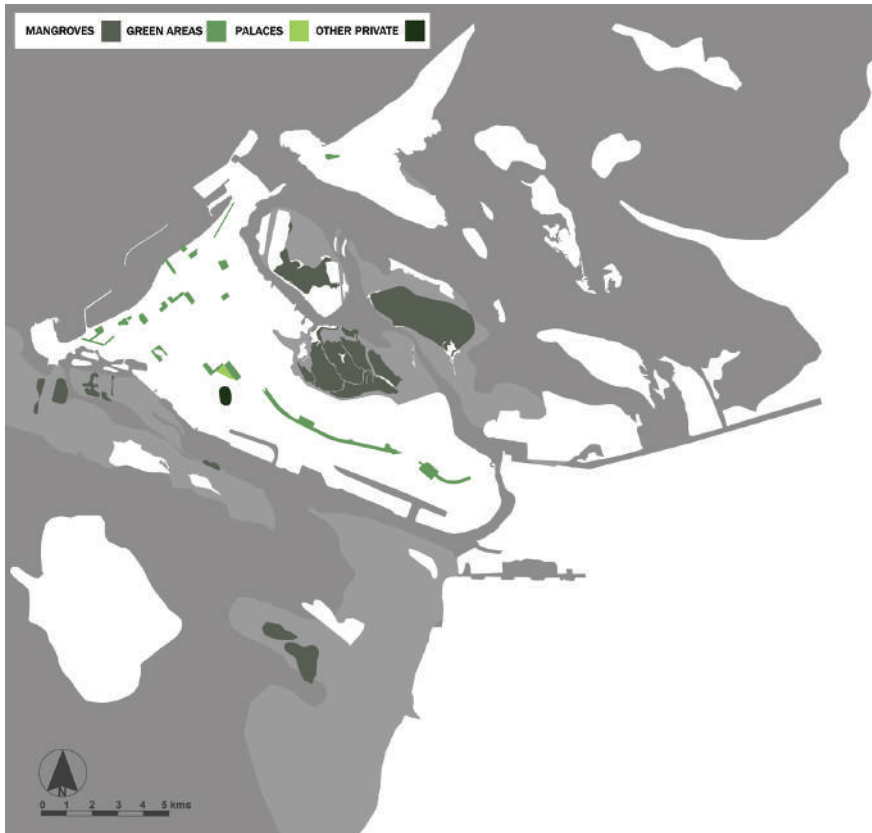


Figure 5.49: Abu Dhabi green areas 1980

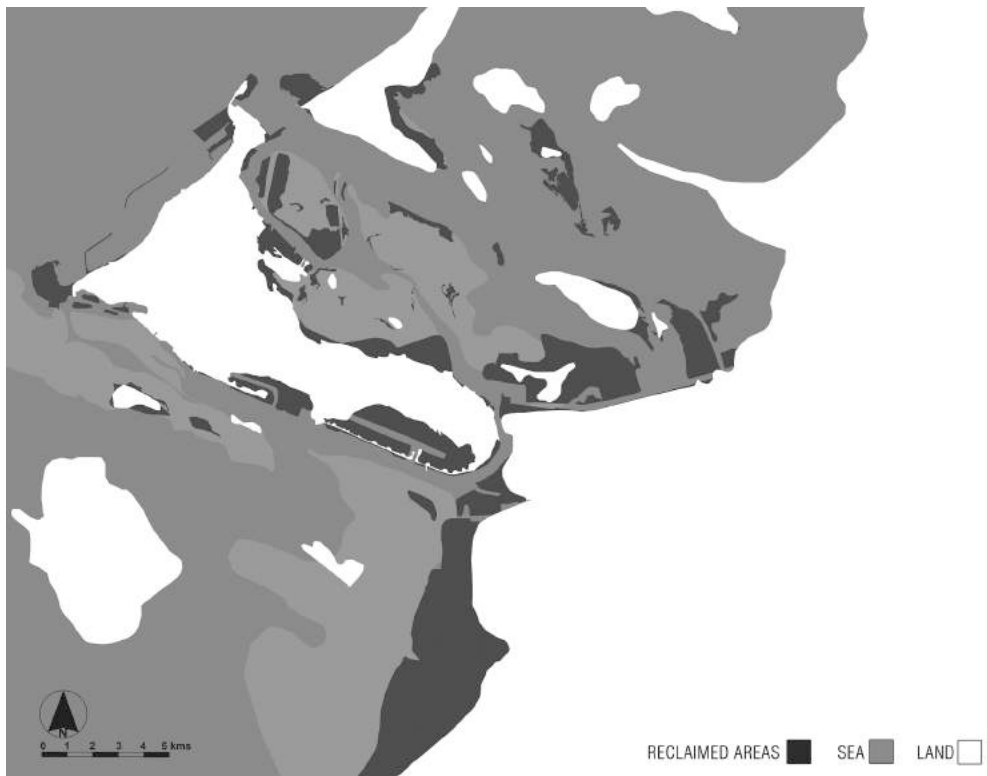


Figure 5.50: Abu Dhabi land reclamation 1980

1989-2004 Glass Towers, Shopping Malls and Greater Abu Dhabi Expansion

In 1989, a survey of the city by Atkins described the city as reflecting its modern industrial functions (as exemplified by Mussaffah, Mina Zayed and Umm Al Nar), while also representing its multiethnic character with different quarters for expatriate housing (usually in mixed use, medium- to high-rise buildings or investment villas) and national housing (low-rise housing constructed privately or through the government low-cost program) (Atkins 1991a). The spatial distribution of social groups was such that there were distinctive parts of the urban area dominated by nationals and others dominated by non-nationals (refer to Figure 5.4). Land use data collected by Atkins (1990) reveals that in 1989, approximately 13% of urban national households lived in apartments, 47% in villas, 23% in Arabic houses, 7% in low-cost houses and 8% in other forms of housing. Also, the vast majority of non-citizen households (65%) lived in apartments, 4% lived in villas, 2% in Arab houses, 12% in low-cost houses or annexes and 17% in various other forms of housing. Moreover, the expansion of the public sector led to the dispersal of government institutions and offices all over the island, while new residential areas outside the Central Area are often interrupted by institutional areas and palaces that occupy large tracts of land.

During this period, Abu Dhabi's urban fabric was shaped by another change in building height regulations as well as some urban land use changes. The changes permitted taller buildings, with heights up to 30 floors, in the Central Area, while high-rises of up to 20 floors were permitted in the Tourist Club area. In some residential sectors, low-cost houses were demolished and replaced with villas or three- to six- story investment properties (Makhlouf 2006). Demolitions accounted for more than 200 old low-cost houses and old tower buildings (PWD c.1997). The southern part of the island up to and including the area *Bein al Jisrein* ("Between the Two Bridges") was further developed, and an Embassies District was formed. Development intensified on the mainland, with residential areas in Khalifa City, Mohamed bin Zayed City, Mussaffah, and Al Shamkha coming to life and highways built to access them.

Significant structures erected during this time include the Bus Terminal (1989), the Municipality Building (1990), the Equestrian Club, and Abu Dhabi Mall. Several more hotels, restaurants, retail shops, and offices opened. The sewerage network was in its third phase (1990-2000) and greening the city had reached its prime: When once there was only one big tree and people would arrange to meet "by the big tree" (PWD c.1997), by 1995, there were 130 million trees in the emirate (Salloum 1997) and 33 public parks in Abu Dhabi (ADM c.1995). Dredging and reclamation also continued at a steady rate, increasing the landmass of the island to 9,600 hectares by 2001 (ADM 2003).

The Corniche was extended into the sea in the late 1990s, and in the summer of 2004, the new Abu Dhabi Corniche Road, which was part of the Corniche beautification project, was inaugurated. The road network included redevelopment of the western section of the Corniche road and the creation of parking facilities, parks, and widening of the road from three lanes to four in each direction. The land created between the existing Corniche gardens and the new road was developed into a major recreational

and leisure area, almost double the size of the previous area. The project also included construction of a bridge over the Sheraton Hotel Lake (UAE Interact 2004). Across from the Corniche, the Marina breakwater near Ras Al Akhdar was reclaimed and expanded and became the location of one of the city's first malls, Marina Mall (2001).



Figure 5.51: Abu Dhabi built up areas 1990



Figure 5.52: Abu Dhabi circulation network 1990

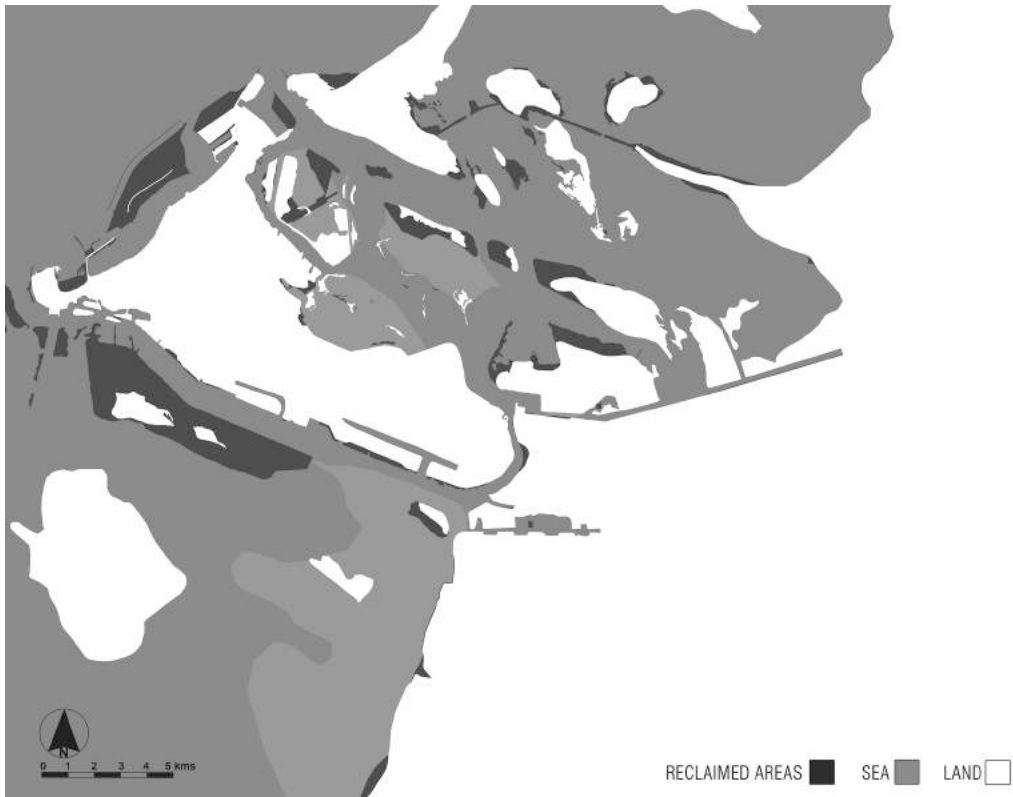


Figure 5.53: Abu Dhabi land reclamation 1990

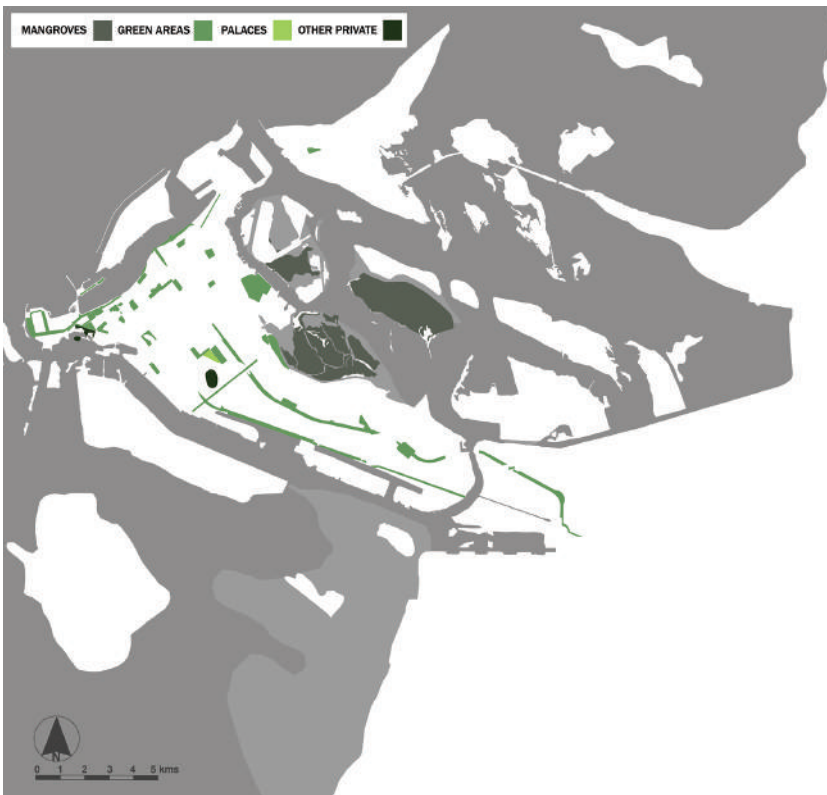


Figure 5.54: Abu Dhabi green areas 1990



Figure 5.55: Corniche extension 2005 with ADIA tower in the background

The Eastern Corniche (or Corniche Al Gurm) – previously the military area – was also developed and some land reclaimed to extend it. According to an informant, the military area took up a lot of the island and encompassed most of the eastern side of the island and the land from Qasr Al Bahr to Bateen Airport (the international airport in 1982) (Interview #11). What was the military area has been gradually divided. Al Nahyan camp is still intact but is smaller now. In the early 1990s, there was no road where Corniche Al-Gurm now stands, and not one road on the east side of the island. There was only a track outside the perimeter of the military area along the eastern lagoon. According to the informant:

The explosion of development that has taken place in last 40 years meant that area needed to be used for housing. They had to change the infrastructure. It was logical you should have an eastern road, as well as, Muroor, Airport road, and Arabian Gulf street, you needed something on that part of the island (Interview #11).

Construction on the Eastern Corniche had commenced in 2001, which included new tunnel interchanges and a bridge. It was expected to be complete in 2005. Concurrently, a new major park – Khalifa Park – was being constructed along the highway.

Architecture and construction also experienced a shift towards reflective glass (pink, green and bronze) and aluminum cladding in newer buildings, and later, curtain walling was introduced. An interviewee explained that with the establishment of aluminum extrusion and fabrication factories as well as pre-cast concrete factories and

marble and granite cutting and polishing factories, these materials became more readily available and more fashionable to use:

Over a certain period, someone introduced ceramic tiling on the façade. It became a fashion trend, everyone started putting ceramic cladding on the façade. Curtain walling became a trend, it became fashionable, everyone was asking “make me a glass building, make me a glass building,” not necessarily the right thing, but trends...I think the first curtain wall building was in 1989, Sheikh Hazzaa’s building on the Corniche, the building that has National Bank of Dubai. This was the first building completely curtain walled with curved glass and panoramic elevations. Then it became fashion, all buildings were curtain wall. It was trends, fashion (Interview #12).

In the Central Area, these towers formed a street-wall along arterials with shorter buildings within the superblocks. Other significant projects introduced in this period are Capital Plaza, the Landmark Tower next to ADIA, and the Bainunah Towers II next to the British embassy.



Figure 5.56: Glass towers in Abu Dhabi

This period demonstrated significant development trends: between 1997 and 1998, Abu Dhabi experienced the biggest surge in development expenditure (in its history), reaching AED 10 billion (USD 2,722,459,200). The increase in development expenditure could perhaps be attributed to the development of settlements on the mainland, which may be related to the fact that in 1996, the UAE Constitution was finally made permanent and Abu Dhabi was acknowledged as the capital. This was followed closely by a significant drop between 1999 and 2000 due to a recession but development recovered between 2000 and 2004. The city’s population continued a steady expansion: in 1990, it was recorded as 374,000; by 2003, it was 552,000 (ADM 2003).



Figure 5.57: Abu Dhabi built up areas 2003



Figure 5.58: Abu Dhabi circulation network 2003



Figure 5.59: Abu Dhabi land reclamation 2003

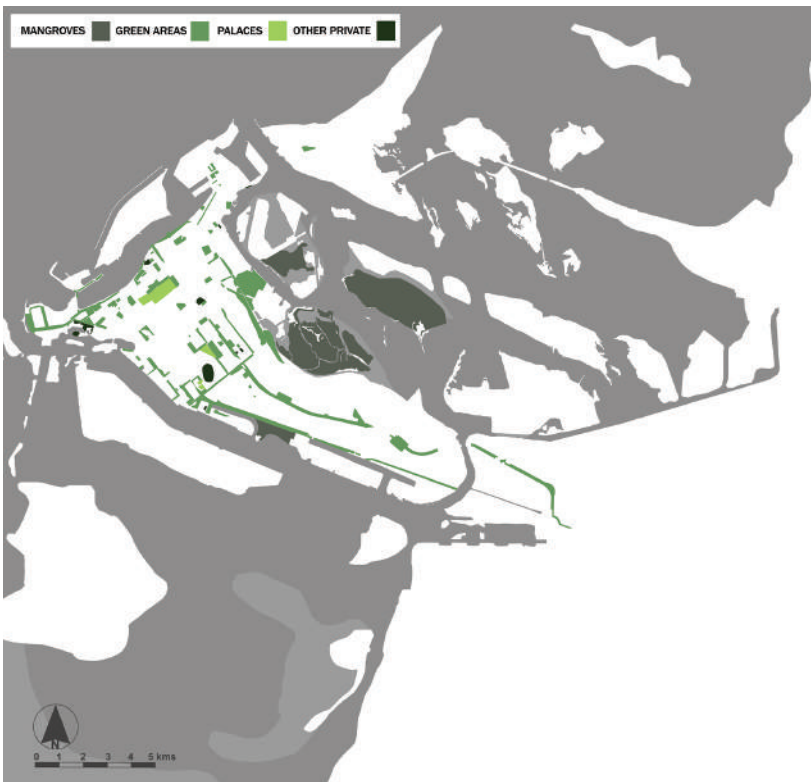


Figure 5.60: Abu Dhabi green areas 2003

5.5 Concluding Remarks

Under Sheikh Zayed's rule, Abu Dhabi was transformed into a rich, green, and well-developed city offering all the modern amenities to its citizens. By the twenty-first century, tree-lined streets, parks, apartment buildings, villas, shops, and a range of community facilities stood in the place of the primitive *arish* huts and expanses of sand that characterized the old Abu Dhabi. The pace of development, however, had its downsides. The population structure was uneven: The rapid influx of expatriates into Abu Dhabi meant that the national population was greatly outnumbered, and there was a very high proportion of males (about 70%) compared to females. The growth in population placed greater demands on housing, services and infrastructure, and led to a high growth in private villa development for higher income residents (both for nationals' occupancy and investment villas rented out to non-nationals). This kind of housing required large areas of land, which is inefficient and has high costs of infrastructure provision. At the same time, housing programs were not always targeted to meet the needs of various subgroups, which led in many cases to lower income residents living in buildings of lower quality (usually first generation buildings), due to a filtering process that occurred with a heavy turnover of tenants. Moreover, developers' interest only in making a high return on investment rather than quality building design, as well as planning regulations that strictly defined plot sizes, heights, setbacks and allowable projections, led to a homogenous urban structure with little regard to the public realm and connectivity. Parking provisions were not paid any regard, resulting in the interiors of the superblocks, which were originally intended for open space, to be filled with cars. Moreover, both the mediocre quality of buildings and the changes in building height regulations resulted in the city facing urban renewal twice (maybe even three times) in about thirty years. The demolitions of older buildings (many of which were in good condition, according to a survey by Atkins [Atkins 1990]) meant that Abu Dhabi's civic or architectural identity was always in crisis.

Moreover, economic growth and urbanization generated pressures from various forms of development (such as agriculture and forestry) contributing to strain scarce natural resources, and in particular groundwater resources. Alternative water sources came from desalination, which burns a significant amount of fossil fuels and negatively impacts marine biology. Urbanization also increased the demand on piped sewage and treatment facilities, causing these to operate above their rated capacity. In some areas there were no central sewage works, requiring septic tanks to be used and discharged into the desert. Waste disposal was also an issue, with mismanaged land disposal techniques and dumping in the desert. Finally, the rate of development, increased industrialization and natural resource exploitation generated pressures on land and marine ecosystems. Most development occurred without first going through an environmental impact assessment, at least not until the late 1990s when the Environment Agency (EAD) was established.

Despite these development issues and growing pains, however, one cannot help but admire the outcome: In a short amount of time, what was once a desert village became a thriving metropolis with greenery, schools, healthcare facilities, an

international airport and more. The city's metamorphosis was due to Sheikh Zayed's ability to ride the wave of development and maintain the perpetual balancing act between tribal state figurehead and leader of a modern society. Sheikh Zayed was strategic and diplomatic, and skillfully dealt with large political events as well as individuals, by persuading people face-to-face and bringing them around to his point of view. He was meticulous and hardworking, and went to great lengths to ensure that he set up an effective government apparatus that would facilitate the kind of progress he envisioned for Abu Dhabi. This approach carried through to the creation of the United Arab Emirates federation in 1971.

From the outset, Sheikh Zayed engaged his people and foreign experts alike in nation-building, and came to be known as the "Father of the Nation." He was particularly keen on investing in citizens so that they would be equipped to take on positions of responsibility. The principle on which he always operated was the common good, as "he did not conceive his position of Ruler as the culmination of his political career but rather as a platform from which to serve the people of Abu Dhabi" (ECSSR 2013). It is this philosophy that guided his plans for Abu Dhabi, from the provision of healthcare to encouraging afforestation and agriculture as well as granting national houses and plots of land for development. Sheikh Zayed truly believed that the oil wealth was by right a possession of his people. His actions were also imbued with a clear political vision. Sheikh Zayed demonstrated foresight by paving the way for the next generation of leaders, and by developing Abu Dhabi into a capital city while attending to his plans for regional unity (Wilson 2013).

In 2004, it was public knowledge that Sheikh Zayed was physically tired. Although he refused to rest and continued to make site visits or meet with visitors, Zayed had gradually grown to rely upon his sons to act on his behalf, having groomed and prepared them for a future in the service of Abu Dhabi and the UAE (Davidson 2006; Davidson 2009; Wilson 2013). Very close to the end of his life, a cabinet reshuffle took place, the first one in seven years.

Hours after his death on November 2, 2004, during a meeting of the Supreme Council, his son Sheikh Khalifa was elected as the new President of the UAE and the next Ruler of Abu Dhabi. The grief of losing *Baba Zayed* (Father Zayed) was palpable; it was the end of an era. His legacy, however, would continue to shape Abu Dhabi's landscape for years to come.

Chapter Six:

Building the Global, Sustainable Arab Capital City (2004-2013)

“Future generations will be living in a world that is very different from that to which we are accustomed. It is essential that we prepare ourselves and our children for that new world.”

- Sheikh Zayed bin Sultan Al Nahyan

Not long after Sheikh Zayed passed away Abu Dhabi experienced another building boom, yet this time it was not oil-driven. Rather, development in Abu Dhabi during Sheikh Khalifa’s rule was propelled by a “flexible accumulation of capital” (Harvey 1990), a new set of public and private actors, and a vision for the city to join the top echelons in the global economy.

This chapter looks into the vision of Sheikh Khalifa bin Zayed Al Nahyan and the role that his brother the Crown Prince, Sheikh Mohammed, has played towards realizing that vision. It then examines Abu Dhabi’s new economy and diversification strategies, while tracking the major government restructuring that took place between 2005 and 2013. New regulations allowing foreign investment and ownership as well as land speculation led to unregulated growth that was then managed by the establishment of a new entity, the Abu Dhabi Urban Planning Council, with the guidance of one of Vancouver’s most renowned planning directors. After looking into the establishment of the UPC as well as the new planning policies and regulations it introduced, the chapter then turns its focus towards the current city plan for Abu Dhabi: Plan Abu Dhabi 2030. Finally, the chapter documents the city’s transformation during this period and looks at how the different policies, plans, and decision-makers, as well as major economic and political events, have shaped Abu Dhabi.

6.1 Sheikh Khalifa’s New Vision for Abu Dhabi and the Sharing of Responsibilities with Sheikh Mohammed

When Sheikh Khalifa bin Zayed Al Nahyan became Ruler of Abu Dhabi upon the 2004 death of his father, Sheikh Zayed, he did so with a determination to carry on Zayed’s legacy. On the first anniversary of his accession to the throne, Sheikh Khalifa addressed his fellow Abu Dhabi citizens and UAE nationals in general (WAM 2005a). Through this speech, which took place in the midst of significant government reform, he drew a roadmap for the city’s future, stressing the importance of Emirati citizens and non-nationals to the city’s continued growth (see section 6.2).

Despite our conspicuous economic achievements, we remain committed to the development of our human capital, for this capital is the most valu[able] of all our assets. Human resources constitute the real wealth of every nation. Today, we are on

the threshold of a new phase of our development march. ... It is a phase where we will focus on the strategic goal of creating a conducive environment to nurture the creativity of our citizens so as to enable them [to] take a proactive role in the socio-economic, scientific, intellectual and political life of their country.

In his speech, Sheikh Khalifa referred to the provision of quality services for all residents, and the creation of “conducive conditions...to enable all the citizens to take a proactive role in the development of the country.” But while Sheikh Khalifa believes in raising the standard of living for all people and ensuring respect for the diverse cultures residing in Abu Dhabi, his focus was more on programs related to nationals.

It is clear that Sheikh Khalifa crafted his vision of Abu Dhabi as a continuation of his father’s vision. Like Sheikh Zayed, Khalifa believes in promoting the welfare of his people and is invested in ensuring that they continue to benefit from the country’s increasing wealth. His people-first attitude is inspired by Sheikh Zayed, with whom Khalifa spent the majority of his childhood, meeting with citizens in Al Ain daily to review their living conditions, in the process becoming more aware of their needs and requirements (“His Highness Sheikh Khalifa” n.d.).



Figure 6.1: Sheikh Khalifa Bin Zayed Al Nahyan

During his time as Crown Prince, Khalifa prioritized the needs of nationals through actions such as his establishment of the Khalifa Committee to alleviate the burden on citizens of loan repayment. He later expanded the committee into the Department of Social Support and Commercial Buildings (DSSCB), charging it with providing interest-free construction loans to nationals and offering assistance in building homes and commercial properties (see Chapter Five). This department’s activities reflected the philosophical concept of wealth distribution among nationals, since it offered generous funds to all for the establishment of commercial buildings that generated regular financial revenues. This program helped increase nationals’ income

and improved their social and economic standing. Another effort to ensure that Emiratis were able to build the properties that they needed came with Sheikh Khalifa's creation of the Private Loans Authority in early 1991 (Al-Abed et al. 2005). And in 2007, in line with his goal to create a "conducive environment to nurture the creativity of citizens" (WAM 2005a), he established the Khalifa Fund for Enterprise Development to encourage Emirati involvement in the private sector by helping citizens start small- to medium-sized businesses.

Reiterating the importance of human capital, in his 2005 address Sheikh Khalifa reminded the people of the new laws enacted with the goal of prioritizing the expansion of services and an increase in productivity. He saw these laws as tools that would encourage young adults by helping them develop talents to lead the country in the new millennium:

Our institution must exhibit a greater degree of efficiency in terms of services that they render. We have already gone a long way in re-arranging our priorities to suit the current development trends. Accordingly, we have paved the way by promulgating new legislation aimed at improving both the production and services of existing institutions. This was done in the hope that existing institutions would be able to improve production in terms of quality and quantity and also allow young talents to be more creative and capable of leading the country into the new century (WAM 2005a).

Sheikh Khalifa had a traditional education that involved learning as he traveled through the Al Nahyan domain in the company of his father. He was influenced by Sheikh Zayed's progressive ideas, like human resource development and greater access to education. Sheikh Khalifa understood the value of incorporating education reform into the development of human capital: "It should be mentioned that the development and empowerment of our citizens will not be achieved without a fundamental transformation of our educational system in terms of educational objectives and content..."

In keeping with the spirit of modernization, Sheikh Khalifa highlighted the inclusion of women and youth in his education reform plans. He saw a clear role for these two groups in the country's continued development:

[N]o developmental process is complete without the contribution of women and youth. Therefore, everything will be done to ensure that adequate training for these sectors... [is] provided so that they participate proactively in the development of the country. Our attempts to empower various segments of the society... [are] in fact an extension to the vision of the late Sheikh Zayed's vision to which he devoted his entire life (WAM 2005a).

Moreover, Sheikh Khalifa shares his father's concerns with the provision of healthcare. For example, during his time as Crown Prince, Khalifa personally supervised the construction of 16 public hospitals in various parts of the emirate. In addition, he inaugurated more than 12 private hospitals and 374 private clinics ("Khalifa Bin Zayed" n.d.). The vision for Abu Dhabi under his leadership is no different: providing access to education, healthcare and decent living conditions is at the top of Sheikh Khalifa's agenda.

Sheikh Khalifa's underlying discourse hints that Abu Dhabi is responding to globalization's knock at its door. Integrating government and private efforts in building up the city is vital to successful growth. Although government and Khalifa's philanthropy largely drove development, in his speech, Sheikh Khalifa said: "Dear citizens, the current phase of our development calls for an increased role for the private sector, particularly in view of the rapid global changes." Abu Dhabi was going to become an "entrepreneurial city" that nurtured the private sector and adopted capitalist modes of production and neoliberal economic policies. In other words, along with the shift to a post-industrial or post-oil economy, urban governance in Abu Dhabi was experiencing a change from managerialism to entrepreneurialism (Harvey 1989). Government restructuring was being introduced to build a more vibrant economy that attracted and promoted private sector investment, and part of that process involved the privatization of various companies, the creation of public-private partnerships, and the creation of public joint-stock companies in Abu Dhabi. A large part of this process also depended upon the importation of foreign labor, and provided opportunities for international companies to open up in free zones and therefore to participate in the new economy. These changes occurred amid the backdrop of a property boom fueled by a change in property law, cheap and ample credit, and financial deregulation – a process overseen by a local governance that is more business-oriented and entrepreneurial and that reflects the twin forces of privatization and globalization (Eisenschitz 2010; Sassen 2001). Abu Dhabi was joining the big players in the global competition for capital, upper-class residents, and tourists.

In emphasizing that the government would continue developing the rest of the emirate despite the role of Abu Dhabi as the capital city, Sheikh Khalifa adopted the same mentality as Sheikh Zayed, who believed that spreading benefits across the entire emirate would produce a self-reliant population (see Chapter Five). As he said, "Despite the significance of Abu Dhabi as the capital city, we will continue to develop other cities in the emirate evenly" (WAM 2005a). Sheikh Zayed had provided each citizen with three plots of land (residential, commercial, industrial/agricultural) so the citizen could generate income, and believed that educating the local population was vital to encouraging the emirate's prosperity. While continuing the trend of land and house gifting, Sheikh Khalifa wanted to create a self-reliant, knowledge-based society by investing money in education, leadership training, and entrepreneurial programs.

Sheikh Khalifa's involvement in Abu Dhabi's domestic development stretched back to his time as Crown Prince, when Sheikh Zayed, frequently preoccupied with international affairs, delegated many responsibilities related to Abu Dhabi's internal affairs to his son. In 1974, Sheikh Khalifa was appointed the first chairman of the Abu Dhabi Executive Council. Under his direction, the Executive Council oversaw the creation of a wide-ranging development program in Abu Dhabi, which included the construction of housing, water supplies and other essential services, roads, and general infrastructure ("Khalifa Bin Zayed" n.d.; "His Highness Sheikh Khalifa" n.d.). Since lifting the restrictions on land speculation and foreign investment in 2005 (see section 6.2), Sheikh Khalifa sponsored some of the largest real estate projects in the first wave of development that subsequently occurred (Dempsey 2014).

From the 1980s onward, Khalifa occupied the emirate's most powerful posts, chairing both the Supreme Petroleum Council and the Abu Dhabi Investment Authority, in which he was responsible for the oversight of Abu Dhabi's oil and gas industries and the management of the emirate's financial reserves and investment respectively. Today, Sheikh Khalifa is credited with actively encouraging the diversification of the emirate's economy away from dependence on hydrocarbons to one based on education, hospitality, tourism, biotechnology, healthcare, and financial services (Low 2012) (see section 6.2). In 2006, this vision for Abu Dhabi was eventually formalized into the Abu Dhabi Policy Agenda 2007-2008 and the Abu Dhabi Economic Vision 2030 (see section 6.2).⁹¹

For the first time in Abu Dhabi's urban history, however, the vision for the city's future was not directly and solely associated with the ruler of Abu Dhabi. The Crown Prince, Sheikh Mohammed bin Zayed Al Nahyan, a younger brother of Sheikh Khalifa, is largely responsible for the day-to-day running of Abu Dhabi's affairs, and holds "supreme executive powers over...domestic affairs" (O'Sullivan 2008). He is often credited with being a visionary. Sheikh Mohammed is a graduate of Britain's prestigious Royal Military Academy in Sandhurst, and he has a reputation as "the most Western of the emirate's leaders" (Gimbel 2007). While Sheikh Khalifa is known to be more conservative and traditional, Sheikh Mohammed, due to his Western education, is considered more open to new ideas and rapid economic growth.

Their relationship and shared leadership, unique in the history of Abu Dhabi, can be attributed to a bold move made by their father during the latter years of his tenure. With his health deteriorating, Sheikh Zayed – ever the strategist – began safeguarding and preparing for a smooth transition of power (Davidson 2006; Dempsey 2014). Zayed carefully positioned his 19 sons within the federal and local administrative system, making sure a clear distribution of power existed. Importantly, in 2003, he issued a decree appointing his third son, Sheikh Mohammed, as Abu Dhabi's Deputy Crown Prince. Not only did this move clarify the line of succession, it also made a statement about who would lead the emirate in the future.⁹² Thus, when Sheikh Khalifa came to power, Mohammed was immediately installed as the new Crown Prince of Abu Dhabi, breaking the tradition of primogeniture that would have seen one of Khalifa's sons take this position. Another reason could be attributed to Sheikh Khalifa's declining health, which necessitated a second-in-command that Zayed was confident in.

Sheikh Mohammed garnered the respect of government officials and the community at large, an important quality to support a sheikh's authority (Onley and

⁹¹ Linda Low gives some insight: In 1999, a historical preface to economic planning is the Abu Dhabi Strategic Development Program 2000-2020 by the United Nations Development Program (UNDP/DESA Project UAE 96/005). It was never executed; however the UNDP plan for Abu Dhabi has the same elements as Vision 2030. See Low, Linda (2012). *Abu Dhabi's Vision 2030: An Ongoing Journey of Economic Development*. Singapore: World Scientific Publishing Company.

⁹² It is believed that through his role as Commander in Chief of the UAE's Armed Forces, Sheikh Mohammed was able to amass the economic and political clout he needed to convince his father he was the best suited to become the heir apparent to Khalifa. See Gimbel, Barney (2007). "The richest city in the world. (No, it's not Dubai)" in *Fortune Magazine*, March 8. It is also widely believed that his influential mother, Sheikh Zayed's favored wife Sheikhha Fatima, played a key role in promoting Sheikh Mohammed's political fortunes, as well as those of his full brothers.

Khalaf 2006). For example, he showed considerable promise as chairman of the Mubadala Development Company, one of the first public joint-stock companies established in Abu Dhabi. Under his chairmanship, the company's move toward diversification and a post-oil economy in Abu Dhabi took root.⁹³ Later, when Sheikh Khalifa's new vision for Abu Dhabi was set in motion, Sheikh Mohammed was the one at the helm – charging ahead and inspiring many captains of industry to commit to strengthening the private sector. These included starting or expanding companies involved in oil-related industrialization (i.e., heavy, state-owned, export-oriented industries, and producers of metals, plastics, fertilizers, and petrochemicals), technology-heavy industries (e.g., aircraft and shipbuilding), and developing a pioneering renewable energy sector, extensive real estate projects, and up-market "cultural tourism" (Davidson 2009; Low 2012). Today, Sheikh Mohammed holds several posts, including chairman of the Abu Dhabi Executive Council, the Abu Dhabi Education Council and UAE Offsets, as well as a member of the Supreme Petroleum Council and the Abu Dhabi Investment Authority. He is also Deputy Supreme Commander of the UAE Armed Forces.



Figure 6.2: Sheikh Mohammed Bin Zayed Al Nahyan

As Chairman of the Executive Council, Mohammed is responsible for much of the urban restructuring and growth of the emirate. Apart from Sheikh Khalifa being too ill to deal with the day-to-day affairs of Abu Dhabi, Sheikh Mohammed oversees urban development because the Crown Prince, who is also the Chairman of the Executive Council, has been in charge of this since the creation of the Executive Council in 1974. According to one informant, "Thanks to him, long-pending construction projects...are moving again, and Abu Dhabi's stagnant bureaucracy is being overhauled" (Interview

⁹³ Mubadala is a subsidiary of the UAE Offsets Group, now known as the Tawazun Economic Council. It is the third largest Abu Dhabi wholly government-owned investment vehicle or sovereign wealth fund after the Abu Dhabi Investment Authority and the International Petroleum Investment Council. Mubadala's eight business units invest and operate in specific areas that are integral to the diversification of Abu Dhabi: Mubadala Aerospace and Engineering Solutions, Mubadala Capital, Mubadala Healthcare, Mubadala Industry, Mubadala Real Estate and Infrastructure, Mubadala Technology, Masdar, and Mubadala Petroleum.

#31). Sheikh Mohammed aspires to transform Abu Dhabi into one of the grandest cities in the world. At the same time, he emphasizes the importance of measured, sustainable development (Dempsey 2014; Abu Dhabi Urban Planning Council 2007b). The Crown Prince is said to admire Singapore as a model of success for a small city-state, and Mohammed is seeking to create a political environment in Abu Dhabi that, much like Singapore's, will serve its own development goals. In 2006, through the Executive Affairs Authority, he initiated a search for best urban planning practices around the world, identifying Vancouver as a model upon which to base Abu Dhabi's development. Along with Larry Beasley, one of Vancouver's previous planning co-directors, and his team of experts, Sheikh Mohammed was instrumental in the creation of Plan Abu Dhabi 2030: Urban Structure Framework Plan (now renamed Plan Capital 2030), which translates his contemporary vision for the city (this is discussed in detail in section 6.3).

Sheikh Mohammed has developed his own approach to development, which does not include starting anything without strict attention to the details: "The basic philosophy of the man is, he's a planner! And he's trying to build a contemporary vision that he can then go through all the mechanisms and make happen," declared an informant (Interview #25). Sheikh Mohammed has been very involved in planning Abu Dhabi, and took a hands-on approach as his father did. According to one informant who participated in the early brainstorming sessions for Plan Abu Dhabi 2030, "He was getting up; he was querying; he's, like, tapping me on my shoulder; he's, like, 'What's this?' 'What's that?' asking questions and so forth" (Interview #16) The Crown Prince has exhibited deep interest in planning the emirate.

With this focus, Sheikh Mohammad was responsible for much of the city's new layout, making executive decisions that shaped important areas of the city. For example, he selected the location of the new seaport, moving it from *Mina Zayed* on the island to Taweelah on the mainland on the route to Dubai (Davidson 2009). Additionally, like his father, he understood that leading by example was important to nation-building, and that, as a tribal leader, he had to throw his weight behind things in order to legitimize them:

He had a kind of a forward view of, at least, the question of what his city needs to be to be relevant and defensible among the family of cities in the modern world, so *he* pushes sustainability, *he* gets behind Masdar, *he* does a planning approach – rather than the anything-goes approach that you see elsewhere in the Middle East – *he* supports Estidama [the sustainability program for Abu Dhabi]. (Interview #30)

Thus said, Sheikh Mohammed has played a key role in leading many changes in Abu Dhabi, steering Abu Dhabi forward.

6.2 Abu Dhabi's New Economy and Government Restructuring

Corporate Governance & Abu Dhabi Inc.

1 *The Entrepreneurial City*

Abu Dhabi's government institutions have historically grown and developed amid a rapidly changing social, economic, and administrative environment. As a result, The Executive Council (2007) reports that overlapping and inappropriately allocated responsibilities have sometimes existed, as well as ineffective groupings of functions within government agencies. In 2004, less than a month after Sheikh Khalifa and Sheikh Mohammed's installments as Abu Dhabi's new Ruler and Crown Prince, respectively, a certain amount of government restructuring took place. This restructuring was intended to improve coordination and efficiency by reducing the Executive Council from 17 to 11 members;⁹⁴ merging the Department of Procurements and Department of Customs into the Department of Finance; merging the Al Ain and Abu Dhabi Departments of Works, Municipality, and Town Planning; folding the Al Ain Agriculture and Animal Wealth Department into a single body called the Department of Municipalities and Agriculture; and merging the Department of Planning and the Department of Economy into the Department of Planning and Economy (which in 2010 was renamed the Department of Economic Development). The reorganization also covered the departments of civil aviation, seaports, social services, and commercial buildings, as well as the Department of Organization and Administration. Sheikh Khalifa also created the post of Secretary-General of the Executive Council and issued a decree appointing Mohamed Al Bowardi to the post. He also issued a separate decree appointing Mohamed Habrush Al Suwaidi as his private advisor (Al Baik 2004; WAM 2004; Davidson 2009).

Abu Dhabi's new leadership pressed ahead with changes that would maximize the city's competitive advantages and focus on the emirate's domestic economic development. Sheikh Mohammed, with his Western education and openness to rapid economic growth, was at the helm of this transformation. One of his first moves was to privatize a number of state-owned enterprises, which began in 2004 with the factories that were put into the hands of the General Industrial Corporation, handled by the newly established General Holdings Corporation PJSC.⁹⁵ Selling these factories – sometimes partially and sometimes fully – and transferring their ownership to the private sector ultimately led to the creation of a public-private partnership, allowing for the sale of shares to UAE nationals. In general, the privatization process launched by the Abu Dhabi government was aimed at forging public-private partnerships and

⁹⁴ Chaired by Crown Prince Sheikh Mohamed, the Executive Council was reshuffled to include the following members: Shaikh Saeed Bin Zayed Al Nahyan, Chairman of Seaports Department; Shaikh Hamed Bin Zayed Al Nahyan, Chairman of Planning and Economy; Shaikh Sultan Bin Khalifa Al Nahyan, Chief of the Abu Dhabi Crown Prince's Court; Shaikh Mohammad Bin Khalifa Al Nahyan, Chairman of Finance Department; Shaikh Ahmad Bin Saif Al Nahyan, Chairman of Civil Aviation Department; Khalfan Gaith Al Mihairbi, Chairman of Municipalities and Agriculture; Jawa'an Salem Al Dhairi, Chairman Social Services and Commercial Building Department; Khaldoon Khalifa Ahmad Al Mubarak, Chairman of Organization and Administration Department; and Hamad Mohammad Al Hur Al Suwaidi, Finance Department Undersecretary. See Al Baik, Duraid (2004) "Resturcuting in Abu Dhabi" in *Gulf News*, December 9

⁹⁵ Actually, the first privatization program happened in 1998, with the privatization of water and electricity.

creating public joint-stock companies while simultaneously strengthening the local stock market as newly privatized firms were listed.⁹⁶

By 2005, the Abu Dhabi Restructuring Committee, chaired by Sheikh Mohammed bin Zayed, was formed to implement significant changes. Sheikh Mohammed was quoted as saying:

The emirate of Abu Dhabi recognizes the imperatives of being responsive to social needs and to supporting Abu Dhabi's long-term economic and social strategies. The restructuring has been designed to not only create an evolved form of government but also to help build a more vibrant economy that attracts and promotes private sector investment (WAM 2006a)

Slated to be rolled out over a three-year period, the restructuring program provided the new government structure and the vision for the new governance model, which was largely based on best practices drawn from around the globe.⁹⁷ In a 2005 interview, Mohamed Al Bowardi, the Secretary-General of the Executive Council, explained the government's commitment to efficiency and transparency and its desire to outsource noncore services to the private sector. According to Al Bowardi, the emirate's economic growth would allow it to take its place internationally as a developed country. He expressed some urgency for reform: "We need to remove the bureaucratic obstacles, to modernize, and to get ourselves moving at a faster pace in order to catch up with progress." Al Bowardi explained that adopting best practices from government models found around the world would help the emirate achieve the efficiency it sought (WAM 2005b).

Eventually, the ultimate goal was to have the Emirate of Abu Dhabi make the list of the world's five best governments while simultaneously ensuring that its government enabled, rather than thwarted, economic growth. To that end, the government reviewed its departmental processes to ensure that it was more responsive to the needs of a growing population and that it was positioned to better sustain prolonged economic growth. The desired outcome was for the government to be less a service provider and more of a regulator. This led to inevitable cuts in the public sector workforce; part of its efficiency drive meant the government sought to reduce residents' reliance on the public sector and further stimulate privatization. The idea behind the shift was that outsourcing would create opportunities for private sector enterprises, leading to jobs for nationals as the economy grew. This was to be coupled with improved education and training so that Emiratis could meet private employers' skill

⁹⁶A public or state-owned enterprise may be turned into a joint-stock company. Public joint-stock companies or PJSCs are public firms where the state (or a local government) owns more than 51 percent of the shares. According to Jan-Erik Lane (2000), such public firms are actually private firms with a public owner, which is why they belong to the private sector. See Lane, Jan-Erik (2000 [1993]). *The Public Sector: Concepts, Models and Approaches*. London: Sage Publications. In a public-private partnership or PPP, the public agency retains ownership of the asset or enterprise, oversight of the operations and management of the asset, and controls the amount of private involvement. See California Debt & Investment Advisory Commission (2007). "Privatization vs. Public-Private Partnerships: A Comparative Analysis" in *Issue Brief, CDIAC* no. 07-04. Available at: <<http://www.treasurer.ca.gov/cdiac/publications/privatization.pdf>> (Accessed March 28, 2015).

⁹⁷ Booz Allen Hamilton Consultants were commissioned to recommend changes to the governing structure that would bring it more in line with international norms.

requirements. The Abu Dhabi Tawteen Council was established to help reduce the unemployment levels and increase the proportion of Emirati nationals in the public and private sectors, a process known as Emiratisation. The move toward transparency also meant the introduction of a greater degree of “e-government,” meaning government departments using technology to offer a better customer-oriented experience with the populace. A new culture of accountability and collaboration formed the hallmark of these reforms.⁹⁸

Transforming agencies to meet the visions of leaders like Sheikh Khalifa and Sheikh Mohammad were highly intensive. “There was this whole government restructuring process, and they had just tons of consultants and they would have these consultants work on a specific agency, they were restructuring transportation, the health department, like all these different departments were being completely gutted and then reformed,” an interviewee recalled (Interview #21). Indeed, many government departments saw a significant overhaul of the division of responsibilities, and a number of new entities were created to facilitate the new economic vision. Initial changes included, for example, the creation of industrial-free zones or specialized economic zones (following the privatization of medium- and small-sector industries) managed by the Higher Corporation for Specialized Economic Zones (Zonescorp).⁹⁹

The goal of educational reform resulted in administrative restructuring by which the government reduced its delivery of direct educational services, replaced by a strengthened private sector that offered educational services on behalf of the government. The Abu Dhabi Education Council (ADEC) was formed to develop and improve educational institutions in Abu Dhabi. ADEC has entered into agreements with private providers to operate clusters of primary and middle schools in the emirate.

Similarly, tourism was regarded as a key driver of economic diversification that led to the creation of additional new entities.¹⁰⁰ The Abu Dhabi Tourism Authority (ADTA) was established to execute and oversee the emirate’s strategy for the tourism industry, under which a number of cultural institutions, luxury hotels, and convention and business services would be managed and delivered. Part of the emirate’s tourism strategy also involves catering to the Meetings, Incentives, Conventions and Exhibitions (MICE) sector. To drive the development of an internationally competitive convention and exhibition offering, the government created the Abu Dhabi National Exhibitions Company (ADNEC). Moreover, as Abu Dhabi’s cultural and natural heritage are central to Abu Dhabi’s tourism strategy and its positioning as a unique Arabian destination, the Abu Dhabi Authority for Culture and Heritage (ADACH) was established to meet the emirate’s immediate and long-term needs in culture and

⁹⁸ The strive for collaboration in Abu Dhabi is not just a cross-agency, cooperative approach but also involves partnerships with businesses, non-government sectors, education and research institutes, regional authorities and local communities. See Abu Dhabi Council for Economic Development and Abu Dhabi Urban Planning Council (2010). Abu Dhabi Economic Vision 2030 and Abu Dhabi Urban Planning Vision 2030.

⁹⁹ Established by Law No.3 of 2004

¹⁰⁰ The emirate is looking to increase tourism numbers from almost a million in 2004 to more than 3 million by 2015.

heritage conservation. Another newly established entity in this sector is the Abu Dhabi Food Control Authority, dedicated to protecting consumers in the area of food safety, hygiene and quality.¹⁰¹

A significant change also took place when Law No. 19 of 2005 formally abandoned the old property regime established by Sheikh Zayed and permitted the sale of land by nationals and, in some areas, the purchase of 99-year leaseholds by foreigners (land allocation and ownership is further discussed in a later section). The law's enactment preceded a property boom that gave rise to investment zones across the city as well as several real estate development companies, most of which are either majority-owned by the government or have close ties to key members of the ruling family (e.g., Aldar, Sorouh, Hydra Properties, Reem Investments).

Between March and May 2006, additional substantial changes, including the formation of several new entities. The Executive Council itself restructured its processes in order to better perform its primary strategic functions. The rapid social and economic growth experienced by Abu Dhabi since the 1960s had placed a heavy demand on government institutions that, in turn, stressed the transactional decision-making focus of the Executive Council. This demand, combined with complex reporting frameworks and overlapping responsibilities, led to more than 70 entities with responsibility to report directly to the Executive Council (Executive Council 2007). Thus, Law No. 2 for 2006 formed the General Secretariat of the Executive Council (GSEC) with financial and administrative independence and full power to carry out all legal actions. Three new sector-based Executive Council committees – the Economic Development Committee, the Social Committee, and the Infrastructure and Environment Committee – were also created to improve coordination and deliver more holistic approaches to planning and regulation. These specialized committees would facilitate coordination between government departments and entities within their respective fields of responsibility. Additionally, Law No. 3 for 2006 created the Executive Affairs Authority (EAA) to oversee, coordinate, and execute various projects as mandated by the chairman of the Executive Council. The EAA was also charged with providing strategic policy advice, and five specialized advisory units were set up to conduct research and develop and analyze policy options: (1) Economic Affairs; (2) Social and Environmental Affairs; (3) Legal Affairs; (4) Urban Planning; and (5) Strategic Communications Affairs. Furthermore, the EAA was mandated to implement a range of special projects at the request of the Chairman of the Executive Council, Sheikh Mohammed. By Emiri Decree No. 4 for 2006, Mohammad appointed Khaldoon Khalifa Al Mubarak – a trusted aide of the Crown Prince and the CEO and managing director of Mubadala – as its chairman. Khaldoon also became a member of the Executive Council.¹⁰²

¹⁰¹ ADTA was established by Law No. 7 for 2004; ADNEC was established by Law No. 18 for 2005; ADACH was established by Law No. 28 for 2005; and Abu Dhabi Food Control Authority was established by Law No. 2 for 2005.

¹⁰² Khaldoon Al Mubarak's role in Abu Dhabi is not to be underestimated. He has become what Christopher Davidson calls "Abu Dhabi's interface with the rest of the world" (quoted in Thomas Jr 2008), representing Abu Dhabi on behalf of the Crown Prince. At the same time, he has earned the trust and respect of Sheikh Mohammed, who listens to Khaldoon's advice and allows him to step in whenever he is needed. See Thomas Jr, Landon. "The Suave Public Face of Abu Dhabi's Billions." *The New York Times*, November 1, 2008.

Responsibility for transport in the emirate was restructured with the creation of the Department of Transport (DoT), mandated with the regulation of the civil aviation and seaport sectors. Thus, to improve efficiency and to enhance integration across these transport-related sectors, the Departments of Civil Aviation and Seaports were consolidated under the DoT.¹⁰³ Two separate companies, the Abu Dhabi Airports Company (ADAC) and the Abu Dhabi Ports Company (ADPC), were created to take operational responsibility of both the Abu Dhabi seaports and airports.¹⁰⁴ Furthermore, in order to reduce the fragmentation and duplication of housing and related activities across multiple government entities, functions of the existing Department of Social Services and Commercial Buildings were transferred to the Department of Finance.¹⁰⁵ Other entities created in 2006 are the Abu Dhabi Sports Council (ADSC), Western Region Development Council, and Abu Dhabi Council for Economic Development (ADCED). Notably, the ADCED was established to facilitate economic diversification and growth through creating greater coordination between the key departments and players in Abu Dhabi. The government's focus on renewable energy, green technology, and sustainable development also led to the creation of the Abu Dhabi Future Energy Company PJSC, known as Masdar, whose shares are completely owned by Mubadala (the role of Masdar in sustainable urban development will be discussed in section 6.4).

In December 2006, a Judicial Department was created as part of the Abu Dhabi Ruler's Court.¹⁰⁶ Moreover, the Executive Council was once again reshuffled, increasing the number of members from 12 to 18.¹⁰⁷ This reshuffling was significant because it injected new, young blood into the realm of decision-making in Abu Dhabi. It was believed that a new generation of younger leaders would introduce new ideas that would help Abu Dhabi "climb the ladder of progress," said an informant (Interview #39). He added:

¹⁰³ Law No. 4 for 2006.

¹⁰⁴ Emiri Decree No. 5 and 6 for 2006.

¹⁰⁵ Law No. 5 for 2006. New appointments were made in March 2006, whereby Emiri Decree No. 7 for 2006 ordered the appointment of Sheikh Saeed bin Zayed Al Nahyan and Shaikh Ahmed bin Saif Al Nahyan as members of the Executive Council, and Emiri decree No. 8 for 2006 ordered the appointment of Dr Jo'an Salem Al Dhaheri as chairman of the Department of Municipalities and Agriculture, Khalfan Ghaith Al Muhaibi as chairman of the Department of Transport (DoT), and Rashid Mubarak Al Hajeri as chairman of the Civil Service Department. See WAM (2006a). "Abu Dhabi government restructuring to spur efficiency" in *Khaleej Times*, March 6.

¹⁰⁶ Law No. 23 for 2006.

¹⁰⁷ The council was reshuffled to include the following members: Shaikh Saeed Bin Zayed Al Nahyan; Shaikh Tahnoon Bin Zayed Al Nahyan; Sheikh Dhiyab Bin Zayed Al Nahyan as chairman of the Abu Dhabi Water and Electricity Authority (ADWEA); Sheikh Hamed Bin Zayed Al Nahyan as Chief of Abu Dhabi Crown Prince's Court; Dr Sheikh Sultan Bin Khalifa Al Nahyan; Sheikh Mohammad Bin Khalifa Al Nahyan as Chairman of the Department of Finance; Sheikh Ahmad Bin Seif Al Nahyan; Sheikh Sultan Bin Tahnoon Al Nahyan, Chairman of Abu Dhabi Tourism Authority; Mohamed Ahmad Al Bowardi as Secretary-General of the Council; Khaldoon Khalifa Al Mubarak as Chairman of the Executive Affairs Authority, Rashid Mubarak Al Hajeri as Chairman of the Civil Service Department; Jo'an Salem Al Daheri as Chairman of Municipalities and Agriculture Department; Hamad Al Hurr Al Suwaidi as Undersecretary of the Department of Finance; Nasser Ahmad Al Suwaidi as Chairman of the Planning and Economic Department; Major General Saeed Obaid Al Mazroui as the Chief of Abu Dhabi Police General Head Quarters; Abdullah Rashid Khalaf Al Otaiba as Chairman of the DoT and Ahmed Mubarak Al Mazroui as Chairman of the Abu Dhabi General Authority for Health Services. See WAM (2006b). "Abu Dhabi Executive Council reshuffled" in *Gulf News*, December 19

Some very hardworking people are around the government now, very good, they do a lot of work. Khaldoon Mubarak, Mohamed Al Bowardi, Ahmed Al Mazrouie, Nasser Al Suwaidi, very active, they work a lot. Young men, late thirties, early forties. All young men. The Abu Dhabi government now is younger, very ambitious but very careful.

The new generation of younger leaders would ensure a forward-looking political structure that was also conducive to the country's rapid economic development.

It has been said that the government's ultimate goal is to run Abu Dhabi as a company, often referring to it as Abu Dhabi Inc. and likened to Singapore Inc. (Oxford Business Group 2007; Low 2012; Interview #3; Interview #5). Sheikh Mohammed, as the day-to-day manager of affairs of the emirate, "sits on top of these Abu Dhabi Inc. companies as we call them, kind of the new diversified types of companies," says an interviewee (Interview #3). Another informant explained how the Crown Prince is thought of as the CEO of Abu Dhabi and Abu Dhabi itself as a startup. As the CEO was getting his bearings he removed some divisions and created others, and there was some difficulty merging the old with the new (Interview #25). Abu Dhabi's entire government system was being gutted and restructured to facilitate its entrepreneurial tendencies, and to actively participate in economic development and growth rather than focus on its initial modern mission of local provision of services, facilities, and benefits to urban populations (Krupar and Al 2010; Hall and Hubbard 1998).

Towards a Shared Vision

To keep track of all the changes taking place, the Ruler of Abu Dhabi, Sheikh Khalifa, requested the creation of a policy agenda (Executive Council 2007). Prepared by the Executive Council and unveiled in August 2007, the policy agenda of Abu Dhabi set out the key roles and government initiatives that were in development or underway at the time. According to Sheikh Mohammed, the Abu Dhabi Policy Agenda 2007-2008 was "a step towards a new era of work that relies on planning and clear insight" (Raafat 2007). Once again emphasizing collaboration, transparency, and accountability, Sheikh Mohammed stressed that the comprehensive policy agenda was an integrated action plan for all local departments in Abu Dhabi. He believed the policy would enhance the spirit of teamwork that would, in turn, boost government performance – much more than personal effort would (WAM 2005b; Raafat 2007). Based on the vision of Sheikh Khalifa, the agenda identified nine key pillars comprising the emirate's social, political, and economic future:

1. A large, empowered private sector
2. A sustainable, knowledge-based economy
3. An optimal, transparent regulatory environment
4. A continuation of strong and diverse international relationships
5. The optimization of the Emirate's resources
6. Premium education, healthcare, and infrastructure assets
7. Complete international and domestic security
8. Maintaining Abu Dhabi's values, culture, and heritage

9. A significant and ongoing contribution to the Federation of the UAE.

Having established these pillars, four priority areas were stated as the focus of the Policy Agenda: economic development; infrastructure development and environmental sustainability; social and human resource development; and optimization of government operations. Each of these was further broken down into 18 independent policy statements providing detailed analysis of the government's plans in areas as diverse as planning and economy, energy, tourism, health, education, labor, civil services, culture and heritage, food control, urban planning, transport, environment, health and safety, municipal affairs, police and emergency services, e-government, women, and legislative reform.

Built upon the foundations set by the Policy Agenda, the Economic Vision for Abu Dhabi 2030 was crafted in 2008 as a result of a concerted effort between the Abu Dhabi Council for Economic Development, the Department of Planning and Economy, and GSEC.¹⁰⁸ The Economic Vision 2030 has two priorities: one is a sustainable economy and the other involves social and regional development balanced across the entire population of the emirate. Seven areas of economic policy and 12 focus industries represent an initial wish list of knowledge-based goods and services. The seven areas of ongoing economic policy are:

1. Build an open, efficient, effective and globally integrated business environment
2. Adopt a disciplined fiscal policy that is responsive to economic cycles
3. Establish a resilient monetary and financial market environment with manageable levels of inflation
4. Drive significant improvement in the efficiency of the labor market
5. Develop a sufficient and resilient infrastructure capable of supporting the anticipated economic growth
6. Develop a highly skilled, highly productive work force
7. Enable financial markets to become the key financiers of economic sectors and projects

The 12 industries or sectors in Economic Vision 2030 are energy (other than oil and gas), petrochemicals, metals and mining, aviation, aerospace and defense, pharmaceuticals, biotechnology and life sciences, tourism, healthcare equipment and services, transportation, trade and logistics, education, media, financial services, and telecommunication services. Both the Policy Agenda and the Economic Vision 2030 demonstrate that planning in Abu Dhabi no longer involves central planning in command economies, but strategic planning as a tool to organize and mobilize resources for economic development (Low 2012). In fact, all government institutions

¹⁰⁸ The taskforce received extensive expert support from internationally renowned institutions such as Booz Allen Hamilton, Innovation Norway, International Development Ireland and New Zealand Trade and Enterprise. Norway, Ireland and New Zealand were selected as benchmark countries for key economic characteristics relevant to Abu Dhabi and for their success in establishing successful economic development models. Read more in Low, Linda (2012). *Abu Dhabi's Vision 2030: An Ongoing Journey of Economic Development*. Singapore: World Scientific Publishing Company.

were encouraged to produce five-year strategic plans subject to evaluation. It is worthwhile to note that both the Policy Agenda and Economic Vision 2030 stress the importance of the role of UAE nationals in the new economy.

Government restructuring continued to be rolled out over 2007 and 2008, with the revaluation of the role of government entities across a range of sectors such as municipal administration, healthcare, security, and education. Several entities were created, split up or merged, including the Abu Dhabi Urban Planning Council (UPC), Critical National Infrastructure Authority, the Department of Municipal Affairs (DMA) (replacing the Department of Municipalities and Agriculture), the Center for Waste Management (TADWEER), Musanada (which seems to have replaced the Public Works Department that was dissolved in 2006), Abu Dhabi Vocational and Training Institute, Khalifa Fund for Enterprise Development, Health Authority Abu Dhabi (the regulatory body of healthcare),¹⁰⁹ Office of the Brand Abu Dhabi (OBAD) and Abu Dhabi Health Services Company (the operator of public healthcare assets). Moreover, the Statistics Division, originally in the Department of Planning, was spun off into an autonomous Statistics Center Abu Dhabi.

Focused on the delivery of services in a “participatory, transparent and accountable manner” (Elsheshtawy 2010), Abu Dhabi’s government restructuring (or shift from “government” to “governance” [Jessop 1995]) signaled a transition to a new era of urban governance in the emirate. The idea of a shared vision is also part of the nation-building exercise in Abu Dhabi.

1 Post-Crises (2008-2013): New Priorities for a Resilient City

No sooner had the new Abu Dhabi economy and government begun to emerge than the ensuing global financial crisis of 2007-2009 swooped in like a black swan and stopped everything in its tracks. Its effects were far-reaching, leaving the emirate with economic uncertainty after property prices fell and projects were delayed. Notably, despite Abu Dhabi’s oil wealth, debt restructuring rattled several companies in which the government had stakes, forcing some to accept a government bailout (Katira 2011; Kerr 2011). The overall economic vision for Abu Dhabi 2030, however, did not change. As an informant remarked, “Even though our short-term approach to reaching the goals may change to suit our current needs, the plan remains as is. The impact of the global crisis on Abu Dhabi was short-lived; Abu Dhabi is resilient” (Interview #22).

As a result of the economic crisis, however, Abu Dhabi became more resolute in espousing accountability and transparency in the public sector. By December 2008, the Abu Dhabi Systems and Information Center (ADSIC) (considered the governmental party that owns the I.T. agenda of the emirate) as well as the Abu Dhabi Accountability

¹⁰⁹ HAAD adopted the role of licensor and regulator and left the management and operation of healthcare provision to the private sector. Several public hospitals were privatized, while leading international institutions began setting up shop, including Johns Hopkins, Imperial College London and the Cleveland Clinic.

Authority (ADAA) (which replaced the Audit Authority) were established.¹¹⁰ Every entity was subject to an audit, with the ADAA monitoring the use of public funds by all government entities, including government departments and authorities, and commercial organizations owned by the government. Its aim was to ensure that all entities used their resources and funds “efficiently, effectively, economically, ethically and in line with the overall vision of Abu Dhabi” (Abu Dhabi Accountability Authority 2014). Moreover, the Executive Council placed particular emphasis on healthcare, education and the development of talented UAE graduates. It also focused on creating “world-class” industrial clusters in sectors as diverse as aviation and advanced technology, and continued to foster entrepreneurialism with the intention to enable the private sector to assume a greater role in the local economy over time (Oxford Business Group 2010). Indeed, it seemed as though the crisis “was merely the trigger to further consolidate the image as well as the new reality of a new Abu Dhabi which has been in the making for quite some time” (Abdullah 2010). Since sustainable development plays a large role in establishing this new image for Abu Dhabi, there was also renewed focus on alternative energy sources and environmental sustainability. In 2009, the Emirates Nuclear Energy Council (ENEC) was formed; at the same time, Abu Dhabi won the bid to host the International Renewable Energy Agency (IRENA), with its headquarters stationed at Masdar City.

In January 2009, the Executive Council was restructured yet again with a couple of new faces and some positions reshuffled.¹¹¹ But the next restructuring, in December 2010 (the Executive Council board is reshuffled every two years), brought radical change. Five members of the ruling family were removed and Sheikh Hazza bin Zayed, half-brother of Sheikh Khalifa and full brother of Sheikh Mohammed, was appointed as vice-chairman of the Executive Council. Sheikh Hazza was one of the UAE’s top national security officials (he was named National Security Advisor in 2006). The Executive Council’s reformation signaled a rising prominence for the national security apparatus. The government reshuffle also included a wider range of changes, with the council growing smaller in size and the heads of top government departments appointed to new posts.¹¹² Afterward, Sheikh Hazza began an informal process of reviewing the emirate’s domestic entities to assess the relevance of certain projects and investments.

¹¹⁰ ADSIC was formed by Law No. 18 for 2008, and ADAA was formed by Law No.14 for 2008.

¹¹¹ Major-General Obeid Al Ketbi replaced Major Saeed Al Mazroui as a representative of the Abu Dhabi Police (Al Ketbi took on the role of Deputy Commander-in-Chief, while Al Mazroui was the Chief of Abu Dhabi Police Headquarters). Mugheer Khamis Al Khailei, Director of Abu Dhabi Education Council, was added as a member of the Executive Council, while Jo’an Al Dhaheri was no longer a member. Rashed Al Hajeri became Chairman of the Department of Municipal Affairs and remained a member of the Executive Council. Finally, the Civil Service Department was phased out and its functions and employees were transferred to GSEC. See WAM (2009). “Khalifa restructures Executive Council” in *Gulf News*, January 6.

¹¹² Ahmed Mubarak al Mazrouei, the chairman of the Health Authority Abu Dhabi, was appointed head of the Abu Dhabi Water and Electricity Authority, replacing Sheikh Dhiyab bin Zayed. Hamad al Hurr al Suwaidi was named chairman of the Department of Finance, replacing Sheikh Mohammed bin Khalifa, who retained his membership of the council. Majid al Mansouri, the Secretary-General of the Environment Agency Abu Dhabi and the chairman of the board of directors at the Federal Authority for Nuclear Regulation, was named to the council and appointed the head of the Department of Municipal Affairs. The six former members are Sheikh Saeed bin Zayed, Sheikh Tahnoon Bin Zayed, Sheikh Dhiyab bin Zayed, Sheikh Sultan bin Khalifa, Sheikh Ahmed bin Saif Al Nahyan and Rashid Mubarak al-Hajeri, the former chairman of the Department of Municipal Affairs. See Shaheen, Kareem (2010b). “Sheikh Hazza appointed to Abu Dhabi Executive Council” in *The National*, December 13. See also Hall, Camilla & Zahraa Al Khalisi (2010). “Abu Dhabi reshuffles Executive Council, Names Sheikh Hazza as Vice Chair” in *Bloomberg*, December 12.

In his new role as Deputy Chairman of the Executive Council, Sheikh Hazza assumed control of the national budget. In the words of an informant: "...Because there was a change in the government, a change in the Executive Council in late 2010, Sheikh Hazza has begun to play a very active role" (Interview #22). The informant said there was no spending his first year, and "[i]t was a time of uncertainty." Hazza instituted new systems greatly affecting government operations. The informant tells how the Executive Council took on a more active role and the council staff grew. The council's general secretariat grew and its participation in many areas, including urban planning, increased.

Although not directly referred to nor openly discussed, the 2011 Arab Spring had ripple effects in Abu Dhabi, prompting the emirate to shift its priorities from development and planning to security and budgets. The Abu Dhabi Monitoring and Control Center was established to manage and organize systems across key locations in the emirate for the purpose of maintaining security and public order. Moreover, in early 2011, top-level management changes occurred as the emirate adjusted to a tougher economic development environment and the government reassessed its previous plans. Several board managers of influential entities such as ADIA, ADNOC, the Supreme Petroleum Council and Mubadala were replaced, injecting new blood into the system once again (Katira 2011). Emiratization was prioritized to decrease unemployment, one of the leading factors contributing to the Arab Spring protests (Arnold 2013; Economist 2013; Carvalho 2013).

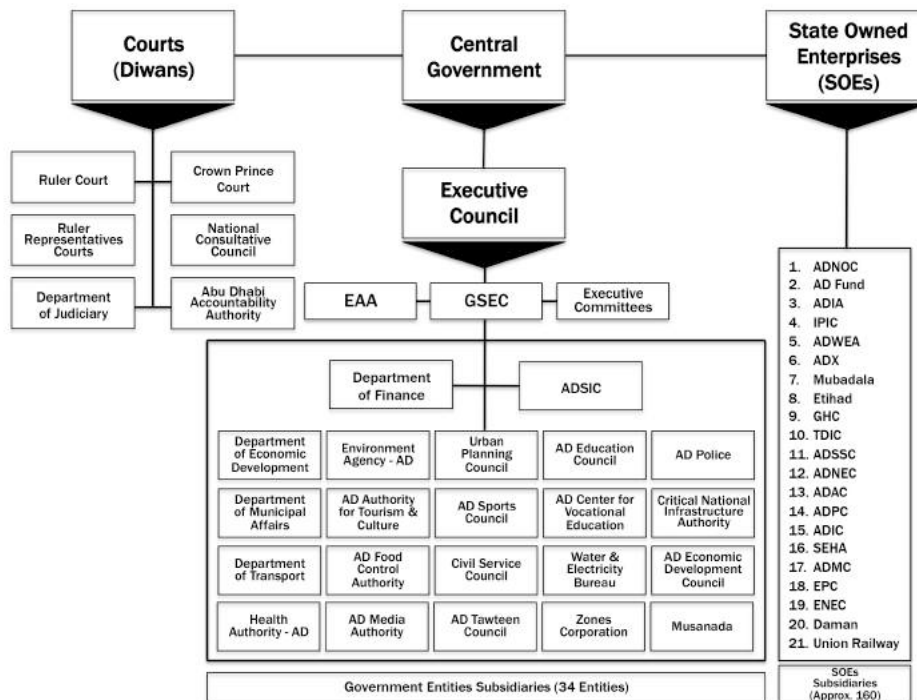


Figure 6.3 Abu Dhabi Government Organization Chart 2012

Leaders began to prioritize once more the western region of Abu Dhabi as well as the Northern Emirates as areas in need of benefits. According to an informant, with neighboring countries removing their leadership, “[T]he Arab Spring changed planning in Abu Dhabi significantly. Art became less important, Saadiyat [Island (a planned cultural district by TDIC)] is viewed as for expats and we can’t have expats if we’re not thinking of our own” (Interview #18). Jobs and decent, well-maintained housing became higher priorities. The informant felt Abu Dhabi’s citizens were well taken care of but more attention to the western and northern regions became crucial. Spreading benefits across the emirate was a tradition carried forward from Sheikh Zayed’s rule. While this move has always served as a tactic to garner popular support across the emirate, it is even more important today: investing in all of Abu Dhabi’s national population serves as a tool to avoid civil unrest and prepares its citizens to lead Abu Dhabi forward.

Thus, under its new and younger leadership, nation-building in Abu Dhabi is very ambitious, with a turn towards a knowledge-based society and a global, post-oil economy that is also highly Emiratised.

Tribal Capitalism

During the last decade, Abu Dhabi Inc. has added a number of state-owned enterprises (SOEs) and public joint stock companies (PJSCs) to its list of corporations. The adoption of progressive economic policies and streamlined regulatory requirements were intended to bolster Abu Dhabi’s future development by giving investors and the private sector the confidence to participate in Abu Dhabi’s economy. Abu Dhabi needed an emerging private sector in order to establish itself as a globally preferred destination for both local and foreign direct investment and to ensure its economic growth and competitive position. The reality, however, is that very little separation between public and private sectors in Abu Dhabi has taken place; the two are practically joined. According to David Ponzini (2011), “Here, the entrepreneurial city is more than a metaphor because the government is at the same time a public authority and a private enterprise.” Privatization in Abu Dhabi is characterized by creating partnerships between government and private service providers where the government is still the dominant player. In other words, corporations are all either majority-owned by the government or public entities, or are companies with ties so close to key members of the ruling family that they are still effectively under the government’s control (Davidson 2009). An interviewee noted:

Mubadala, which by the way is the same people as the EAA, is the Crown Prince’s private development company or private business company. It does development, it does investments, but it’s his... because he’s never acting like a private citizen, it’s acting as kind of like an agency of the Crown Prince in doing stuff that you can only do in the private sector but you can’t really do in the public sector (Interview #38).

The arrangement in Abu Dhabi is such that SOEs, PJSCs, and public-private partnerships enable the government to partake in commercial activities. Here, the government has a controlling share that enables it to influence decisions made in

shareholder meetings. Moreover, in Abu Dhabi Inc. the distinction among ownership by the state, its royal families, and sovereign wealth funds is unclear (Spencer 2010; Dempsey 2014). Furthermore, the same actors have key positions in public decision-making and the management of private companies in Abu Dhabi: “Fifteen to twenty people, they sit on every board, you know the town is incestuous, the same fifteen to twenty people run everything...you don’t have to be outside that ring to know that” (Interview #3). Another interviewee explains the blurred line between public and private sectors in Abu Dhabi, giving as an example a Mubadala employee heading the taxi center, a public agency (Interview #14).

The political system of the oil era has evolved in that these elites – whether members of the royal family or patriarchs of tribes with alliances to the ruling family – are no longer serving only as cabinet ministers or officials of public sector institutions, but have also been “reconfigured as development-focused boardroom executives” in new state-owned and private companies charged with managing Abu Dhabi’s new economy (Davidson 2009).

In this manner, Abu Dhabi’s elites are pioneering a system that Christopher Davidson (2009) calls “tribal capitalism,” in which tribal groups exist with modern-day capitalism. Ultimately, decision-making in Abu Dhabi is based on a narrow oligarchic system in which matters in Abu Dhabi are discussed and decided by key members of the royal family in conjunction with a cohesive network of tribal allies (Davidson 2009; Low 2012; Dempsey 2014).

Planning Institutions, Land Allocation and Ownership

1 Setting up the Abu Dhabi Urban Planning Council

In an effort to expand Abu Dhabi’s economic base, the sale of government-granted land by nationals was permitted and a form of foreign ownership was introduced in 2005, such that GCC nationals are entitled to freehold land and property and non-nationals can obtain 99-year or 50-year leaseholds on only property in designated investment zones. A largely unregulated property development boom ensued in the city. The Abu Dhabi Municipality mostly approved developments to help facilitate this economic boom, rather than examining closely how they would affect the urban fabric. “A lot of things got destroyed in the city, because the people within the municipality at that time [saw] things and its direction [was] ‘Go and do it, go and do it.’ They had no authority to say hold on, it’ll affect this; it’ll affect that” (Interview #10). An informant, a developer, discusses his part in the “free-for-all” that occurred between late 2004 and 2007: “Because I’m in the private sector, I want to gain most of the land, but within regulations. I started asking the municipality what we can do on the land. They said I could do whatever I wanted” (Interview #29).

However, worried about having the same explosion of unmanageable growth as neighboring Dubai, the leadership in Abu Dhabi was clear in its desire to develop in a

more controlled manner. Abu Dhabi wanted to transform itself, but in a manner that avoided Dubai's traffic, over-scaled projects, and frantic development (Macdonald 2007); therefore regulating and guiding the city's urban expansion was imperative. Thus, the Executive Affairs Authority, under the guidance of Sheikh Mohammed, initiated a search for best practices of urban planning worldwide. They reviewed cities that had successfully made their cities livable and identified Vancouver, Canada as the prime example upon which to model Abu Dhabi's future development.

Larry Beasley, a former Vancouver planning co-director credited with the success of its planning movement, was solicited to become Abu Dhabi's planning director. In line with past appointments of foreign consultants to guide Abu Dhabi's development, Beasley was tapped to create a comprehensive or master plan for the city that would continue where the Atkins plan left off. Beasley accepted the invitation to support Abu Dhabi in its quest, on the condition that he would only serve in an advisory role and not assume any administrative roles (Hillen 2010; Interviews #17 and #30). He first recommended establishing a planning authority that would manage current and future planning and development proposals in the Emirate. Second, to deal with the challenges posed by massive development, he emphasized a strategic plan offered the best way forward, especially in the short term: "I didn't think that doing a master plan was the right thing to do because plans are done by consultants, and then they sit on the shelf," he said (quoted in Hillen 2010). Sheikh Mohammed listened, and believed that it was important to bring in fresh ideas and a new way of doing things. Perhaps owing to his military background, he felt strategic planning was indeed the way forward for Abu Dhabi. According to an interviewee:

I know that was a vision of Sheikh Mohammed; just the sense that a smart modern city needs to be planned and not just happen by accident. That was obviously there and it may have come from his military background, you know, like you don't just go and fight a war... you're strategic, you plan it, you wanna win, so you wanna do it right (Interview #30).

Sheikh Mohammed promised the new planning authority would have his full political backing. An informant explained that, although the government had encouraged the propagation of development companies, it was agreed that growth should not continue without a planning entity to direct and clarify the city's development. Because the municipal town planning department lacked the power to do this, a new institution with the knowledge and strength to ensure proper planning and execution was needed (Interview #27).

While the details of this new entity were being ironed out, the agents of Sheikh Mohammed who worked for Mubadala and the EAA worked closely with Larry Beasley to assemble the team that would be responsible for guiding Abu Dhabi's growth. According to an informant, Khaldoon Mubarak was the main person for this job: "...[W]e had Oussama Khoureibi and John Thomas and Mubadala... contracting everybody making sure that ultimately Khaldoon is the filter, before it got to the Crown Prince and the Executive Council...." (Interview #17) Ultimately, the informant

explained, Mubadala was the contracting entity for the first wave of people who came from Canada, Australia, England, and the United States.

The team, once formed, began work as the Urban Planning Unit of the EAA. In September 2007, the unit was sectioned off to become an independent body with the power and authority to develop regulations and policies, review project plans, and guide and monitor the implementation of all plans. Named the Abu Dhabi Urban Planning Council (UPC), its mandate was “to ensure the development of professionally designed and well-managed urban environments throughout the emirate, complete with world-class transport and infrastructure systems, supported by measured economic growth” (Abu Dhabi Council for Economic Development and Abu Dhabi Urban Planning Council 2010).

Larry Beasley and his colleague Ray Spaxman, who served as Vancouver’s planning director from 1973-1989, did the necessary research on the best structure for the UPC as well as what it should be called. An interviewee explains, “In October 2007, we were only about 14 employees... [we were] working under a short paper that Larry wrote with somebody else from Vancouver about how to structure the UPC, how to organize the UPC” (Interview #17). The government provided a loose mandate for the council, specifying little more than that it was in charge of regional planning. The council was given a great deal of leeway in deciding what to control. The UPC decided to focus on planning but left itself the option of becoming involved in implementation. Its model included development review, policy, infrastructure, and corporate services. The council would employ a mix of centralized and decentralized functions to carry out its mission.

...[W]e had our geographic approach in different areas and we had some urban designers on our team but there was still an urban design studio that centralized a lot of those functions, same with the transport group and infrastructure, they were centralized but we still had some focus on other teams that had some expertise in them. So out there, there are two models you can go and see, the centralized or the decentralized and we were a bit of a hybrid of that. (Interview #27)

The council was eventually formalized to include three main departments: Corporate (which includes Procurement, Human Resources, Finance, Communications and Marketing, and I.T.), Development Review, and Planning and Policy (which includes TIES, or transport, infrastructure, environment, and spatial systems, and has its operations divided among three regions: Capital Abu Dhabi, Western region or Al Gharbia, and Al Ain). Larry Beasley put forward some recommendations for staff members, the majority of whom he had worked closely with in Vancouver. By late 2008, the Council grew to include about 30 people: five Emirati planners, eight Vancouverite planners (apart from Larry Beasley and his team), 13 mixed nationality planners (from Australia, United Kingdom and United States) and senior and administrative staff

(Interview #9). Around the office, the Vancouverites became known as the “Vancouver Planning Mafia.”¹¹³

The UPC initially faced several challenges. First, the importation of a predominantly Western planning culture was not straightforward. This was particularly due to the political context in Abu Dhabi, but also owed to the many different nationalities working at the UPC, and the interplay of different planning styles and language barriers as a result. An informant claimed: “...[T]he larger problem is, when you’re dealing with different nationalities who speak different types of English, and you’re speaking a very professional language, you can’t get ten planners in a room to agree on the definition of a master plan” (Interview #9). Another informant described the planning culture in the UPC, which included people from Australia, England, and North America. This affected urban planning in the emirate: “...[Y]ou use these best practices from your knowledge of what has worked in your own jurisdiction, but there is a big caveat, and that caveat is the politics and the style of governance is very different in Abu Dhabi than it is in North America” (Interview #11). Decision-making was a particular challenge:

[North Americans] are much more expedient, and there is a lot less of vetting of the decision-making process with stakeholders, so there are benefits and disadvantages to that, in terms of expediency and time, decisions are made very quickly....[M]y immediate realization was the kind of North American decision-making and planning model didn’t apply here, we had to take a very customized approach to respond to the expectations that were placed on us (Interview #16).

The UPC also faced a tremendous amount of pressure to perform when it was launched:

[A]t the beginning when we were forming this whole idea of a new governance body, we didn’t have the luxury of human resources, so at the beginning we were challenged by the very announcement and the launch of the UPC where it went public that we were creating this entity called the UPC and that all the new strategies and development would be reviewed through the UPC and then we would be responsible for the long term strategic planning of not only Abu Dhabi but of the entire Emirate (Interview #27).

The informant felt the limited resources required the council to think strategically, always keeping in mind expediency and best practices and not letting the UPC get in the way of development. In planning they had to remember Abu Dhabi’s unique political decision-making framework.

Additionally, the informant identified another important challenge faced by the UPC in its infancy: the lack of human resources or skilled planners in Abu Dhabi. Many who later came to work for the UPC were either poached from international planning

¹¹³ Members of the “Vancouver planning mafia” included Michael White, who was second in command for Vancouver’s EcoCity Initiative; Jody Andrews, former Deputy City Manager at Vancouver’s City Hall; John Madden, who was the lead project planner for the Southeast False Creek project that housed the 2010 Winter Olympic Athletes’ Village; and Joanne Proft, who was Senior Planning Manager at Translink, Metro Vancouver’s regional transportation authority, among others. To read more about the influence of Vancouver in Abu Dhabi, see Bani Hashim, Alamira Reem Alayedrous (2011). “Vancouverism in Abu Dhabi: Recreating an Urban Utopia” in *Traditional Dwellings and Settlements Review Working Paper Series* v.232: p.79-97.

consultancies or property developers in the emirate (some of whom came to the UPC to present projects on behalf of their employers in hopes of gaining the UPC's approval, only to be snatched up and employed by the UPC) or they were fresh graduates of civil engineering (and on rare occasions, architecture) from local universities.¹¹⁴ According to an interviewee:

We have a lot of civil engineers come in and you really have to start from scratch because they want to come at it from an engineering point of view, and that's not how you do planning at all. You're trying to come back from that as quickly as possible, because I think Abu Dhabi's problem in the past was that it was engineered in terms of its layout, even down to the buildings, it's very rigid in its structure...I mean, we do have a shortage. We have a shortage in trained planners and we do have a severe shortage of trained local planners, which is a big issue (Interview #9).

In addition to the lack of local human resources, international experts were often hired to work on several UPC projects simply because of the speed at which the completion of these projects was expected. Companies like ARUP, AECOM, Portland-based OTAK, Foster+Partners, and KEO International Consultants, among others, responded to RFPs sent out by the UPC and engaged with the planning authority on a myriad of policy formulation and master plan development projects. The UPC interacts with consultants in two ways: as the authority that approves master plans drawn up by the consultants, or as a consultant's client hired to formulate policies or master plans.¹¹⁵

Fragmentation or overlap of planning roles among the different agencies tasked with planning in the emirate forms the issue most commonly cited by informants. Under Sheikh Zayed, the Abu Dhabi Municipality Town Planning Department (ADMTPD) handled most planning, with the PWD undertaking some road and infrastructure planning. In contrast, during Sheikh Khalifa's reign, a number of institutional bodies are influential in the planning process: the Abu Dhabi Urban Planning Council (UPC), Abu Dhabi Municipality (ADM), Department of Transport (DoT), Department of Municipal Affairs (DMA) and Regulation and Supervision Bureau (RSB), Musanada, and Environment Agency Abu Dhabi (EAD). Informants pointed out that in the beginning, friction mainly existed between UPC, ADM and DoT (Interview #32 and #37). This was attributed to a lack of clearly defined roles and in most cases no defined boundaries, which led to frustrations and difficulty:

I think it boils down to roles and responsibilities. They were never really clearly defined, so there were a lot of contested areas and it was kind of politically undesir[able] to draw those clear boundaries. A lot of times those boundaries were drawn by people who haven't worked in these kinds of systems... (Interview #18)

¹¹⁴ For example, one of the foreign consultancies from which employees were poached is Sasaki Associates, a multi-disciplinary design team based in Watertown, Massachusetts. It had representatives from its office working side-by-side with planners at the UPC and eventually they were absorbed into the UPC.

¹¹⁵ Developers use consultants to receive approvals from UPC. Developers have to abide by the regulations that the UPC sets for different areas, developments, and zoning. Developers also use consultants to perform such tasks as environmental impact assessments and other reports that they are licensed to do.

The systematic step-by-step planning eroded ADM's responsibilities, which DoT then claimed. For example, DoT originally assumed control of highways, later adding transit to its portfolio of responsibilities. Because transit and land use must be planned in tandem, DoT also took transportation planning from ADM. Roads then became an issue of contention, and there was more disagreement about agency control. Sheikh Zayed had been the one to control ADM during his tenure with the help of approximately 40,000 employees, according to an interviewee (Interviewee #25). The DoT was the first to take away some of those responsibilities, followed by the UPC, which took on some of the town planning.

Additionally, problems of redundancy arose from the lack of clearly defined roles and responsibilities. Institutional relationships were also at issue. The three municipalities, Al Gharbia, Al Ain, and Abu Dhabi, each had town planning sectors. The UPC's law of establishment defined the council's role as having complete control over planning and planning processes; it also gave the UPC the right to delegate its responsibilities to the municipalities. Every part of the planning process, the informant continued, encompasses a lot of work, work processes, and institutional capabilities because of the planning processes' breadth and strategic framework (Interview #25). The seeming redundancy between the Abu Dhabi Municipality and the UPC was a result of the planning process and created disagreement between the two groups that should have been moderated by a third party. The interviewee felt that a two-tier planning system with clearly defined roles would have solved these differences. According to an informant, Sheikh Hazza solved these problems when he stepped in as Vice Chairman of the Executive Council (Interview #22).

Understandably, Abu Dhabi Inc. suffered startup pains. The idea of cooperation and collaboration towards a unified vision, however, provided a new platform on which Abu Dhabi's urban planning process would be based. Thus, the creation of the UPC, DMA, and several new entities with stakes in the city's development, after some initial smoothing things out between them, has put Abu Dhabi on its envisioned course.

2 *Development Review, Approvals, Permits*

Between 2007 and 2010, Abu Dhabi attempted to streamline the process of development review and approvals. For the UPC, finding the best possible way to review projects was not easy at first. Explains an informant: "It was really starting a planning organization from scratch, so we had no process..." (Interview #17). In addition to creating the plans, the council was also responsible for the administrative and governance work: processes, memoranda of understanding, determining who was to approve the various roles and responsibilities, and committee formation. The need to make these determinations occurred during a time of rapid development, which put a strain on the UPC. Facilitating development with a view to avoiding future problems was the UPC's challenge. With an enormous number of projects passing through the UPC, the council struggled to review them and keep development moving without creating a backlog.

...[T]here were nine major government developers that were proposing communities of 350,000 people. So the quality of the submissions really varied, but by and large they were so used to just presenting a couple pieces of paper to the leadership. It's always looking at the buildings and what they look like from the sky, from a bird's eye point of view (Interview #18).

Before the UPC was established, no real approval or development review process existed; an approval might come in the form of a nod from Sheikh Mohammed for projects he thought worthwhile. An informant highlighted the necessity of a new approach: "In theory, the Crown Prince shouldn't really play a role in planning anymore because he handed that role over to the UPC. He's too busy....That's why rulers or mayors delegate to an agency that can think comprehensively about things" (Interview #30). By establishing a Development Review division to oversee all development proposals in the emirate, the UPC brought in a different, more rigorous approach to the approval process. The new process was not well received by developers, however, and moving to the principles of Plan Abu Dhabi 2030 initially caused great resistance. According to an informant:

At the start, it was very much based on the developer. The developer was always working for a sheikh and the sheikh always had his communications and ties with Sheikh Mohammed. So he would always go to Sheikh Mohammed, present a model, and Sheikh Mohammed would look at the model, ask him some questions and essentially give the nod making the project approved (Interview #16).

Eventually, the UPC drew a line: "if you had approvals pre-[Plan Abu Dhabi] 2030 document, then you were allowed to continue with them. ... It wouldn't really be fair to them if they had approval and started construction, then we'd say this isn't a good idea and you'd lose all that investment and time" (Interview #22).

The new approval process included myriad questions for developers, such as handling road connectivity, site cohesion and integration with its surrounding community, and how people would access the site. Developers would often balk at being asked these questions, and the UPC would give their reasons, explaining that this was the process around the world. To this, the developers would respond that the process was different in Abu Dhabi. Thus, gaining respect as an authority with the power to approve and reject projects was difficult. An informant commented:

We were a new organization, so some people would come in through the door and be like "I don't have to talk to you, I have approval from the sheikh or this organization." So, it took a while for people to realize that the UPC is actually a government entity and that they need approvals from us (Interview #9).

It took some time for people to understand the UPC's philosophy and goals. The tension between UPC and ADM, as previously described, was evident in the introduction of the new review process as well. In the past, after receiving approval at the detailed stage, the developer moves on to the ADM for building permits. Initially

projects with less than 75,000 square meters (equivalent to 807,293.1 square feet) gross floor area (GFA) were sent to the ADM for approval. This threshold was subsequently lowered to 40,000 square meters (equivalent to 430,556.4 square feet); the UPC would review projects of 40,000 square meters or higher. Later, when the process matured, the UPC assumed responsibility for regulating and conducting development review, while ADM would deal with minor development review (independent villas or projects with fewer than ten buildings), issuance of permits, and application processing. However, the issue of how far into implementation the UPC ought to go still remained: “Basically it’s a turf war, it’s what results because there are in many ways overlapping and conflicting mandates.” (Interview #5). While the council began with a regional focus, the municipalities had a plot-specific level focus. In time, however, the UPC started also looking at the plot-specific level, increasing the tension between the organizations. This tension has been solved to some degree by government mediation. The government has reinforced the notion that the UPC controls planning in the emirate and that the municipalities work more at the processing level; for example, compliance, applications, minor development review, and conformance with Estidama. In other words, creating plans and policies were under the UPC’s purview; assessing development applications and regulating public works (including public parks, public spaces and public infrastructure) were the municipalities’ roles, a division of roles that required a great deal of reconciliation to maintain.

In 2013, the Development Review Stream (DRS) further simplified the submission process by reducing the number of review streams from three to two (Master Plan and Projects), regardless of the gross floor area of the project. Thus projects of any size are reviewed by the UPC before going to the ADM for its building permits. A development will be subject to the Master Plan review stream if the development includes separate buildings and provides a road network and if the Community Facility Standards are applicable. Alternatively, a development is subject to Project Review if it includes a single building or multiple buildings with a connected podium, provides no road network, and if the Community Facility Standards are not applicable. These criteria enable the application process to specifically target types of development, which ensures that UPC’s Development Review Team is able to value add to the project in the most effective manner possible (Abu Dhabi Urban Planning Council 2013). The DRS also halved the number of review stages from four (Enquiry, Pre-Concept Stage, Concept Planning Review and Detailed Planning) to two (Concept and Detailed). The restructured process enables developers to more concisely fulfill submission requirements, coordinates governmental agencies’ inputs on behalf of developers, and ensures all required infrastructure and community facilities are provided as development progresses. An informant explains the development review process:

In development review, we review all the private developers’ submissions for development. So whether it’s a single plot or whether it’s a master plan or a huge area, and it can be a small master plan and a large one as well, they submit the plans to us at the inquiry stage, then concept, and then we go to detailed (Interview #18).

DRS also works in harmony with many of the UPC's initiatives such as Estidama, the Public Realm Design Manual, and the Middle Income Rental Housing Strategy. It is intended to ensure that all the urban development regulations, manuals, and guidelines work together to create Complete Sustainable Communities (CSC) to meet the needs of residents now, without negatively impacting the lives and available resources of future generations (Abu Dhabi Urban Planning Council 2013).

In 2010, the UPC launched eDR, an electronic application, review, and tracking system for developments that require UPC review. Applicants use eDR to submit materials for review, receive feedback and decisions, and track the status of applications under review. The UPC uses eDR to more efficiently manage internal review by several departments, and to ensure applicants follow a more standard, consistent review process. Other government agencies required to comment on plans submitted to UPC for review now receive those plans electronically, helping them provide feedback more quickly. An informant posits that in the past, the system was extremely bureaucratic and inefficient but bringing the process online allowed Abu Dhabi to progress:

...[I]n the past it was all about the *ijtihad* [judgment] of the engineer...[T]here was an engineer in the ADM ... he was *al aamer al nahi* [the sole decision maker], he used to decide on everything. ... So procedures took forever, like building licenses took forever, like maybe three months to get, you had to go see this guy and he would be on vacation then you'd have to go see another engineer and he was the wrong one so you'd have to reapply and from one to another it goes from the architect to the structural engineer to the services department, to [the] civil department, a procedure that was just too complex. Now the procedure is better because it's all online. There's control on the engineers, he knows he's monitored and if he doesn't finish this...[by a] certain time, he gets penalized. Abu Dhabi progressed (Interview #34).

Organizing the development review process online with multiple opportunities for feedback from different stakeholders is a testament to the government's efforts to create a more effective and accountable form of governance.

In order for ADM to issue a building permit, developers must have obtained Non-Objection Certificates (NOCs) from several entities as relevant to the project. This is not to be confused with Notice of Intent Certificates (NOIs), which used to be required for the inquiry phase of the development review process. An informant explains, "NOIs were used for the data collection stage, where we have to inform all parties about the project location and scope of works, requesting all to provide data about any existing facilities or utilities within the project area that may have impact on the design works" (Interview #). Technical reviews for infrastructure, transportation, and environmental and other issues involve up to 20 government agencies. These include ADWEA (water and electricity), ADSSC (sewerage), Telecommunications Regulatory Authority, Abu Dhabi Gas Industries Ltd. or GASCO (for operating gas lines), DoT (roads), EAD (environment), and Center for Waste Management, among others (see Appendix C for the full list).

When asked about who controls architectural style, an informant clarified that the Heritage Committee – which was set up in the ADMTPD in the 1980s and required buildings to have an Arab-Islamic style – no longer existed: “There is no longer constraints as such...the UPC is more or less concerned with how are you implementing the regulations rather than how the project looks” (Interview #4). This is surprising, given that one of the overarching principles formulated to guide Plan Abu Dhabi 2030 explicitly states that “Abu Dhabi will be a contemporary expression of an Arab city” and one of its objectives is to “ensure that Emirati culture and local heritage is protected, enhanced and celebrated through traditional living patterns, sustainable, high-quality Emirati architecture and appropriate religious amenities” (Abu Dhabi Urban Planning Council 2007c). To realize this vision, an architectural guide should be developed and implemented.

While the development review and licensing process has been effectively streamlined, and while there is now a general understanding among developers of how to go about gaining approvals, the system still faces some challenges. This is especially the case when dealing with projects that government leadership has designated as high priority. Typically, this curtails the influence of the UPC as older ad hoc practices reassert themselves (Abdo and Batzel 2011; Ponzini 2011). An informant elaborates:

We [the UPC] started off with a lot of oomph and a lot of power. Sheikh Mohammed empowered us and we felt it. We felt that we had the power to basically stop these developers in their tracks and say no, you’re going to make a submission based on requirements a, b, c, d, whatever and you’re going to do it according to our rules. As time went by, I felt that we were slipping into what was there beforehand. I felt we were slipping into a very tribal way, and I mean that with all due respect (Interview #17).

By a “tribal way,” the informant is referring to the past method of sheikhs and other leaders being in charge of development. Superficially, the rules were still observed, but the attempt to fit Western methods into a tribal atmosphere was a challenge. Another interviewee states, “I think it’s *wasta* [clout]. ...It is happening less and less now” (Interview #24). Despite relapses, developers and leaders have come to respect the new system as they have witnessed the improvement over time. Informants confirm that Sheikh Mohammed has played a large role in this newfound respect by asserting the new policies over tribal loyalties.

It is likely that the new system is working well for the majority of projects but will be unable to control certain projects with high levels of political support. Of course, this is the reality of development in many other jurisdictions as well (Abdo and Batzel 2011).

3 *Planning Policies and Regulations*

In order to have more leverage with developers, the development review process required a document that was more binding than Plan Abu Dhabi 2030. The planning and building regulations issued by the ADM had not been updated since 1994 and were

therefore unprepared to deal with the wave of new development being proposed across the city. This was problematic especially because the ADM “rubber-stamped everything the developers handed them” (Dempsey 2014), and without a zoning code to enforce development regulations for a particular zone or district, some inconsistencies in plots as well as some “strange developments” had resulted (Zendera 2013). An informant reports, “Development has been very haphazard in the past, with a few decrees written on pieces of paper that become how the Municipality decides the height and the density or whatever in certain areas of the city” (Interview #5). The author, while conducting research into existing planning laws and regulations, observed the same: Apart from the aforementioned “primitive” Building Regulations (refer to section 5.2), everything was largely regulated based on pieces of paper with tables showing permitted heights within the city, on some decrees allowing the use and heights in specific areas, and on faxed or handwritten notes documenting allowable construction, which were all in Arabic. According to an interviewee, building regulations were not written down for several years. When ADM got around to recording some of the building regulations, they did so in Arabic (refer to section 5.2). This presented a problem for Western consultancies, whose attempts at having the regulations translated into English were ineffective, as the translations were generally inaccurate (Interview #16).

Complicating matters further is the number of different bodies awarding development rights, which made the creation of a zoning code critical. According to an informant: “The problem is that you have people from all over the place giving you development rights. There should be one place that should give you development rights and that should be in a zoning code” (Interview #11). Conflicts were created because the transfer of development rights transfer may have originated from the *Diwan*, the ADM, or the UPC. The regulating organization assigns the land use for a project, which goes into the affection plan – a legally binding document – and provides development rights. An informant expresses doubts about how well these assignments are made:

...because unless they're urban planners and part of an organization, they'll say I'm giving Talal a parcel here for a hotel. Well, why are you making that decision? Have they looked at the parcel size? Have they done the transportation report? All that stuff, so one of the big issues is that you have all these various bodies out there who in theory are making an unplanned decision (Interview #8).

The UPC could not prohibit these poorly made decisions because they were already on the affection plan, or title deed. The informant explains how they overcame this problem:

Basically what we had to do was take the ADM building regulations, take as much information that's out there and try to put it into one document. The ADM stuff is easier than...all the different decrees that are out there...that make this development code vexing to implement so that's why we want to go back the most basic thing... it overrides all the other regulations out there (Interview #17).

The need for a zoning bylaw was also due to the fact that Plan Abu Dhabi 2030, which presented the Abu Dhabi Urban Planning Vision 2030, was a guideline document and not legislation:

What we do need is something more structured because at the moment all we have is Plan [Abu Dhabi] 2030 and to a great degree [it] has been ignored by developers....[I]f we can get the Code to sit comfortably with Plan [Abu Dhabi] 2030 that will help us do our jobs on a daily basis because developers will know what they can and can't do and there will be less of this trying to pushing their plans through using their *wasta*. It will be more aligned with what's written prescriptively and will all become clearer (Interview #9).

Another informant reinforces this sentiment:

Let's not forget that plan [Abu Dhabi] 2030 was only ever a guideline document; it was never like a document that was a mandate. It never had any recommendations or strict policies. It was never policies that were passed by the Executive Council; it was only an instrument to get to what we wanted (Interview #22).

It was critical to establish planning guidelines attached to authority. The UPC therefore took it upon itself to create a binding document in the form of a zoning code.

Worried that this old system was inadequate to guide the kind of development taking place under the new property law and under the guidance of the Abu Dhabi Urban Planning Vision 2030, the policy team at the UPC attempted to work with the outdated documents to produce a zoning bylaw. The team took into account the old regulations, current best practices, the cultural context, and the new priority of sustainability.

Developed with the help of OTAK, the document – whose name changed from Framework Development Regulations (FDR) to D-Map to Abu Dhabi Development Code – went through a rigorous internal process of consultation and revision over several years. The process unfolded in part as a response to several challenges. According to some informants (Interviews #8, 21 and 27), the code was complicated, resembling a typical North American zoning bylaw (“the code was written by code writers who've written codes for the Northwest in the U.S.” [Interview #21]). One informant said:

So we've been working on a development code for five years for Abu Dhabi city and we have learned from that quite a lot. That's one of the things we've had to change. We started with a very complicated typical North American zoning bylaw, with all these, you know, New York, Toronto, or wherever, a Euclidean system (Interview #8).

They attempted to train municipality staff to use this complicated code, only to find it infeasible:

...[S]o we've realized and voluntarily scaled it back so it's understandable not just for people who have to review applications but for the owners of pieces of land. In fact it's scaled back to the bare essentials, we now have a development code that's 60 pages long and before it was 300. (Interview #27)

Trying to introduce a new way of doing things in a place where people were comfortable with the status quo, or have an understanding of planning that is very different from its practice in other parts of the world, made immediate acceptance or approval of the code difficult. As a result, the code was shelved for some time. This could ultimately be chalked up to politics and power. An informant adds:

I think they had a lot of backlash from developers. So the code would have been even more so, because there are new regulations affecting every single property. In Canada or the US, it's at least a two-year public process to go through all the re-zoning, mediations, the new regulations, and lawsuits, and it gets very legal because your losing is tied to economic value... I think they got nervous about putting out a code that was going to have so much repercussions on landowners and so they still haven't disclosed any code (Interview #16).

In 2010, DMA released a building code based on the International Building Code, which is a globally recognized standard. It is a complete set of comprehensive building safety and fire prevention codes, and regulates the physical construction elements of structures such as plumbing and wiring. The Development Code and the Building Code are intended to complement each other. In addition, several supporting initiatives were also developed, including the Urban Street Design Manual (USDm), Public Realm Design Manual (PRDM), Community Facility Planning Standards, Mosque Development Regulations, Middle Income Rental Housing Policy (Affordable Housing Strategy), Coastal Development Guidelines, and Utility Corridors Design Manual. The UPC Development Review team consults these manuals and standards when evaluating project submissions.

By 2013, drafting of the Development Code was on its third iteration. The draft was reproduced online so the public would have access to it once released; from their computers, interested individuals could identify their plot of land, and with one click, find out the uses the zoning code allowed with that plot. An employee at the UPC is quoted saying: "No more having to hire consultants and figure out all those things. It's taken quite a while to get what we think will work effectively and not cause too much disruption to the development community or the real estate market" (quoted in Zendera 2013). The code, which would regulate land use and development of both public and private land, would also manage development into logical patterns, clarifying the form and function of structures across the emirate. It was designed to promote the application of "smart growth" principles in all future land use decisions, and included provisions to foster development that is "sustainable, responsible, orderly, efficient and responds to the Arabic culture and heritage of the Emirati people" (Abu Dhabi Council for Economic Development and Abu Dhabi Urban Planning Council 2010). Three key elements of the code include regulations that are non-negotiable (land

use, building height, and density); guidelines, which are flexible and subject to negotiation (street orientation, building design, shading, pedestrian areas, amenities, and access to infrastructure such as water and electricity); and a Development Code Map, which outlines the different layers or “zones.” For the latter, a property owner may find his/her plot of land on the Development Code Map, determine the base district in which the property is located, determine its heights, allowable uses, setbacks, and other restrictions based upon the Base District, submit planning permission application and building permit application to ADM for approval, and upon approval, build his/her building according to the development parameters set for the plot of land (Abu Dhabi Urban Planning Council 2011).

The Development Code has not yet been released, however, for unknown reasons. In a recent communication with the author on the topic, an informant commented that the code is a “very complicated subject,” possibly referring to the old issue of power and delineation of responsibilities (Interview #17).

4 *Estidama*

A sustainability program called Estidama was initiated as part of Abu Dhabi’s vision for sustainable urbanization. Estidama serves as the Abu Dhabian equivalent of the well-established Leadership for Energy and Environmental Design (LEED) model developed by the U.S. Green Building Council. The initiative promotes the concept of “living in harmony with the culture and environment while conserving a way of life for future generations” (Abu Dhabi Council for Economic Development and Abu Dhabi Urban Planning Council 2010). To achieve this, Estidama emphasizes the need to balance what it has identified as the four pillars of the environment, economy, society, and culture, which would be promoted and measured through a Pearl Ratings System (PRS). Working as a framework for “sustainable design, construction and operation of communities and buildings, while supporting the social and cultural traditions and values of Abu Dhabi,” the Pearl Ratings System is specifically tailored to the city’s hot climate and arid environment (*ibid.*). The system covers sun orientation, insulation, fixtures and fittings, water, high efficiency appliances, irrigation, landscaping, and much more. PRS for Estidama, though inspired by LEED, has its own unique principles. One of the ways in which it sets itself apart lies in the prioritization of environmental issues: LEED’s main priority focuses on the pressing issue of climate change, whereas PRS specifically prioritizes the issues of water and electrical power as the main sustainability criteria for the region (Al Qassimi 2010; Heid 2010). This is because potable water in Abu Dhabi is produced through desalinization via co-generation of electricity, which is energy- and carbon-intensive; therefore, Estidama is concerned significantly with ways to conserve water and reduce carbon footprint.

While Estidama has merit in concept, implementation has proven very difficult. Informants (Interviews #15 and #19) complained that it was enforced very suddenly and through a hectic process. Although the UPC and ADM offered courses to

developers and the building community,¹¹⁶ these were generally considered ineffective because the consultants hired to teach the Estidama courses were “kind of learning while teaching.” It was all a muddle. Added to that, a lack of raw materials that met the criteria for Estidama greatly delayed the process. An informant illustrates this with the example of air conditioning:

...A building, a room, in this area, the most important worry is to make it cool. So, to make it cool you need A/C. For A/C, you need power. For power, you have to burn oil. Burning oil affects the ozone. Now they want to become ozone friendly. To do that, you have to reduce the consumption of oil. To reduce the consumption of oil, you have to reduce power. To reduce your power, you have to reduce A/C usage. To reduce A/C usage you have to insulate your house. To insulate your house, you have to use special kinds of materials. That would be like special block work, special glass, special roofing, and special insulation. So, now you insulated your building; that’s not enough. The A/C also has this Freon gas; it’s not good for the environment, so they have to change their system. Instead of Freon, they’re changing to Argon, which is less damaging. Argon means that you have to change your water system, so now new A/Cs are coming (Interview #24).

Estidama was thus placed on hold while building materials suppliers became qualified, and has been gradually reintroduced as of late. Despite the initial setback, however, Estidama and PRS are making strides in helping Abu Dhabi adopt sustainable urban development. Estidama has also moved to the forefront of embodying not only a program or building rating system for Abu Dhabi, but the vision for urban governance to uphold a balanced society based on economic stability, environmental preservation, social equality and cultural development.¹¹⁷

5 *Land Allocation and Ownership*

The change in the property law in 2005 allowed the development of the real estate market in Abu Dhabi for the first time. Notably, the law permits UAE nationals to sell or purchase residential, commercial, investment, or agricultural land allotted to them and allows both UAE nationals and non-nationals the opportunity to freehold or leasehold property. It differentiates, however, between the rights of UAE nationals, nationals of the Gulf Cooperation Council (GCC) and foreign nationals: While UAE nationals are entitled to freehold ownership anywhere in the Emirate, GCC nationals and corporate bodies wholly owned by them are entitled to purchase property or land on the open market on a freehold basis, provided the land is within a designated investment area. GCC nationals may develop commercial property in Abu Dhabi outside the investment zones, on the condition that they are in partnership with a UAE national. Foreign nationals, on the other hand, only have the option to leasehold (99-

¹¹⁶ See Hunter, Gregor Stuart (2011). “Abu Dhabi’s new financial heart starts to beat” in *The National*, August 7.

¹¹⁷ In fact, in 2008, the Abu Dhabi Sustainability Group was established to encourage co-responsibility in Abu Dhabi to ensure that government entities, business and not-for-profit organizations are all partners in working towards achieving the goal of economic, environmental and social sustainability. See www.adsg.ae.

year leases) floors (commercial) and apartments in designated investment zones via the open market, but may not own the land upon which properties are built. Already built-up land may be leased through usufruct leases (99-year leases). GCC nationals and foreigners also have the right to development leases known as *mustaha* leases (50-year leases), which allow them to build undeveloped land in investment areas, although there is some gray area with regard to this. It is common knowledge that at present, GCC and foreign nationals cannot directly develop property unless within the context of a master plan development in some investment areas. Outside the investment areas, non-nationals are only able to rent apartments or houses owned by UAE nationals. There are currently nine investment zones in Abu Dhabi (see Appendix D).

Supplementary to the property law is the Registration Law, which introduces regulation with respect to registration of real estate property, including the establishment of a Land Registration Department (Registrar) in Abu Dhabi, Al Ain and the Western Region municipalities. The Registrar issues registration certificates or title deeds (also commonly known as affection plans).

With regard to land allocation for development projects in the emirate, an informant explained the extensive role of the UPC with the following example: If the utility provider Etisalat needs land, they submit an application to the UPC. The UPC would perform all the related studies and then contact the *Diwan* (the Crown Prince Court, or CPC), which would obtain the land designation by submitting a request to the Municipality. This is because the Municipality is the legal holder of the affection plans. The UPC would recommend the plot number and coordinates, and the *Diwan* would need to approve them. The *Diwan* then informs the Municipality of the approval and the Municipality is required to approve the recommendations and provide the license (Interview #20).

Along the same lines, another interviewee illustrates land acquisition: Following the death of Sheikh Zayed, the following entities were authorized to obtain land: Sheikh Khalifa, the Ruler's Court, the Crown Prince Court, and the Ministry of Presidential Affairs. A developer can submit a request for land to one of these entities, specifying the size needed. After obtaining the land, the entity can hand the rights over to the developer or, in some cases, give them a request for Sheikh land. The UPC provides a few a proposals for these entities to choose from. When the given entity has approved a proposal, it sends it to the CPC to be designated. It then sends the proposal to the Municipality to issue the affection plan, or title deed (Interview #10).

The involvement of the CPC in the process of land allocation signifies Sheikh Mohammed's influence on the emirate's development. In the past, the whole process took place within the ADM, without the need to refer to the *Diwan*:

We take it to our director, he approves it and he takes it to the chairman. Once it's approved by the chairman, that's it; we don't go to the Diwan. We approve urban planning according to the master plan. For example, if the master plan says to prepare

affection plans designating a certain area to be the residential plot for a developer...we allocate it according to the designation (Interview #37).

The establishment of the UPC changed this arrangement, placing responsibility for land allocation in the hands of the CPC and the UPC, which is considered by an interviewee as being “the technical arm” of the Crown Prince Court (Interview #18).

With regard to land allocation for housing in the emirate, the responsibility for national housing and residential (private and investment) plot allocation moved from the ADM to the Ministry of Presidential Affairs (MOPA), where the Housing and Land Allocation Committee accepts housing requests and finalizes the list of UAE nationals who are eligible based on criteria that include: date of submission, urgency of need and number of family members. The Lands and Houses Distribution Committee in the CPC (set up by Sheikh Mohammed in 2009) is responsible for allocating the plots of land and properties.¹¹⁸ There is no specific land allocation for non-national housing, other than the designated investment zones. As for workers’ camps, land is allocated by the government in Khalifa Industrial Zones Abu Dhabi (KIZAD) along the way to Dubai as well as Industrial City Abu Dhabi (ICAD) to the south of Mussaffah, and these are developed by Zonescorp. Generally, these permanent camps are linked to the industrial and service sector; no land is allocated for temporary labor camps linked to construction, as these tend to be put up near construction sites and are expected to close down once a project is completed.

For national housing and residential plots, an informant further explains the process:

For the housing, they will ask us or send a request to the UPC saying to prepare them with an urban planning proposal for 2,000, let’s say, houses for [nationals] and the lands should be 120 by 120 or whatever. We decide where this location will be according to the availability of land and where it is, and then we give them the proposal (Interview #22).

The Land Distribution Committee for locals, which is headed by the director of the *Diwan*, is responsible for distribution. The UPC’s sole responsibility within the distribution arena is planning. UPC comes up with a proposal and sends it to the committee. This committee was formerly within the Municipality, and the director of land section remains part of the committee within the Municipality. Because the Municipality has the authority for issuing affection plans, it must work with the Land Distribution Committee.

The Lands and Houses Distribution Committee is also in charge of proposing the necessary legislation to regulate the distribution of the land and the houses, and studying issues related to housing as well as following up the implementation of housing programs. Finally, ADM issues property deeds or affection plans and is also the

¹¹⁸ At the same time this committee was established, the Abu Dhabi Center for Housing and Development of Utility Services (chaired by the UPC’s Director-General Falah Alahbabi) was formed. Its role was to improve the standards of implementation of projects and to collaborate with the private sector on implementation and construction. This entity has since shut down.

entity designated to distribute house keys to nationals upon handover of completed housing projects.

In late 2012, the Abu Dhabi Housing Authority (ADHA) was established under the chairmanship of Sheikh Hazza bin Zayed. The Director-General of the CPC, Jaber Ghanim Al Suwaidi, was assigned deputy chairman of the authority (Al Suwaidi is also chairman of the Land and Houses Distribution Committee at CPC). The Authority's mission is to put in place presidential instructions on housing programs and identify the requirements needed to implement them. It also prepares the logistical support for infrastructure requirements and engineering services, develops housing programs, and identifies the rules and regulations of each housing program. Finally, it oversees the execution of these programs as well as encourages the private sector to invest in the fields of housing.¹¹⁹ Although ADHA receives, reviews and makes decision on housing applications, the Ministry of Presidential Affairs and CPC also continue to receive applications; however, the responsibilities of the Housing and Land Allocation Committee in MOPA were transferred to ADHA and the committee subsequently dissolved. The creation of the Housing Authority signifies the rising priority of national housing in the Emirate's domestic policy agenda.

It is important to note that there is a level of confidentiality to be maintained with regard to land allocation and ownership. An informant clarifies that generally, information about who owns what is not available to the public, chiefly because it includes land owned by Sheikhs (Interview #10). Even within the UPC, only a few employees have access to this information.

6.3 Plan Abu Dhabi 2030: The Smooth-Flowing Human Eco-City

Vancouverism in Abu Dhabi: Larry Beasley and Plan Abu Dhabi 2030

Though it served well as a reference for development, the Atkins Plan outlived its usefulness before its targeted horizon of 2010 (see Chapter Five). In 2002, concerned that there was no updated plan to guide the growth of the city for the remaining eight years, the ADMTPD put together a report to the Executive Council proposing the creation of a new plan. This was largely due to the fact that the land that was the focus of the Atkins scheme was largely saturated, and the ADMTPD "got a lot of applications for new houses and new services, so where to develop them? ...By all means we need land and we can't just go onto the land haphazardly without having a plan, so we asked for a new plan," explained an informant (Interview #37). No sooner had they received the budget to invite experts to assist in creating a new plan, than Sheikh Zayed passed away and land speculation was permitted – changing the course of planning the Emirate. An interviewee recalled:

¹¹⁹ Additionally, the authority has a central database containing housing and loan applications, which it receives, reviews and takes appropriate decisions on. This helps streamline the housing application and allocation process.

The [Atkins Plan] was supposed to cover 20 years but by the year 2002 we have completed all the proposals and recommendations of that plan. ... In 12 years' time we completed everything. What to do now? We decided that we had to come up with a new plan, because we had basically no plan for another eight years (Interview #20).

The ADMTPD asked the Executive Council for a new plan. The council, in response, allotted AED 15 million (equivalent to about USD 4,083,688) to develop the new plan, with the intention of inviting new international bureaus in urban planning to help in its formulation. Sheikh Zayed passed away in 2004, before they had the money in hand and had prepared the terms of reference to invite the new consultants. Soon after, Mubadala offered to set the shortlist of international bureaus being considered to participate in developing the new plan. This way, city development remained under the watchful eye of the Crown Prince. In 2006, when the Executive Affairs Authority (EAA) was formed, it was determined that the EAA would lead the new plan development project.

With Mubadala and the Executive Affairs Authority spearheading the efforts towards the creation of a new plan for Abu Dhabi, the search for best practices of urban planning around the world was initiated. Just as the Abu Dhabi government was looking to establish benchmarks for best governance, so did the EAA hope to set benchmarks for livability and sustainability. Identifying Vancouver, Canada as the prime example upon which to model Abu Dhabi's future development, the EAA solicited Larry Beasley, Vancouver's former planning co-director, to assist them in the task of creating a new master or comprehensive plan.

Accepting the role of Special Advisor to the Crown Prince of Abu Dhabi (the advisory role he had sought as opposed to being named director of planning), Beasley quickly learned that the Abu Dhabi authorities wished for the city to develop in a more refined, graceful and orderly approach than its neighbor Dubai, and that they hoped the new master plan would protect the city from some of the speculative development taking place (Macdonald 2007; Bula 2008; George-Gosh 2008; Hutchinson 2009; Bani Hashim 2011). Beasley suggested that in order to act quickly, it would be better to generate a strategic framework plan that conceptualized the vision for Abu Dhabi, which in the long term would serve to inform the city's comprehensive plan. Recognizing that significant time would be required to complete a comprehensive plan for the city, the EAA agreed that the Urban Structure Framework Plan (Plan Abu Dhabi 2030) ought to be developed.

1 *Drawing up Plan Abu Dhabi 2030*

Together with Beasley & Associates Planning, a project team was commissioned by the EAA to develop Plan Abu Dhabi 2030, which included Busby Perkins + Will Architects and Civitas Urban Design and Planning. Both Busby Perkins + Will and Civitas hailed from Vancouver and had worked closely with Beasley beforehand. An informant noted: "At the time when we started thinking about putting a master plan for Abu Dhabi metropolitan, we looked around the world to get someone to support the

team technically and who will deliver a world-class city. And Larry came on the top of the list” (Interview #22). Beasley came onboard, and the EAA started working closely with him and his team.

For the first time, however, drawing up the plan for Abu Dhabi would not be the task of foreign consultants alone. Instead, Beasley introduced the planning charrette as a method for public involvement, to solicit community input, educate interested parties about design alternatives, create feedback loops, and generate the necessary information to produce the plan (Farr 2008). His aim was to bring the local leadership, decision makers, stakeholders and the public together with top international urbanists to come up with the plan in a short amount of time. According to an informant:

We introduced the charrette approach to this Emirate. Before this, it did not exist anywhere in the government, anywhere at all. It was a very much professionalized thing. And we introduced the approach, ... for several very simple reasons. One was – let me draw this – if you look at a typical planning agenda, you get an approval to do a project then down at the end you do a plan and what you do is you do your research and you do a lot of that, and then you develop options and you do a lot of that, then you start to choose, then you get down and you start hypothesizing, then you do a lot of research and a year and a half later you come up with something you want to publish which is your policy and your plan. Well, when I arrived, which was in late 2006, people were telling me that while I’m up here doing all this, all the decisions are gonna be made. Because things are moving so incredibly fast, so what I had to do was I had to find a way to get at that really fast, [*pointing on drawing*] so what I said was well, if I start here, and I get the smartest people all together up front, and I don’t do all the research, I just depend upon people’s natural knowledge and natural wisdom, that I could get a hypothesis in month 3 or 4 rather than in month 18 or 20...(Interview #30).

The reason for bringing in international experts is, according to the informant, the existence of a knowledge gap. The powerbrokers, he says, did not know what was best for Abu Dhabi because they were not yet sufficiently familiar with urban planning. Thus, it was decided to mix the powerbrokers with the smartest urbanists in the world in intensive exchange sessions.

The panel of high-quality urbanists invited to Abu Dhabi included David Fields and Jeffrey Tumlin of Nelson/Nygaard Consulting Associates (transportation, parking, transit-oriented development, smart growth, infill), Allan Jacobs (streets), Elizabeth Macdonald (architecture, urban design, public realm, boulevards), Jim Heid (real estate, sustainability, Urban Green), Huub Juurlink (urban and landscape design, public spaces), and Robert France (environment), among others.¹²⁰ Beasley made it a point to

¹²⁰ The full list of experts includes: John A. Buck (real estate), David Camp (economic research associates), Herbert Dreiseitl (water, architecture and art), David Fields (Nelson/Nygaard-transportation, parking, TODs), Michael Flanigan (real estate development in Vancouver), Jackie Forbes-Roberts (community services in Vancouver), Robert France (environment), Jim Heid (real estate developer, sustainability, Urban Green), Joe Hruda (Civitas Urban Design and Planning, and principal of Civitas Architecture-sustainable community and mixed use projects), Allan Jacobs (streets), Huub Juurlink (urban and landscape design, public spaces), Lon La Claire (transportation Vancouver), Elizabeth Macdonald (architecture, urban design, public realm, boulevards), Paul Murphy (ARUP- infrastructure, civil engineering projects), Jaakko van’t Spijker (architecture + mass culture), Jeffrey Tumlin (Nelson/Nygaard-smart growth, infill, TODs).

especially include urban designers because “my philosophy is that we have to get back to designing cities,” he says (Beasley 2010).

The charrettes took place in two sessions, each four days long (additionally, supplementary presentations were made to Sheikh Mohammed and the Executive Council outside of the timeframe of the charrettes). Apart from the experts and project team of foreign consultants, the charrettes mainly involved the Crown Prince, almost all the members of the Executive Council (who represented different government agencies), several representatives of the municipalities, a member of the Federal National Council (and the only female), a few members of the EAA, some members of Mubadala, and one of Abu Dhabi’s previous town planners, Abdelrahman Makhlof.¹²¹ To the participants’ disappointment, no one from the community attended the charrettes. Elizabeth Macdonald, one of the experts, says she and the other international experts felt uncomfortable with the narrow range of stakeholders. The reason for such limited participation could be that the idea of public participation in decision-making was very new to Abu Dhabi, so not many people were encouraged to attend. Also, an informant guesses that perhaps not many people knew about it since there was no major public announcement (Interview #23), while another remarks that since the charrettes occurred during working hours, perhaps there was no justification for leaving work to attend a workshop such as this (Interview #14).

The overarching ideas guiding the charrettes that then translated into the urban planning vision for Abu Dhabi are (Abu Dhabi Urban Planning Council 2007a):

- Retain human-scaled character while simultaneously securing status as an international capital and destination;
- Develop as a structured city with opportunities for future organized growth;
- Remain a livable city by reducing traffic congestion, using appropriate densities, maximizing pedestrian thoroughfares and openness;
- Provide world-class developments and facilities to ensure a competitive advantage well into the 21st century;
- Develop in an environmentally-responsible manner showcasing best practices in sustainable development;

¹²¹ Specifically, the local participants included: H.H. Sheikh Mohamed Bin Zayed Al Nahyan, Crown Prince of Abu Dhabi and Chairman of Abu Dhabi Executive Council; H.H. Sheikh Hamed Bin Zayed Al Nahyan, Chairman of Crown Prince’s Court; H.H. Sheikh Tahnoon Bin Zayed; H.H. Sheikh Sultan Bin Tahnoon, Chairman of Tourism Authority; H.E. Mohamed Al Bawardi, Secretary General of Abu Dhabi Executive Council; H.E. Khaldoon Khalifa Al Mubarak, Chairman of Executive Affairs Authority; H.E. Dr. Joan Al Daher, Chairman of Municipalities and Agriculture Department; Falah M. Al Ahbabi, Associate Director, Urban Planning Affairs, Executive Affairs Authority; H.E. Dr. Amal Al Qubaisi, Member of Federal National Council; H.E. Dr. Taher Al-Kindi, Chairman of Western Region Municipal Council; H.E. Eng. Juma Al Junaibi, Undersecretary of Abu Dhabi Municipality; H.E. Ahmad Shareef, Undersecretary of Municipalities and Agriculture Department, Al Ain Municipality; H.E. Humood Humaid Al Mansouri, General Manager of Western Region Municipality; H.E. Awad Al Darmaky, Assistant Undersecretary Finance and Administration Affairs Sector for Municipalities and Agriculture Department, Al Ain Municipality; Eng. Jamal H. Al Hosani, General Director, Town Planning and Surveying Sector; Dr. Abdelrahman Makhlof; Eng. Talal Al Salmani, Deputy Director of Al Ain Town Planning and Survey, Al Ain Municipality; H.E. Nasser Ahmad Al Sowaidi, Chairman of Dept of Planning and Economy; H.E. Abdullah Rashid Khalaf Al Otaiba, Chairman of Department of Transport; H.E. Rashid Mubarak Al Hajri, Chairman of Civil Defense Department; H.E. Hamad Al Hurr Al Suwaidi, Undersecretary of Dept of Finance; H.E. Major General Saeed Obaid Al Mazroui, Chief of Abu Dhabi Police; Ossama Khoreibi, Director of Real Estate Division, Mubadala Development Company; Aaron Moguin, Analyst, Urban Planning, Abu Dhabi Executive Affairs Authority; and Hugo Blomfield, Associate, Urban Planning & Design, Mubadala Development Company.

- Incorporate New Urbanist design principles, to create a humanistic built form, public realm and general ambience;
- Foster community benefits through the private development process;
- Offer economically viable development opportunities with competitive financial returns to attract the best and most progressive real estate developers.

The influence of Vancouverism, New Urbanism, and concepts of livability and sustainable urban development are evident in these principles (see below).

During the charrettes, Sheikh Mohammed played an active role in shaping the direction of Plan Abu Dhabi 2030. He offered his input on a range of components and clarified his vision for Abu Dhabi's future growth. Specifically, he referenced Sweden for its reduced car dependency, walkable areas and the tranquility of its forests and natural spaces. He was also inspired by Marrakech and Casablanca, which had unique identities and atmospheres. Major points he stressed that guided the formation of the plan included the importance for residents to have access to the desert and the water; his desire, like his father, to increase green spaces throughout the city and integrate them within neighborhoods; his belief that the city should have a clear and unique identity that tells a resident or visitor that he or she is in Abu Dhabi; his conviction that new and existing neighborhoods should be safe and their basic unit of settlement, the *freej*, ought to be used as the building blocks of the growing city; the significance and centrality of prayer in day-to-day Abu Dhabi life; the importance of strong connectivity within both the urban and natural environments of Abu Dhabi; and finally, his vision that the city should flow, have ease of movement, and offer a variety of transport options.

The local (Emirati) representatives at the charrette supported Sheikh Mohammed's vision, adding that they hoped tradition would not be lost and emphasizing the role of the family living unit. They posed questions about quality of life of the citizens and resolving the city's pervasive parking problem (Abu Dhabi Urban Planning Council 2007b).

The experts offered their wisdom as well. Being New Urbanists and livability proponents, it is no surprise that they emphasized the significance of the pedestrian to urban life and the greatness of walkable cities. They came up with specific proposals for street design and retrofitting superblocks as well as neighborhood design. The experts expressed concern that Abu Dhabi be livable for all residents, and not just nationals. "For this reason," says Elizabeth Macdonald, "we placed an emphasis on public transit and high quality, pedestrian-oriented public space" (Macdonald to author 2015). They also pointed out that higher buildings are not the only way to achieve high densities and that great urbanism can be achieved at lower heights. Additionally, they promoted historic preservation and a sustainable approach to development. For the latter, Elizabeth Macdonald explains that the experts were concerned with what sustainability means for a desert city (ibid). Furthermore, as designers, the experts were also concerned with the identity of the city and place-making (Abu Dhabi Urban Planning

Council 2007b). These were the inspirations that began to shape the urban structure framework plan for Abu Dhabi.

During the charrettes, information was gathered about development and infrastructure projects that had been approved or underway. This information had not been gathered in a systematic way before, and it was not until it was presented to the leadership that they fully grasped all of what was going on in Abu Dhabi.¹²² One of the main things this information revealed was that there were plans to build a 12-lane highway that threatened to rip the city apart (George-Cosh 2008). Elizabeth Macdonald writes:

It became clear the freeway under construction along the east side of the main island that would connect to the smaller islands to the northeast would be enormous, especially the interchanges, and block access to open spaces along the water. During the charette, when Crown Prince Mohammed became aware of this, he immediately stopped that freeway from being built so large" (Macdonald to author 2015).

Three urban growth scenarios were developed based on three concepts: (1) The Smooth-Flowing City, which explores ideas of refining the urban core without increases in density, developing the waterfront in a connected fashion, and allowing growth to occur in a series of connected and contained villages that expanded along transportation corridors into the desert; (2) The Ecological City, which considers concentrating growth in the existing urban core and in a more intensely developed Khalifa City, introduces a transit spine through the center of the island, relocates the cultural institutions on Saadiyat to the eastern edge of Lulu Island, and significantly reduces the density of development on the barrier islands; and (3) The Human City, which explores a compact footprint by concentrating growth in the existing urban core and Khalifa City, heavy reliance on a transit spine through the island with a corresponding series of "transit nodes," and a shift of the central business district to allow more intense commercial development on the edges of the islands closest to the downtown. All three groups limited coastal expansion towards Dubai to maintain the connection between the desert and water.

Sheikh Mohammed provided feedback that led to the refinement of the three plans. Specifically, he highlighted the delicate water-island-desert ecology, the Emirati family structure and Abu Dhabi's status as the national capital. He asked the team to consider and translate infrastructure requirements, to incorporate a high-quality, high-speed transit system, as well as propose a new location for the seaport. Mohammed also approved the creation of a system of national ecological reserves, as suggested in all three plans, and recommended that Lulu Island remain preserved. He specifically advised that the team examine Hudayriat Island, the island next to Hudayriat and the island west of Al Reem Island for development feasibility. Finally, he shunned the construction of high-rise buildings, noting that he hoped people would have an expanse

¹²² In addition, numerous other activities and studies were undertaken (e.g. demographic and economic projections, environmental, transport, infrastructure and housing analysis, auditing master plans of proposed developments, comparative studies, etc.) which provided the basis for land use and infrastructure planning.

of space to walk around without feeling cramped and that density be contained in the two city centers in low- to mid-rise buildings. Upon careful consideration of the refined plans, Sheikh Mohammed suggested that all three sketches be integrated. Specifically, he preferred the downtown of the Human City, the design of the second city center in the Ecological City, and the focus on the islands, ferries, and water in the Smooth-Flowing City. Accordingly, the three schemes were consolidated into a composite that fused the concepts and elements they shared, titled “The Smooth-Flowing Human Eco-City.”

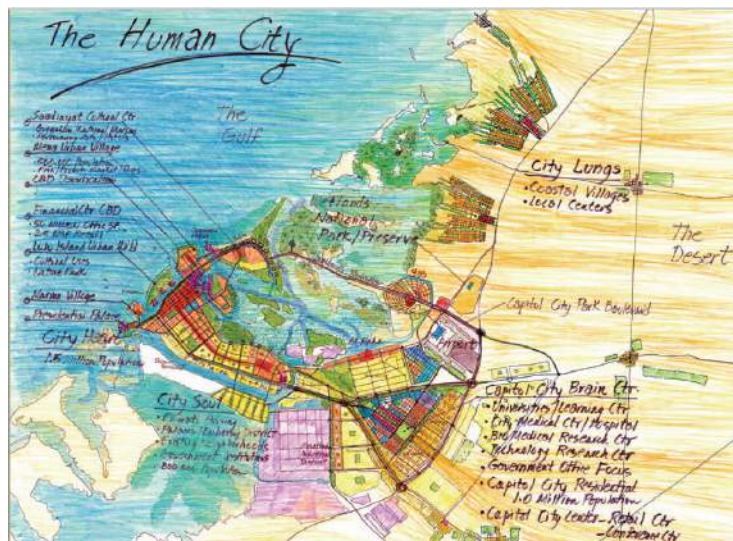


Figure 6.4: The Human City



Figure 6.5: The smooth flowing human eco city

This scheme proposed two major employment centers: a new CBD centered on Al Suwwah Island (now named Al Maryah Island), and a new Capital District on the mainland to the east of Abu Dhabi Island. The cores would be linked with a dispersed grid of streets. These elements - along with the experts' specific proposals for neighborhood design, retrofitting the existing superblocks, and street design - form the foundation for the land use and transport plans developed, and subsequently for the creation of large-scale plans, detailed studies, policy statements and development principles that formed Plan Abu Dhabi 2030: Urban Structure Framework Plan. By fostering dialogue between local leaders, creative professionals and "some of the most progressive thinkers on aspects of city building" (Interview #4), Beasley was well on his way to transforming Abu Dhabi into a vibrant, livable, and sustainable Arab city.

Larry Beasley exerted considerable influence over how planning institutions were set up in Abu Dhabi during Sheikh Khalifa's reign and over to the process used to develop Plan Abu Dhabi 2030. It is useful to step back and understand more about who he is, the influences that shaped his thinking, his approach to planning and his accomplishments in Vancouver and elsewhere.

1 *Larry Beasley and the Vancouver Model*

Larry Beasley was born near Savannah, Georgia, and grew up in Las Vegas, Nevada, where he studied architecture. In 1971, Beasley moved to Canada to pursue his undergraduate studies in geography and political science at Simon Fraser University. Subsequently, he studied community and regional planning at the University of British Columbia and received his master's degree in 1976. Beasley began his career in urban planning in Vancouver, starting off as a neighborhood planner. He explains:

I became a planner because, frankly, I had no choice. I never really wanted to do anything else. I was drawn to the complexity of the city, fascinated by the way people engaged other people, and wanted to be part of bringing a consultative culture to City Hall. I was captivated by the institutions and dramatic politics of municipal governance and wanted to swim into that. I was also shocked by the decline of 20th century western cities: the disregard for the past, the gross anti-urbanism that dominated civic plans and decisions everywhere, and the seeming insensitivity to helpless people's needs. Starting in architecture, I made my way through fine arts, geography, sociology, and political science as a preamble to finally consolidating everything in my urban planning education. The very first day in the field as a neighbourhood planner confirmed all my choices – I'd found my niche – which remains true to this very day. (quoted in Simon Fraser University 2005)

After spending some time as a neighborhood planner, Beasley became co-director of city planning for the city of Vancouver in the early 1990s. It was through this role that Beasley rose to international acclaim as one of the world's most important urban planners.

In many respects Beasley is an iconic figure and is described as “the crown prince of the new Vancouver” (Bula 2008). Beasley is credited with the promotion of Vancouver's image as the twenty-first century's utopian city to the extent that he became associated with creating a visionary planning model renowned as “Vancouverism” or “The Vancouver Model.” This is largely due to the fact that he was the one who oversaw its metamorphosis, reshaped and redefined its inner core, and insisted on measures that added density to established neighborhoods (Hutchinson 2009).

Influenced by the New Urbanism movement as well as principles of smart growth, Beasley transformed the city's downtown core into a vibrant, livable urban community. He believed that every urban planner must act as a designer of the city and therefore focus on “‘quality of life’ as the basic driver toward greatness” (Simon Fraser University 2005). Moreover, Beasley is a strong advocate of the concept of livability, and is very much swayed by the ideas of livability theorists like Jane Jacobs and the notion of “eyes on the street.” He introduced the “living first strategy,” through which he was able to double downtown Vancouver's inner-city population and include open spaces and amenities, widely separated, slender podium towers interspersed with low-rise buildings, interactive streetscapes, and façades, as well as social diversity and cultural opportunities. These urban conditions became specific to Vancouverism. In 2000, Beasley published his “living first” principles in a seminal article titled “‘Living First’ in Downtown Vancouver;” that article has since been described as a manifesto for the Vancouver Model (Eriksson 2006). Some of the principles of the Vancouver Model include: “resist freeway construction,” “extend the fabric, patterns, and character of the existing city,” “develop a complete neighborhood unit at a pedestrian scale,” “insisting on a rich housing mix,” and “bring an economic ecology to each district.” But, according to Serena Kataoka (2009), perhaps the single most significant principle of Vancouverism listed is: “let congestion be an ally in a household's profound first decision to live downtown or in the suburbs.” That means it is essential to market homeownership in downtown neighborhoods as a commute-free alternative for those who might also consider living in the suburbs (in other words, “would-be suburbanites”). This is coupled with the provision of open spaces and green linkages downtown, which is considered fundamental to satisfying “suburban cravings for being ‘close to nature’” (Kataoka 2009). In sum, Vancouverism best describes how buildings, streets, places, parks, and people are best integrated together.

Additionally, Beasley became renowned for helping the city to regain control from developers by leveraging public amenities through development and introducing density bonuses (Punter 2003; Boddy 2005). “The city must build the city. The city must be an agent. That means demanding that developers give back in the form of parks, cultural spaces, walkways, and more,” he states (Bula 2008). The planning department required that developers play a role in providing the social, cultural, and recreation infrastructure in new and renewed neighborhoods, and used a form of social bonus zoning in which extra density in housing developments is granted in return for such public amenities as cultural facilities, parks, schools, and social housing (Punter 2003; Boddy 2005). Moreover, Beasley is inspired by the New Urbanist concept of the

planning charrette and is known to foster partnerships and dialogue among government entities, the private sector, and community groups in order to understand desired living conditions in a city. In so doing, he has developed a participatory and socially responsible approach to zoning, planning and design.

His work in Vancouver has not escaped criticism, however. One of the most common complaints was that building high-rises led to soaring real estate and land prices and made the supply of affordable housing a serious issue in the city. During Beasley's decade-long tenure as Vancouver's principal planner, the median price for a single-family home had shot up nearly threefold, to 1.2 million Canadian dollars, by far the highest in Canada (Dempsey 2014). Moreover, while there has been a shift towards a sustainable city core, the city faces the challenges of unsustainable suburban development (Egdom n.d.).

Nonetheless, Vancouver has managed to consistently rank at the top of the list of the world's most livable cities; consequently, Vancouverism has become a template for city building. As such, Larry Beasley's recognized success in Vancouver has allowed him to consult with cities as varied as Dallas, Rotterdam, and Ottawa, and to implement the model of Vancouverism internationally in locations as distant as Abu Dhabi.

2 *Plan Abu Dhabi 2030: Urban Structure Framework Plan*

The Urban Structure Framework Plan: Plan Abu Dhabi 2030 (now renamed Plan Capital 2030) was created to act as a blueprint to guide the evolution of the city between 2007 and 2030. According to an informant, it stands out from previous plans drawn up for the city because "in the modern period we switch from the city being shaped by patterns to the city being shaped by visions, and that's where I think the 2007 plan becomes part of the historical evolution because for the first time, what we said is, you don't have an idea of a city that you lay down in a natural way, you have a *vision* of an overall place which you organize and then it's like a puzzle filling in the blanks" (Interview #8). As an overall vision document, Plan Abu Dhabi 2030 guides new developments, suggests a detailed work program for planning Abu Dhabi, articulates a clear direction for regulatory guidelines and zoning, and is intended to provide input into other initiatives that shape the city, such as transportation schemes, infrastructure projects, housing allocation programs, and tourism projects.

The plan forecasts a population of 3 million in 2030, with a projection of 7.9 million annual tourist visits and 686,000 residential units, and pictures demand in areas such as office, retail, and industrial uses, as well as for hotels, golf courses, marinas, education, hospitals, and healthcare. Plan Abu Dhabi 2030 was created to meet these projections. At the outset, it identifies six key directions that guide the plan, including sustainability; environmental preservation; a human scale city that integrates tradition and accommodates new lifestyle choices; excellence and livability; identity; and connectivity. Moreover, the plan states that its policies are grounded by three basic elements of sustainability: (i) the natural environment, such that the islands, sand

dunes, sea, coastline and native wildlife are protected and the connection between humans and this unique natural environment is preserved; (ii) economic development, such that there is economic diversification to lessen the reliance on fossil fuels and that a balance exists between supply and demand of real estate; and (iii) cultural heritage, where the bond between land and water is maintained and local traditions are preserved and incorporated in the built environment. This sustainable foundation was later translated into the Estidama initiative (see section 6.2).

Plan Abu Dhabi 2030 is deductive, starting with conceptual solutions that address the five major elements shaping urban form – environment, land use, transportation, open space and capital city image. It then moves into patterns that provide specific metrics for the vision proposed in the frameworks, followed by detailed conceptualizations of four focal areas in the city that are central to the plan, and finally examining the “building blocks” of Emirati communities and urban regeneration. The solutions, patterns, and conceptualizations are supported by a set of overarching principles and ten individual policy statements (developed under the following topics: environment, land use, open space, capital expression, transportation, urban design, building blocks, social considerations, economic development and continuous planning) that are intended to guide the creation of plans and development proposals.

The overarching principles expressed in the plan state that Abu Dhabi will be a “contemporary expression of an Arab city” and will continue its practice of measured growth to reflect a sustainable economy. It will also manifest its role and stature as a capital city, and will respect and be shaped by the natural environment. Furthermore, “Abu Dhabi’s urban fabric and community infrastructure will maintain and enhance the values, social and cultural heritage of the Arab community.” An informant elaborates on these: “The vision of Abu Dhabi Plan 2030 is to make Abu Dhabi a prosperous place that will grow economically in a sustainable way while protecting and preserving our culture and environment” (Interview #40). The informant speaks of the importance of not having an excess supply of development in the future, which would harm the economy. Five actions are key to achieving this balanced development. The first is careful attention to “actual requirement and actual demand.” The second, as spelled out in Plan 2030, is the creation of the Capital District. Third is protecting the environment, ecological assets, heritage, and culture. Fourth is instituting world-class infrastructure that has a basis in sustainability, which involves Masdar and the International Renewable Energy Agency (IRENA) (see discussion in section 6.2). The fifth is preserving Arab culture through the city’s design.

Five urban frameworks form part of Plan Abu Dhabi 2030: Environmental, Land Use, Transportation, Public Open Space and Capital City. The Environmental Framework Plan gives special treatment to areas of environmental importance, through the implementation of a National Park system (which protects sensitive ecological habitats by putting areas into different categories, allowing different levels of access depending upon fragility), a green gradient, a sand belt (adapted from “green belts” that ring other world cities) to prevent urban sprawl, and a series of “desert fingers”

that provide undeveloped buffers between the city, each coastal town and Dubai. Together, these elements provide a way to balance both the needs of economic development and ecological preservation.



Figure 6.6: Environmental framework plan, Plan Abu Dhabi 2030

The Land Use Framework Plan proposes that the existing city, which sits on an island, accommodate some of the projected growth, but there would also be development on other islands, connected by modest-scale bridges. According to an informant: “The development will expand the city, rather than changing the city” (Interview #11). Instead of development inside the city, new areas are to be developed that will provide extra capacity to the city. The city will be enhanced with public spaces and parks, for example, and regulations and guidelines will bring improvement to the city. Sowwah Island is one of the new areas. It will house the financial district of Abu Dhabi, providing a heart for the business sector, which in turn will energize the financial district. The informant continues, “The cultural district, Saadiyat, will be an icon all around the world for museum[s], culture, and art.” It will be “the heart of the world for...culture.” In this way, development will fulfill the overall vision, but the various areas will not compete with each other. Reem Island, for example, will primarily be a residential area that supports the financial district and Saadiyat, because they are nearby. The low-scale Mina Zayed development is to provide housing for locals and expatriates in the downtown area. Another low-scale development will be on Lulu Island and will also provide housing for locals and expatriates. Lulu Island will have both towers and villas. The informant adds that new development will occur in greenfield areas, such as the Capital District. Raha Beach will mainly hold high-end waterfront residences. Yas Island, unlike the others, will contain mostly entertainment venues, including golf courses, Ferrari Park, shops, and a Formula 1 race track.

The Land Use Framework Plan gathers the Central Business District on Al Sowwah Island (now Al Maryah Island), while the remainder of Al Mina, Al Reem and Saadiyat Islands are proposed as medium-density residential with enough retail and commercial space to serve local demand only. Nearby on the mainland, a second city center is to be developed in the Capital District, which would be focused on the government and knowledge-based sectors. According to an interviewee:

The double-centered dumbbell of Plan [Abu Dhabi] 2030 was one of the things that made it different than the other plans I looked at...[I]t's a two-centered city, that city is connected efficiently by multiple transit connections, and those centers serve two different functions. One is government, healthcare, education; one is business and financial. And another way to look at that is, Emirati-Expatriate (Interview #5).

The two centers are intended to complement each other. To support the two main cores, the Grand Mosque District and southern portion of Hudayriat Island are identified as major development opportunities, while the area around Marina Mall and the transit corridor along Airport Road are recommended for densification. Moreover, Emirati neighborhoods are integrated within and around higher-density commercial nodes, rather than being forced to spread further away from work places and entertainment or shopping venues, with lower-, medium- and higher-density Emirati housing choices included in the plan. This strategy would also avoid segregation between Emirati and expatriate housing (it can be surmised that most mixed use or high density corridors include housing for expatriates). Finally, three major industrial areas are allocated, such that heavy industries surround the new Khalifa Port, high tech industries surround the airport and smaller service-based industries are located in Mussafah and Mafraq. The plan does not account for labor accommodation camps.

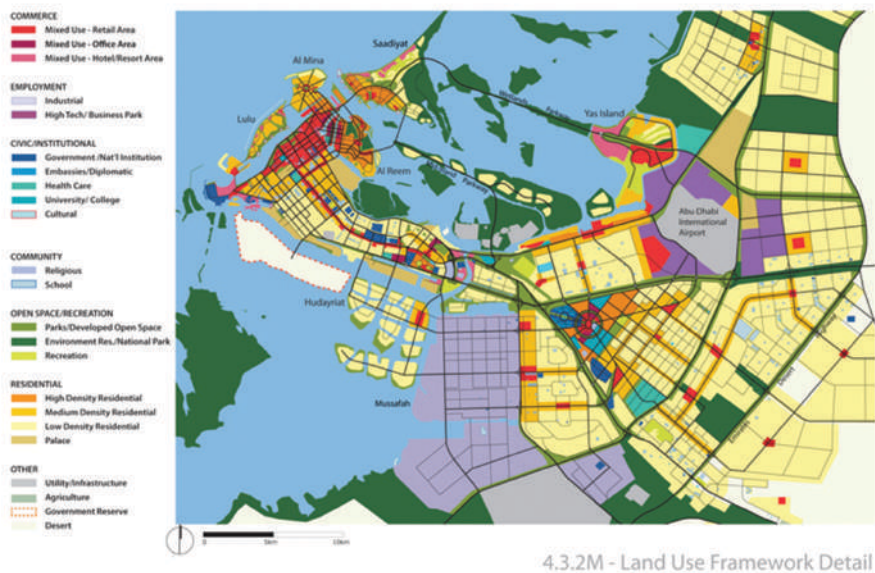


Figure 6.7: Land use framework plan, Plan Abu

The Transportation Framework Plan is guided by the Land Use Framework Plan, with a network of roads and bridges acting as through-roads to maximize connectivity and relieve congestion, two new alternate freeways, and a new highway providing entry into the Island. The plan also envisions a transit network featuring a high-speed rail line, freight rail line, metro, surface light rail, trams, and buses, as well as a fine grain of interconnected, walkable streets. Elizabeth MacDonald explains that at the charettes, the experts were told that Emirati nationals were unlikely to use public transportation for cultural reasons related to privacy, and also because they preferred to drive; however, the consultants advised that public transit was necessary to make the city work for all residents, including those without the means to drive (Macdonald to author 2015). In the Transportation Framework Plan, the high-speed rail line is envisioned to originate at the Central Market train station, connecting the downtown to the Capital District, Airport and ultimately Dubai. A freight rail line would operate in the same right-of-way, connecting the new port, airport and Jebel Ali with the other GCC countries. Two metro lines, one originating on Saadiyat Island and Mina Zayed, would turn left at the Central Station and follow Airport Road to the Grand Mosque District, Capital District and Raha Beach, while the other crosses downtown from east to west, connecting Al Reem Island and Sowwah Island to the Central Station and the Marina Mall development.

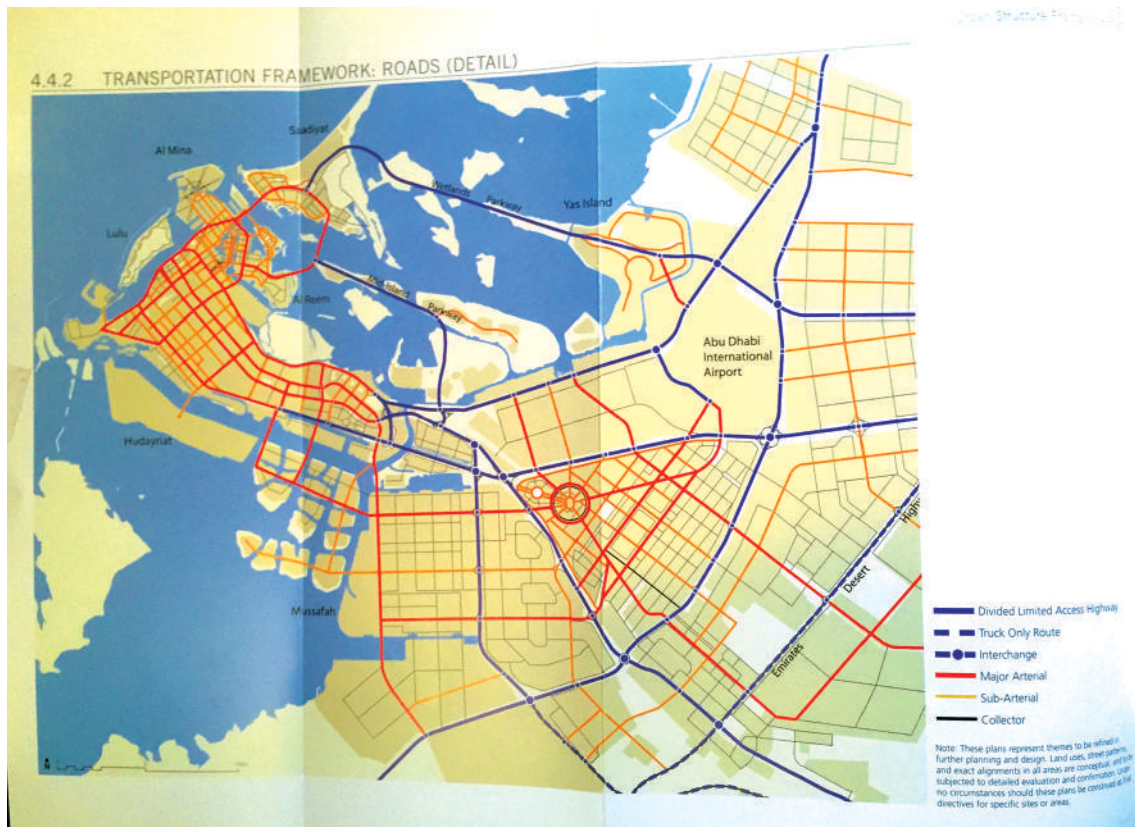


Figure 6.8: Transportation framework plan, Plan Abu Dhabi 2030



Figure 6.9: Public transit, Plan Abu Dhabi 2030

The Public Open Space Framework Plan integrates a hierarchy of formal and informal open areas throughout the city and connects them to a National Park system to the northeast of the city. City parks, community parks (local green spaces), community recreation spaces such as sports fields and playgrounds, as well as planted boulevards and byways form the green links of the city. Additionally, public plazas such as those in front of mosques or public buildings are emphasized in the plan.



Figure 6.10: Public open space framework plan, Plan Abu Dhabi 2030

Finally, the Capital City Framework Plan identifies major approaches and entry portals to the city. It also marks monumental spaces and processional routes, including the Capital Boulevard that links the Presidential Palace and Emirates Palace to the national square in the Capital District. Iconic precincts such as the Cultural District on Saadiyat Island, the Palace District and the Embassy District, for example, reinforce the capital city framework.



Figure 6.11: Capital City framework plan, Plan Abu Dhabi 2030

At the next level, the plan identifies specific patterns. These include precincts or districts that are delineated based on cultural boundaries of existing neighborhoods or likely boundaries of new ones. All precincts are mixed use, with the exception of those that represent a specific economic activity. Moreover, building heights are used to communicate the identity and intrinsic order of the city, by creating uniform character in each precinct, maintaining view corridors and strengthening the skyline with intentional rather than random patterns. Abu Dhabi Island's skyline of 20-25 story buildings is preserved, with taller buildings centered in special areas like the Central Market, Sowwah Island, and some parts of the Corniche. The Capital District, on the other hand, is envisioned as a predominantly mid-rise street wall typology with taller buildings in its central core. In the Grand Mosque District, the tallest structures are the mosque's minarets. To the north of the south edge of the Corniche and on most of Lulu Island, building heights are limited to three stories. Furthermore, land use allocations and densities are determined in a fashion that enables land uses to complement and reinforce each other. The plan places the highest residential densities in the existing downtown core and in the central portion of the new Capital District, while existing

Emirati neighborhoods are preserved in their low-density configuration and new Emirati communities are built with a range of densities. Office space and employment are concentrated in the new CBD and the Capital District, while retail density is distributed across the city and industrial densities are confined to the three industrial areas allocated in the plan.



Figure 6.12: Building heights, Plan Abu Dhabi 2030



Figure 6.13: Abu Dhabi precincts, Plan Abu Dhabi 2030

Zooming in, Plan Abu Dhabi 2030 focuses on four areas: (1) the Central Business District centered on Al Sowwah Island, in conjunction with Mina Zayed, Al Reem Island and Abu Dhabi Island; (2) the Capital District; (3) the Grand Mosque District, which includes the Grand Mosque, Officer’s Club and Sports City; and (4) Lulu Island District. For each area, the plan proposes specific uses, circulation networks, densities and building heights, as well as opportunities for waterfront or open space development.

Next, the building blocks of Plan Abu Dhabi 2030 are meant to provide the “fine grain” and specific policies to realize the vision of Emirati communities. The blocks are considered the “DNA of the urban structure of these communities, the molecules out of which vibrant neighborhoods and districts are created” (Abu Dhabi Urban Planning Council 2007c). Based on a study of the requirements of Emirati communities of varying

sizes, the Plan introduces prototypes of building blocks of Emirati communities. These are intended to guide the full integration of Emirati neighborhoods throughout the various scenarios created by the plan: urban neighborhoods, desert eco-villages, and island eco-villages. Moreover, residential, retail, infrastructure, and amenity development are clustered around a “high street” or public square, but the shape, boundaries, and size of each community differ, depending on the setting (ibid.). The prototypes of Emirati settlements show examples of how the pattern can be applied to guide further planning and architecture.

The plan specifically reexamines and encourages a return to the *freej* or traditional neighborhood system – a group of homes large enough to accommodate an

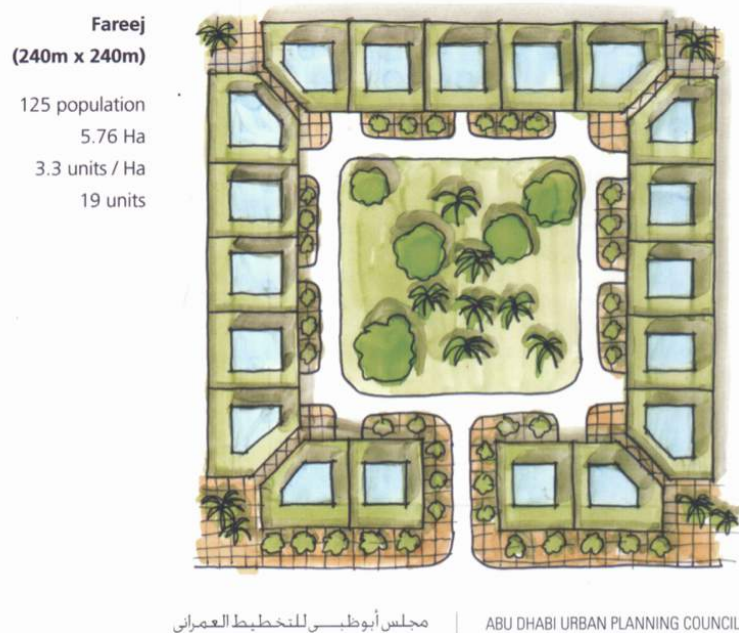


Figure 6.14: *Freej*, Plan Abu Dhabi 2030

extended Emirati family clustered around a courtyard (see figure 6.14). This pattern is based on the traditional organization of Emirati settlements and reflects the very high importance of family relationships (refer to section 4.5). The recommended size of a *freej* is 240m x 240m (equivalent to 787.4ft x 787.4ft). Courtyard houses allow families to enjoy privacy because there is a separation of the private family space from the semi-private guest space, and adjacent plots do not overlook the outdoor area within the homes. Simple, passive design techniques such as wind towers and *liwan* (covered outdoor space) shading allow the houses to reduce reliance on air conditioning, therefore making them more sustainable by design. The homes are built to the edge of the plot to optimize land use and narrow, shaded *sikka* (walking paths) strategically link the homes to neighboring homes, community facilities and public spaces. Several *freej* are grouped together into “Local Clusters” arranged around a small central park complex. The catchment area is sufficient to support a kindergarten or childcare facility,

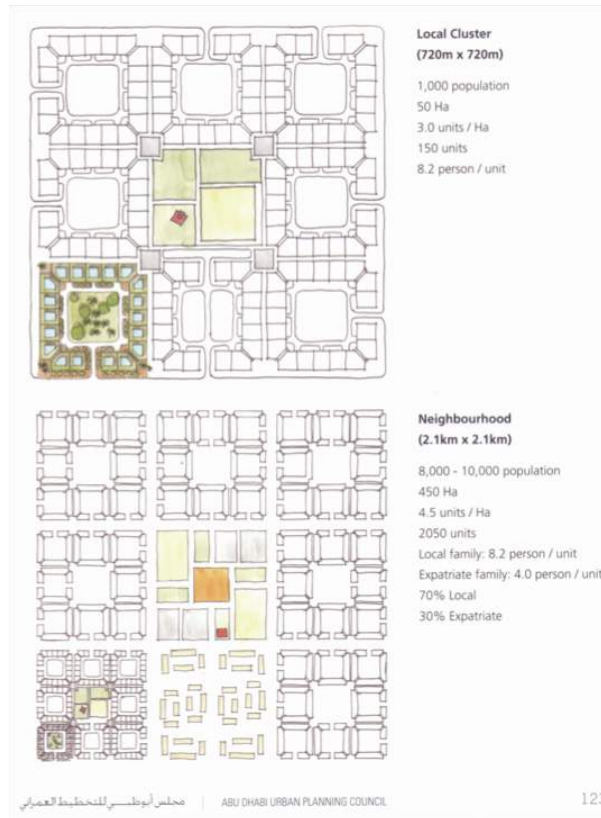


Figure 6.15: Neighborhood and local cluster, Plan Abu Dhabi 2030

an outdoor play area, and a local mosque. Local clusters are then grouped together into “neighborhoods” with a population of 8,000 to 10,000 people. This is the catchment area for two single-sex primary schools, a Friday mosque, a park, and a women’s center. Local shops and higher-density housing service the neighborhood. The suggested population mix in these neighborhoods is 70 percent national and 30 percent non-national. All of these individual neighborhoods are then woven together through a mix of shops, schools, services, parks, public transit, mosques, and workplaces, which unite to create a complete community (see figure 6.15).¹²³ A block-by-block revitalization process is also outlined for the Central Business District, which would subdivide the superblocs, include through-roads to help relieve traffic pressure from the boulevards, put all parking underground or in above ground structures, identify new infill building possibilities, provide opportunities for adding needed community facilities, and create a coherent public realm with shaded walkways, planting, and thermal mass to keep the microclimate cool (see Figure 6.16). Furthermore, the plan presents ideas for streetscape revitalization of existing and new streets, which are intended to transform the very wide streets and establish a clear and logical circulation system that prioritizes the

¹²³ In Abu Dhabi, “Complete Communities” are defined as neighborhoods that include a mix of residences, shopping, services, recreation and workplaces to create livable and convenient places and to promote a variety of community values including open space, housing choice, and walkable transit-oriented development. See Abu Dhabi Council for Economic Development and Abu Dhabi Urban Planning Council (2010). Abu Dhabi Economic Vision 2030 and Abu Dhabi Urban Planning Vision 2030.

pedestrian. This includes widening the pedestrian right of way and comprehensively shading it (using plantings, arcades or tent structures), and introducing dedicated transit lanes on larger streets (see Figure 6.17).

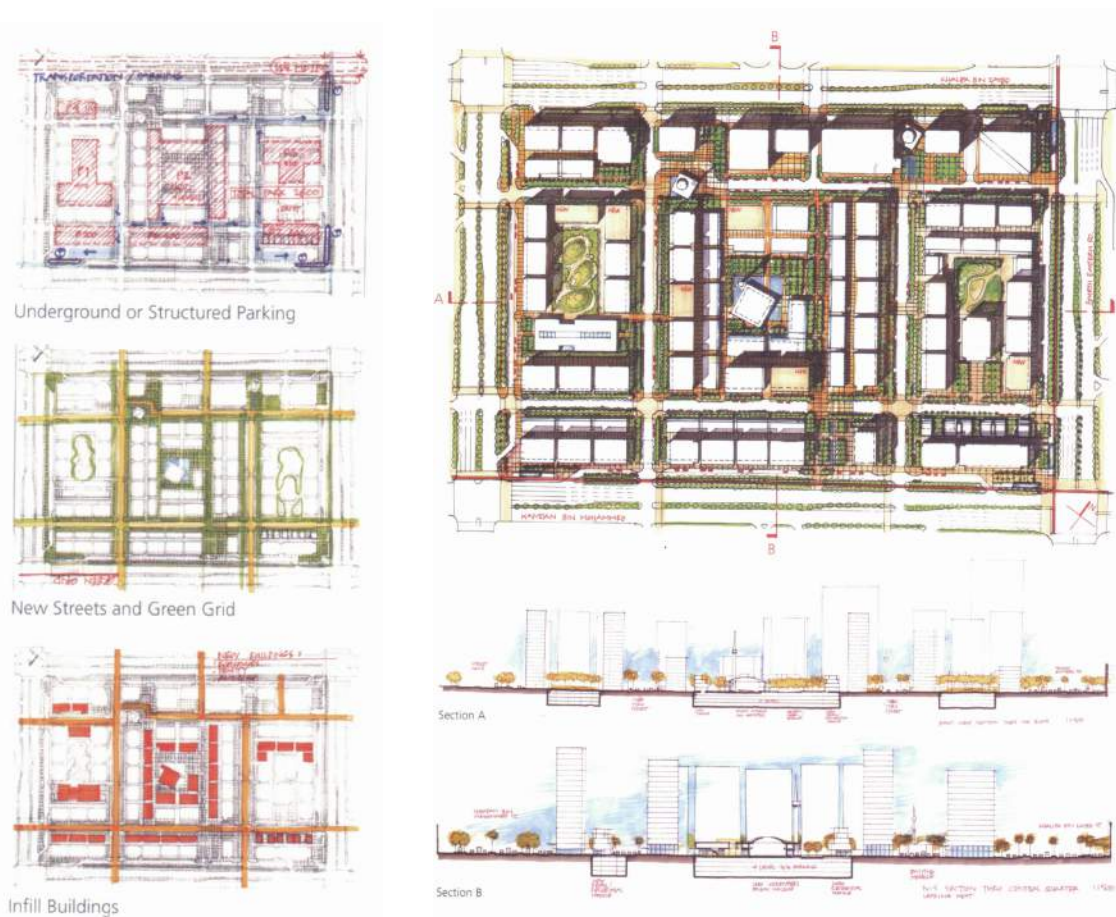


Figure 6.16: Central Business District revitalization, Plan Abu Dhabi 2030

Plan Abu Dhabi 2030 culminates in a discussion about infrastructure implications (which it has not included) and warns that the current infrastructure capacity will not meet the forecasted demand and the resulting development envisioned in the plan. It urges new supply options to be considered and implemented as soon as possible, while at the same time reducing energy and water consumption. It suggests that Abu Dhabi develop a set of Sustainability Principles that would apply to all future development – perhaps this acted as the catalyst for the Estidama initiative. Finally, it recommends bringing buildings closer together through narrowing the width of utility easements or identifying new standards for placement in streets. Overall, the highlights of the plan include its focus on livability within the city, the provision of two growth centers in downtown Abu Dhabi and within the Capital District, the revitalization of existing locations across the metropolitan area, the respect for and consideration of the environment, and the importance of capturing culture and heritage through planning and design.

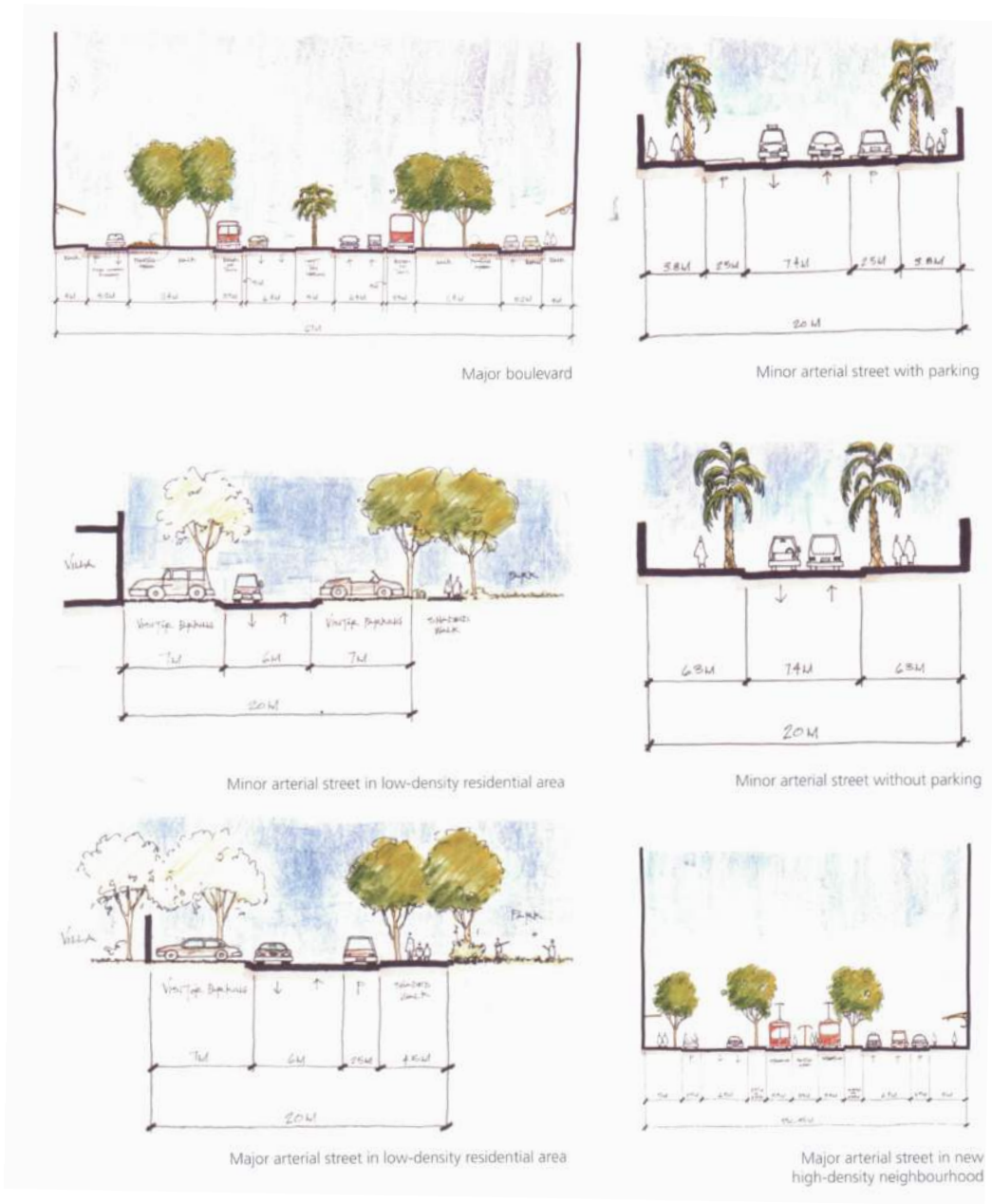


Figure 6.17: Street revitalization, Plan Abu Dhabi 2030

As an urban structure framework plan, Plan Abu Dhabi 2030 does not go into extensive technical detail but rather provides a detailed work program and vision that is intended to inform a comprehensive plan in the future. As outlined above, the plan addresses several issues: it sets an environmental context, confirms an urban structure of land use, transportation, open space, and built form, presents key “building blocks” through which the urban structure will be organized, and sets out a comprehensive road map of principles and policies to guide community development. Though it is both conceptual enough and detailed enough to be of both immediate and ongoing

utility, the plan fails to address several issues. To begin with, the plan does not identify sites worthy of historic preservation, which is problematic because Abu Dhabi is already lacking in architectural history. Without the proper policies in place, the stock of these buildings are quickly disappearing because of rapid development, real estate speculation, rising land value and poor condition (Chabbi and Mahdy 2011a; Chabbi and Mahdy 2011b). The Land Use Framework Plan also does not explicitly account for expatriate housing, including allocation of labor camps. This may be largely due to the fact that during the charettes, there was a lack of public participation and this meant that things that might have been of concern to the larger public (such as community facilities) were left out. The land use plan also does not safeguard land for use by the UAE Armed Forces for national defense, which has always been an important component of planning the emirate. Moreover, the plan does not take into consideration proposals for the location of public utilities such as distribution networks, power stations, desalination plants, sewage treatment plants and landfill sites for waste disposal. The presence of major utility services can be a significant constraint to land use development options, presenting physical restrictions, visual intrusion and safety risks. Providing even a high-level plan for utility allocation, while noting existing utility services, would ensure that planned neighborhoods are equipped with the appropriate capacity ahead of development and that infrastructure investment aligns with growth. Finally, Plan Abu Dhabi 2030 does not address implementation.

Plan Abu Dhabi 2030 was originally intended to guide metropolitan Abu Dhabi's growth (this includes Abu Dhabi Island, surrounding islands and mainland). In 2009, Plan Abu Dhabi 2030 was renamed Plan Capital 2030; it was followed by regional structure framework plans, Plan Al Ain 2030 and Plan Al Gharbia 2030, covering the development of the Al Ain and Western regions respectively. Together, the three plans were integrated under the Abu Dhabi Urban Planning Vision 2030. Additionally, under Plan Capital 2030, a series of master plans were developed for certain aspects of the plan, including the Capital District, Shahama and Bahja, North Wathba, Khalifa City A, and Wasat Madinat Abu Dhabi, among others. Perhaps due to its being a significant component of Plan Abu Dhabi 2030 – the second city center envisaged in the plan, one of the four focus areas in the plan, and the aspect that most embodies the vision of Abu Dhabi as a capital city – the Capital District master plan was the first to be developed and released. Spread out over 45 square kilometers (equivalent to 17.37 square miles), the Capital District sits on a triangular site on the mainland of Abu Dhabi, and is envisioned as a radial grid whose heart includes a Federal Precinct centered on a ceremonial National Square. The Federal Precinct would serve as the national seat of government, such that federal government entities, international embassies, local government agencies and other public institutions would be located there. In total, the Capital District includes six precincts, including a City Center Precinct with a *souq*, CBD, hospital, and two universities, as well as a Sports Hub Precinct and an Emirati neighborhood with approximately 3,000 individual family plots. There are also seven grand boulevards (axis corridors) symbolically representing the seven emirates. Moreover, the plan includes a multi-modal network of metro, light rail, high-speed regional rail, buses, and taxis, and encourages pedestrian activity and vibrant streetscapes. It also proposes a high degree of land use mix, density and diversity, with



Figure 6.18: Capital District masterplan, Plan Abu Dhabi 2030



Figure 6.19: Capital District rendering, Plan Abu Dhabi 2030

vibrant and complete neighborhoods as well as landmark buildings and distinct public spaces that reinforce the city's ceremonial and symbolic function and Emirati traditions.

The Capital District master plan received significant international attention for setting “a benchmark for the design of a sustainable capital city” (Abu Dhabi Council for Economic Development and Abu Dhabi Urban Planning Council 2010). Alongside the overall design plan for it, the Capital District would use highly energy efficient building structures, district cooling systems, and water sensitive landscaping and irrigation. A Sustainability Policy and Framework Plan for the Capital District was also completed, which defines Key Performance Indicators (KPIs) that provide stakeholders, consultants, and contractors with the opportunity to participate in the delivery of the most sustainable infrastructure possible for the project. In this way, Capital District is expected to lead the way “in reducing costs, energy, water and waste, as well as improving quality of life and preserving heritage and values” (Abu Dhabi E-Government 2010).

Plan Abu Dhabi 2030 and the institutional framework it set up for planning Abu Dhabi are commendable for many reasons. First and foremost, the comprehensive review and negotiation of development projects that were proposed prior to the creation of Plan Abu Dhabi 2030 helped Abu Dhabi avoid “some of the worst results of the 2008 downturn because it had already started being prudent” (Interview #17). Of course, Sheikh Mohammed’s support for these early decisions and the strong will and leadership of his team also were key factors. The informant comments:

Right during these charrettes for the original Plan [Abu Dhabi] 2030, we were having demand studies done for development and all that and we were comparing them to projects that were pending or approved and we already found out we didn’t need any more research or any more intelligence to tell us that there was too much out there proposed compared to what could possibly be served by demand (Interview #17).

Because of this excess, Khaldoon Khalifa Al Mubarak, with the support of the Crown Prince, provided the leadership during the next few months and negotiated down the scale of many pending projects. He also terminated many projects. Both decisions eventually proved prescient. Says the informant:

Thank goodness, because one year later the world economic downturn hits and look at Dubai. They didn’t do that. All of a sudden they were stuck, they had to be bailed out. That didn’t happen to Abu Dhabi, not too much, it happened a little bit but not too much because there had already been a kind of recalibration based on a demand perspective.

The Emirate is one of few places that has taken a demand perspective during planning. Stopping many of these projects, as well as the redirection of some of the proposed land uses in the city – particularly in the surrounding islands like Al Reem, Al Sowwah, and Saadiyat – transformed some areas from competing with each other to instead complementing one another. Moreover, by gathering what would have been five dispersed CBDs in close proximity to each other, negotiations eliminated land use redundancies before development proceeded. Without such a comprehensive audit of the proposed projects, the city would have suffered tremendously from unnecessary or ill-thought-out development. An interviewee comments: “Can you imagine a density of 600 hectares filled with 400,000 people living there? A bridge with 26 lanes was designed. ...[I]f things [had] moved ahead without the 2007 plan, it would [have been] chaotic” (Interview #9). The change in the municipality’s mentality and structural planning has been immense.

In this sense, Plan Abu Dhabi 2030 fulfilled its purpose; however, it was not an easy task to undertake after so many development projects were committed. Opening so many opportunities to foreign investors, with foreign investment zones and long-term leases, may have been premature, as one informant says:

I think there was really a little bit of the cart before the horse, the idea of the UPC should’ve been happening prior to that decision so that you had a plan in place and then you liberalize your laws to attract foreign investment and liberalize your economic

conditions so that it attracts development, then you create a strong vision of what the physical manifestation of that economic growth will be (Interview #39)...

This informant feels that economic leaders promoted this rush to open up Abu Dhabi to foreign investors. Sustainable development involves economic, social, and environmental groups. This early acceptance was led economically to generate economic wealth, and the environmental and social followed instead of proceeding simultaneously. The Economic Vision 2030 came first, followed by the Urban Planning Vision 2030 and Plan Abu Dhabi 2030. Says the informant:

...[T]hose things should have moved concurrent and should've been integrated very much together. ... [T]he real challenge that it presented was that the laws attracted foreign investments...and there were all these commitments that were made in terms of development, really strategic development, specifically around Reem and Saadiyat and Yas island[s] specifically as three significant projects with vast amounts of land that were set aside as the primary areas for development and they were all released concurrently, and to me that was a strategic mistake.

The difficulty, according to another informant, was that expectations and the amount of growth that would occur were too large. The amount of coordination required would have been vast for these three geographically disconnected areas to be developed in such a short amount of time. "I think that was a strategic challenge that was presented in terms of trying to reconcile that from a planning perspective when the commitment had already been made," the informant maintains (Interview #27).

Moreover, land use supply did not always match demand, resulting in a general oversupply of retail and office space, an impending oversupply of hotel rooms, and an unbalanced residential supply. Particularly with regard to housing (both national and expatriate), the supply and demand problem was acute. Pre-Plan Abu Dhabi 2030 there was a housing shortage while the projected demand was healthy. The plan accounted for this through housing allocation and residential densities, but it did not account for another development: most of the projected Abu Dhabi population (particularly non-nationals), not finding anywhere to live and facing increased living costs, settled in neighboring Dubai and commuted to work every day. Thus, a population shortage faced some of the new developments upon their completion. According to an informant:

As the new development came online, we no longer had a housing undersupply in Abu Dhabi, we had a housing oversupply as Saadiyat, Raha, and as we continued to build six and four-plexes in what should be single family homes in Khalifa A and B and then the MBZ [Mohammed bin Zayed] towers there's like 400,000 people...and these landlords who were charging 300,000 dirhams (equivalent to USD 81,674) for a ... one-bedroom now can't even get 100,000 dirhams (equivalent to USD 27,225) for it, and they're freaking out (Interview #29).

To address this problem, in 2012 all public sector employees were required to live in Abu Dhabi or face a cut in their supplementary housing allowance (Carvalho and

Kasolowsky 2012). This resolved the issue to a certain extent, but caused other problems, such as disruptions around spousal employment or children's school attendance. Additionally, there was a surplus of luxury housing units and a shortage of lower-income housing units, which goes against the plan's original intention to provide a diversity of housing options integrated within the urban fabric. Furthermore, infrastructure has sometimes been built in areas ahead of development, resulting in underutilized assets. Thus, the global financial crisis proved that the growth assumptions built into the plans were based on a high-growth scenario that was dominant at the plan's creation. An informant explains:

[W]e really believed we would continue growing, that the kind of market things that were happening, the population increase that was happening, was gonna sustain. 2008 killed that, and that did cause a slowdown... Arab Spring stopped everything and changed our focus as well (Interview #13).

Putting together the framework plan in a short amount of time and communicating the urban planning vision of Abu Dhabi to local government agencies, developers, and the building community at large is also praiseworthy: getting everybody on board and earning respect for the UPC was certainly a huge feat. Moving from the vision to implementation, however, has proven problematic due to the culture and "ways of doing" in the city. For example, existing land use allocation practices continue to present challenges to sustainable growth and place making. As discussed in section 6.2, issues arose such as *wasta* at times circumventing the system, resulting in some projects that appear oddly placed or without contextual sensitivity. Prioritizing Emirati housing in 2010-2011 and changing land uses to promote their construction has also encouraged urban sprawl. Moreover, it has been difficult to implement a finer and more intimate street grid due to the challenge of narrowing utility easements or rights of way. In 2010, the UPC developed the Urban Streets Design Manual (USDMM) to regulate and set the standards for street design. Main components of the manual include enhanced connectivity between streets, the creation of a connected multi-modal street hierarchy, provisions for open space and community facilities, innovative shading and cooling solutions, expanded managed parking spaces and an overall pedestrian-friendly orientation. The USDMM also calls for narrower streets to aid in utility construction and maintenance.

According to an informant: "You don't need your very very very generous individual corridors for each utility. You can run certain utilities under the carriageway, ...and you can stack vertically" (Interview #26). But difficulty arose when it came to lane widths. "With the manual," says another informant, "we were starting with 3.1 meters, coming from 3.65 to 3.1 (1 meter = 3.28 foot). Ultimately, we and the DoT agreed to 3.3 meters and the parking lanes, the manual says 2.5 meters and they fought for wider..." (Interview #18). The consultants were at first willing to accept smaller rights of way and helped find different ways of accommodating the smaller spaces, but "when things got formalized, instead of going forward and cementing this concept we moved backwards," says the informant. The formalization worried building officials, who

feared the new specifications would be required for all future development. Thus, the narrower rights of way are no longer permitted and the current street design manual allows streets no narrower than 18 meters (equivalent to 59.05ft). Another informant believes that:

It wasn't so much standards, it was getting caught up by the sort of rules of the game that had already been established, such as in many main streets, there had to be a certain space, a lineal space for each of the underground utilities, so you could get to any one of them, without tearing up all kinds of stuff (Interview #28).

This results in very wide rights of way and far distances from building to building. Accommodating the wider streets also presented challenges for following the environmental guidelines:

...[Y]ou know it makes no sense to draw trees all over the...place cause they're not gonna be there, and if they're gonna be there, they're gonna be palms of some sort that don't give any shade, so the street is gonna be uncomfortable to be on as a pedestrian (Interview #26).

Therefore, these wider streets could not be thought of as prioritizing people. Adding to the challenge of making pedestrian-friendly streets is the struggle to reduce reliance on private motor vehicles.

Plans for public transportation have also been delayed, in large part due to the social stigma attached to it. An informant comments, "The problem is, Abu Dhabi is a car-oriented city. People will not accept pedestrian walking even if you shade them or whatever. It's the culture. ...Even with the use of public transport. People here are prejudiced against public transport. They feel like it's for workers, laborers and so on" (Interview #14). The bus network is the only form of public transportation introduced and ridership is mainly lower-income. An informant argues that the absence of investment in transit weakens Plan Abu Dhabi 2030 because:

If you don't build the metro and tram and several different bridges, you can't have a two-centered city. You'd have to get from center one to center two in less than 15 minutes without ever getting in your car. If you don't put in that hub or that access method, you've killed Capital District as a functioning city thing. You can still have it but you've also killed downtown at the same time (Interview #21).

The public transportation issue is very much tied to the Capital District. The unwillingness to invest in transit may also be due to the fact that the Capital District project has taken a back seat, even after all the fanfare. An informant discusses how Larry Beasley wanted to change the Capital District into another central business district that would hold approximately 350,000 people, which made sense as the old city CBD was deteriorating. No one attempted to revive the original CBD. Says the informant:

My information was that Sheikh Khalifa did not like the whole project. He was completely against the idea...[because] [w]e [would] have to bring all those expats again. Almost half a million expats to the city. If we are trying to nationalize everything, why are you trying to compete and do what Dubai is doing? To live and work. Three

hundred fifty thousand people have to live there. There'll be only 30,000 locals and the rest expats (Interview #13).

The informant goes on to state how Sheikh Khalifa and Sheikh Shakhbut were on the same page about this, but Khalifa had in mind a more modern version. He did not want Abu Dhabi developed in the same manner as Dubai, and he prevented it. Another informant argues: "The Capital District should have never been allowed to happen. In my training...everything you do in planning is you never distract from the existing CBD because it takes away from [the] existing one and could kill it" (Interview #18). The informant cites Reem Island as another example of this issue. Although the density of Reem Island will help the CBD remain strong, as a second competing district, it will attract people away from the Capital District. This is because people tend to prefer newly built areas and because it is easier to get to than Reem Island, especially when coming from Dubai or Al Ain. There are arguments to be made for having a center in the Capital District, especially because Emirati housing is located there, but if built, it ought to be smaller than what is currently proposed. An informant offers a different view:

[The] Capital District had to be politically speaking a priority, because it's where Emiratis get their homes and it's where Emiratis are going to work. And as long as you believe in a system or continue to promote a system of social welfare that Abu Dhabi has, you *have* to build Capital District (Interview #5).

In the meantime, however, only the Emirati housing is moving forward. In addition, the redevelopment plan for Lulu Island has been put on hold indefinitely. Thus, the detailed plans did not receive as much attention as was anticipated by the plan. This was also the case when implementing block-by-block revitalization in the existing CBD did not go according to the plan. According to an interviewee:

We tried to do revitalizations through eight test blocks and the interesting thing about planning back then was that we didn't really know what our constraints and parameters were. We kept going back and forth into figuring out how aggressive we should be. Primarily, are we going to do eminent domain – basically can we take plots, can we take buildings for the common good? (Interview #9)

The UPC started out conservatively, but the leaders wanted more dramatic, obvious change. They were instructed to remove 500 plots in the downtown area, because the downtown was too dense, which was creating a lot of problems, especially parking-related. The UPC started with a very basic survey and developed a detailed plan. The six months originally allotted stretched into more than two years as different initiatives started up. They worked in conjunction with DoT and ADM, and although the project generated enthusiasm, the proposed expenditures encountered hesitation. As time passed, incentives for and interest in the project waned. In the end, the UPC attempted to be "very conservative and do just quick wins and basic fixes to get essential facilities to the rest of the downtown" (Interview #9).



Figure 6.20 Emirati Neighborhood renderings, Plan Abu Dhabi 2030.

The building blocks of Emirati communities, as envisioned in Plan Abu Dhabi 2030, received further exploration. Acting as the central authority working towards the development of adequate Emirati housing infrastructure in Abu Dhabi, the UPC continued to conduct research into the design of the *freej*. This resulted in the creation of a neighborhood planning brochure, which explains the key elements of the *freej*: the courtyard house, *sikka* (narrow alleyways), and *barahaat* (intimate public spaces), as well as large gathering spaces known as *meyadeen* (Abu Dhabi Urban Planning Council, n.d.). An informant explains: “A *sikka* should...[have a] strategic route that gives you an alternative shortcut though a neighborhood from and to a community facility. So how do I get to the mosque? Well, you could either go round the neighborhood or you could cut through the villas” (Interview #12). The placement of *sikkas* is meant to be strategic; therefore, only a few need to be built with focused government investment. The *sikka* areas will be paved, lighted, and shaded. Over time, as more people use them, mass transit will be a feasible addition, making the investment more sustainable. The informant continues his explanation: “A *baraha* really should be like this space that’s off the *sikka* and you can start programming *barahas* based on the route. If I’m going from my house to the mosque through a *sikka*, the *baraha* associated with that *sikka* should be programmed for adults.” This gives people the opportunity to mingle before and after worship. Additionally, if a *sikka* goes between a house and school, for example, the *baraha* might have a playground where children can meet their parents halfway between

school and home. The informant sums it up like this: “Those are the kinds of concepts we were toying with at the time. The idea...[being that these new types] would replace the many sikkas we see today; it would replace the big huge barahas that we see today that is just leftover land in the middle.”

Although the Emirati community component of Plan Abu Dhabi 2030 culminated in a neighborhood planning brochure, any hopes for creating a(n) (Emirati) Neighborhood Design Manual were quickly dashed. An informant offers two reasons for this: (1) the challenge of getting developers to accept narrower utility corridors or rights of way for these tight-knit communities, as discussed above, and (2) the setbacks faced during the implementation of one of the first Emirati neighborhoods. The promotion of courtyard housing came at the same time as the development of the Yas Island Emirati neighborhood – arguably one of the first and only neighborhoods in Abu Dhabi developed in accordance with the reimagined neighborhood style of *freej*; however, as will be discussed in section 6.4, several issues arose during the process, leaving “a bad after-taste for the courtyard house” and acting as a catalyst to pull the plug on the neighborhood design manual (Interview #17).

Nevertheless, the Abu Dhabi Urban Planning Vision has changed the way that planning is viewed in Abu Dhabi, and has contributed to an awareness about its benefits towards quality of life and quality in the built environment – an awareness that was once absent due to a lack of education and understanding around the subject. With Sheikh Mohammed and the leadership’s support, urban planning has taken on a whole new meaning for those involved in city-building in Abu Dhabi.

6.4 Abu Dhabi Metropolitan

Sheikh Khalifa and Sheikh Mohammed’s shared vision for a global, post-oil economy in Abu Dhabi led to economic diversification that essentially changed the emirate’s urban development goals. In addition, the transition from government as provider to regulator of services, coupled with the decentralization of planning in the emirate, led yet again to the transformation of Abu Dhabi’s landscape. This transformation is captured in two periods, 2004-2008 and 2008-2013, such that the former corresponds to the building boom brought about by a change in property law and the latter describes the general atmosphere related to building and construction in Abu Dhabi following the global financial crisis.

2004-2008: Land Speculation, Starchitecture, and Iconic Towers

After the death of Sheikh Zayed in 2004, Abu Dhabi embarked on a significant construction effort, entering a new phase of urbanization as outlined above. The change in property law in early 2005 gave rise to several real estate development companies, most of which are either majority-owned by the government or have close ties to key members of the ruling family. Aldar, the first property developer to appear on the scene,

was given teeth at the end of 2004 and then publicly listed as a PJSC in 2005. Aldar set the pace of development in Abu Dhabi with its slogan “Building the Nation,” and was granted land on Al Raha Beach and Yas Island to develop luxury residential and recreational projects, respectively (refer to Appendix E and F for maps showing Abu Dhabi areas and the location of developments discussed in this section). Similarly, the other developers – Sorouh Real Estate, Al Qudra, Hydra Properties, Tamouh, Reem Investments, Mubadala Real Estate, and Manazel – were assigned by the government different pieces of land to develop. For example, Sorouh, chaired by Sheikh Sultan bin Zayed Al Nahyan, was granted part of Reem Island as well as Lulu Island; Mubadala, chaired by the Crown Prince, was given Sowwah Island (renamed Al Maryah Island in 2012); and Tamouh, which is chaired by Sheikh Tahnoon bin Zayed, was also assigned the development of Reem Island.¹²⁴ The criteria for determining land parceling are not very clear, however. An informant explains that the assignment of land to developers may correspond with the division of prime pieces of land among members of the royal family, which took place following the passing of Sheikh Zayed (Interview #38). One cannot corroborate this for certain because land ownership in Abu Dhabi is not public information (see section 6.2). Over the next years, these islands were reclaimed, adding significant total landmass to Abu Dhabi Metropolitan (see Figure 6.21). The developers also broke ground on dozens of projects across the city and, under pressure to deliver a return to investors, the developers sold pieces of land to a selection of smaller, private sector property developers who employed a sell-and-build approach to property development (Dempsey 2014).

Moreover, when Sheikh Zayed passed away, all of his assets (both financial and property) were placed in a private trust managed by International Capital Trading (ICT) – a private investment company “that was previously the department of Sheikh Zayed,” says an informant (Interview #3). After prime pieces of land were divided up among members of the royal family, ICT turned to what was left. The company reviewed all of Sheikh Zayed’s properties, such as “women’s beaches, club houses, community centers, anything that was...a gift to the people,” and assumed control of them. Overnight, ICT became the largest landholder in Abu Dhabi after the Municipality. The change in property law motivated ICT to redevelop these areas, although development was a new sector for ICT. According to the informant:

[...] development for ICT was a new thing. They’d been an investment company for a long time. They own part of the west end of London, they own quarries in Egypt, they own a lot, and the development side was maybe five percent of the business. But it was the popular side, like “look everybody is building, we’re gonna build something too... Being the global financial times, we have to make money...” (Interview #3).

This was the general atmosphere in Abu Dhabi: with the government’s desire to draw in foreign direct investment, and through its efforts to diversify the economy, it encouraged the building boom that was occurring in the city.

¹²⁴ Reem Island is to consist of high-rise towers that would form the central business district as well as housing, mainly in apartment blocks for approximately 80,000 people.

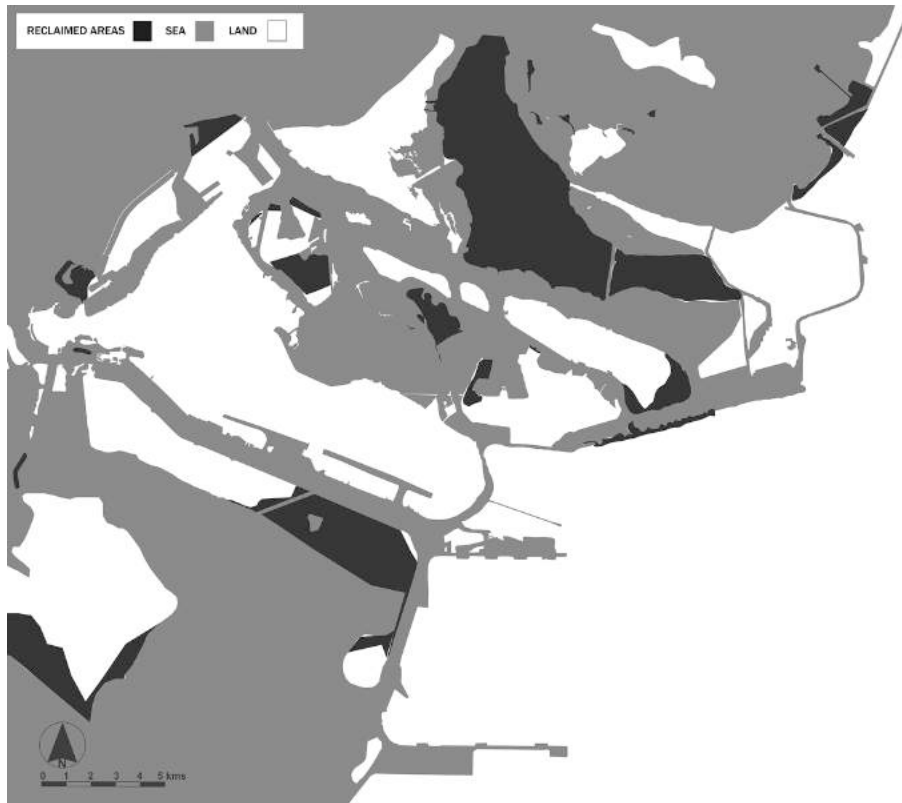


Figure 6.21: Abu Dhabi land reclamation 2006

Tourism as a key driver of economic diversification also played a central role in shaping Abu Dhabi's built form. The formation of the Abu Dhabi Tourism Authority (ADTA), which is in charge of managing specific programs in support of tourist development, coincided with the completion of a landmark project, the Emirates Palace hotel, as well as the ongoing airport expansion (Midfield Terminal) that had begun in 2002. In order to manage its real estate operations and urban interventions, in 2006 ADTA created a private development vehicle, the Tourism Development and Investment Company (TDIC).¹²⁵ As with other developers, significant land stock was transferred from the government to TDIC. In addition to land, TDIC received a large portfolio that included several hotels and resorts, infrastructure projects, and importantly, the development of islands around Abu Dhabi. One of TDIC's key projects is the development of Saadiyat Island, which had remained largely undeveloped for years. The master plan for Saadiyat Island shows a concentration of cultural institutions on the island and emphasizes that this development would be "a new Cultural District for Abu Dhabi and the United Arab Emirates" (TDIC 2007). Accordingly, there is a significant effort to inscribe Abu Dhabi into a new, culture-led branding logic, with the design of these institutions granted to architects or well-established global brands. For instance, TDIC summoned the help of Thomas Krens, director of the Solomon R. Guggenheim Foundation, known for his campaign to open a dozen Guggenheim branches in places such as Singapore and Rio de Janeiro, for example (Ourossoff 2007).

¹²⁵ Both ADTA and TDIC are chaired by Sheikh Sultan bin Tahnoon bin Muhammad Al Nahyan.

In order to give this Cultural District a sense of distinction, Krens engaged the talents of some of the world's most renowned architects ("starchitects"). For the Guggenheim, Frank Gehry was enlisted to replicate his success in Bilbao, Spain. Jean Nouvel was offered a "classical" museum that could house visiting exhibitions from the Louvre, Zaha Hadid a performing arts center, and Tadao Ando a maritime museum (Ouroussoff 2007).



Figure 6.22 Abu Dhabi Midfield terminal expansion



Figure 6.23 Saadiyat Island Cultural Museums rendering

Gehry's Guggenheim is conceived as a series of galleries loosely arranged around open-air courtyards, alluding to the traditional alleyways of Arab towns, as well as paying homage to traditional ways of cooling and controlling climate (Elsheshtawy 2008). The cone-shape galleries are supposedly derived from traditional Islamic wind towers, and their curved forms "vaguely evoke traditional Bedouin tents" (Ouroussoff 2007). Nouvel's design "symbolizes the calm created by light passing through the palm fronds of an oasis" (TDIC 2007). The white hemispherical-shaped dome that covers galleries below recalls traditional mosques. Hadid's design for the performing arts center "springs from the complex nature of the site rather than an exploration of cultural memory," such that the structure resembles "a system of entwined branches

with four concert halls trapped inside them like luscious fruit,” and Ando’s design for the maritime museum evokes the shapes of the *dhow* and the traditional Gulf coast (Ouroussoff 2007). The designs are seen to be “the perfect fusion between East and West, placing Abu Dhabi on the global map,” says an informant (Interview #40).



Figure 6.24 Sheikh Zayed National Museum.



Figure 6.25: the Louvre Abu Dhabi

Not only are starchitects involved in the branding of Saadiyat Island – and in turn Abu Dhabi – but so are museums. Referring to the Cultural District, Yasser Elsheshtawy (2008a) writes:

The Guggenheim has in fact become symptomatic of what has been described as the ‘McDonaldization’ of culture. It has in effect been turned into a brand that can be placed anywhere. Abu Dhabi by acquiring this brand is thus plugging itself into this global cultural network – becoming another stop on the world circuit of art aficionados.

The Louvre also jumped on the branding bandwagon, particularly as the French government agreed to loan the Louvre brand and its art to Abu Dhabi for 20 years for the rumored sum of US \$1 billion (Haider 2008). The shift in focus towards luxury tourism and cultural activities has made marketing and branding through spectacular architecture seem crucial to Abu Dhabi. This approach has raised several concerns; for example, that the city is being defined by outsiders (Elsheshtawy 2009; Bani Hashim 2011); that developments do not tie together very well or that they are focused on developments in isolation rather than how they contributed to neighboring buildings and the overall cityscape (e.g. Gehry 2007); and that development only caters to specific (privileged) receptors, which may be criticized as elitist (e.g. Bani Hashim 2011). Associating with brands did not stop with cultural amenities on Saadiyat Island. In 2006, Mubadala signed an agreement with the Cleveland Clinic to build a branch on Sowwah (or Al Maryah) Island. At the same time, Abu Dhabi landed deals to bring in branches of well-known universities. The government signed an agreement with Paris’ Sorbonne, which was housed in a temporary facility for three years until its Reem Island campus was completed.



Figure 6.26 Sorbonne University on Reem Island

1 *Sustainable Technologies, New Projects, Old Tensions*

Sustainable technologies are also a central focus in Abu Dhabi's city-branding and economic diversification efforts. At the time the Masdar Initiative was established, it was intended to "position Abu Dhabi as a world-class research and development hub for new energy technologies...to promote development and commercialization of innovative technologies in renewable and sustainable energies as well as sustainable design" (Gupte 2009). The initiative has several different strands, including the marketing of a high-profile "green" project named Masdar City, a zero-carbon, zero-waste development aiming to house 40,000 people with employment for an additional 50,000 commuters. The six-square-kilometer (2.3 square mile) site is located southeast of Abu Dhabi by the international airport (see Appendix E and F to locate Masdar City as well as subsequent developments discussed in this section). Foster+Partners, the British architecture firm, is behind the design of Masdar City. Their design adopts "local, vernacular architectural principles, but this [is] mixed with a lot of cutting-edge technology" (Millford 2009). Masdar City incorporates traditional *souks* and wind towers, and makes use both of open, public squares and narrow shaded walkways to connect homes, schools, restaurants and shops. The buildings will have passive energy systems (i.e., without any mechanical or electrical devices) built in. The system will allow the consumption of less than a quarter of the energy used by comparable buildings in the region for heating and cooling. In Masdar City, a network of electric trams will replace automobiles as a light rail transit (LRT) system that links to the planned Abu Dhabi LRT system. In addition, driverless electric taxis controlled by a central computer will be available; these can be thought of as a personal rapid transit system. Importantly, the city is to be powered entirely by renewable energy sources, with solar energy providing the bulk of the energy. Construction on Masdar City began in 2008.



Figure 6.27 Masdar City masterplan

Masdar City illustrates such attempts by developers to attract capital through displays of advanced sustainable technologies. This, along with the presence of post-modern architecture, conference and retail centers, and cultural, sports, and entertainment facilities, is in line with Abu Dhabi's entrepreneurial tendencies in urban governance. In 2007, ADTA opened ADNEC exhibition center and the area around Al Maqta (also known as *Bein Al Jisrain*, or Between Two Bridges) was undergoing massive hotel development, from the Fairmont Souk Al Bahar to the Shangri-La Hotel. The landmark Gulf Hotel (operated by Abu Dhabi National Hotels) was demolished to make room for a mammoth Ritz-Carlton hotel. Mubadala was also busy redeveloping Zayed Sports City, while Aldar began construction of the Yas Viceroy Hotel, Yas Marina racing circuit, Ferrari Theme Park, and a slew of other hotels on Yas Island. Abu Dhabi had yet again become a huge construction site and the building community had its work cut out for it.

During this period (2004-2006), a number of architectural, engineering and planning consultants arrived in Abu Dhabi from around the world. Most of them were new to the Abu Dhabi market; some had previously worked on large government projects in infrastructure, defense, or oil and gas. For example, according to an informant, their firm had worked on several municipal projects in the 70s and 80s but left the scene as projects became more generic, only to return a decade or so later to participate in the new building boom (Interview #31). Another informant explains that their firm made its way to Dubai first, because Dubai's building boom began earlier than Abu Dhabi's, but "because we're in Dubai, we naturally looked at the markets nearby" (Interview #8). Not unlike the past, these international firms only set up small offices in the region and worked on Abu Dhabi projects from their offices in another branch of the firm (Interview #29). According to an informant:

There's never a hundred [employees] around the world in two or three different offices that are working on parts of [a project]. I know that infrastructure is being done between London and Cardiff, a lot of the MEPs is being done between Bristol and Cardiff, some

work is being done in New York...so there's a little bit of breaking it up in parcels. So yeah it's kind of broken up depending on what skills are needed and then what resources are available (Interview #31).



Figure 6.28 *Bein Al Jisrein* showing Fairmont Hotel.



Figure 6.29 Yas Island masterplan



Figure 6.30 Ferrari World, Yas Island



Figure 6.31 Yas Viceroy Hotel

This global reach meant that the long-established Arab consultant offices such as Khatib & Alami, Eng. Adnan Saffarini Office, and Dewan, to name a few, faced stark competition for lead consulting positions on projects. While the Arab offices were spoilt for choice in the market, due to an abundance of opportunities to develop residential towers, villas, hospitals, and other projects, their international counterparts won bids for some of the biggest and most important projects in Abu Dhabi. In many cases, however, the Arab offices were hired to provide engineering or other services for these projects.

One of the most significant projects of this period is the redevelopment of the Central Market site, after a fire in 2003 burned down the *souq* designed by Abdelrahman Makhoulf. Aldar became the principal developer of the site and Foster+Partners the lead consultants, taking over from the Municipality and renowned Arab architect Rasem Badran respectively (Elsheshtawy 2008a). Foster reworked the design of the market site, which would include a hotel, luxury shops, flats, restaurants, offices and a market resembling a “traditional Arabian Souq” (ibid.) and offering a “distinctive modern interpretation of the regional vernacular” (ArchDaily). As with the museums on Saadiyat Island, the new Central Market site would serve an exclusive clientele with its array of “high-end lifestyle stores and boutiques” (ibid.). In 2005, shopkeepers were issued eviction notices, the remains of the *souq* were demolished, and soon after, construction of the project began.

Other projects completed during this period include the demolition of the landmark Volcano Fountain and the Clock Tower near the Abu Dhabi Chamber in the original CBD (c. 2004); the extension of the Marina Mall (2005); and the construction of Khalidiyah Mall (2006), Wahda Mall (2007) and One-to-One Hotel (2007). Building important landmark projects such as the Etihad Towers in the Ras Al Akhdar area began, while the popular Tourist Club was closed for redevelopment. In 2007, the

much-awaited Sheikh Zayed Grand Mosque opened, adding a significant landmark to Abu Dhabi's landscape.



Figure 6.32 Central Market design by Foster+Partners



Figure 6.33 Volcano Fountain

Driven by the construction boom, developers continued to push forward grand projects of varying scale, leading to an explosion of largely unregulated development. In the process, an informant tells of the loss of many of the green spaces in the city – mostly planted block corners – which were seized for development (Interview #19). When the government instituted the Abu Dhabi Urban Planning Council, one of the first moves the UPC made was to claim as much of the available green spaces as possible and to keep them under its jurisdiction.¹²⁶ It also canceled plans for a 12-lane freeway that threatened to rip the city apart (George-Cosh 2008). Moreover, the UPC reports that the 2006-2007 land use plans reflected that the city's growth did not occur in strict accordance with the Atkins plan (Abu Dhabi Urban Planning Council 2007a). Much of the development launched during this period was primarily situated on the Abu Dhabi-Dubai road and on the principal island's outlying neighbors, such as Al

¹²⁶ This is possibly yet another example of undefined boundaries, as it is widely known that the ADM is in charge of or "holds" all open and green spaces in the city. Both the ADM and UPC are landholders, although it is difficult to ascertain which plots "belong" to the UPC since this information is not made public.

Reem Island. Some companies like ICT and Bloom Properties created towers, villas, and low-rise apartments in the heart of the city. The UPC managed to scale back or redirect some of these projects based on Plan Abu Dhabi 2030, on the condition that these projects did not receive approval or begin construction pre-UPC.



Figure 6.34 Abu Dhabi view from Corniche, showing clocktower.



Figure 6.35 Sheikh Zayed Grand Mosque

By 2008, the Department of Transport implemented a municipal bus system, one of its first projects. At the same time, the Abu Dhabi Municipality completed a fully serviced 51-kilometer (approximately 32 miles) long network of internal roads in Khalifa City A (now named Khalifa City) (UAE Interact 2008). That year, Al Bateen Executive Airport stopped operating as a military air base and began operating under Abu Dhabi Airports Company as an executive jet facility, focusing on private jets. The Executive Affairs Authority also ordered an extensive redevelopment of the Corniche waterfront, “to stimulate increased community engagement and promote social sustainability” (“Abu Dhabi Corniche” 2009). Moreover, as part of Abu Dhabi’s environmental strategy, one million mangrove saplings were planted near Saadiyat

Island and around the capital (Todorova 2011). Development was occurring at a frenzied pace, with the UPC trying to manage what it could.

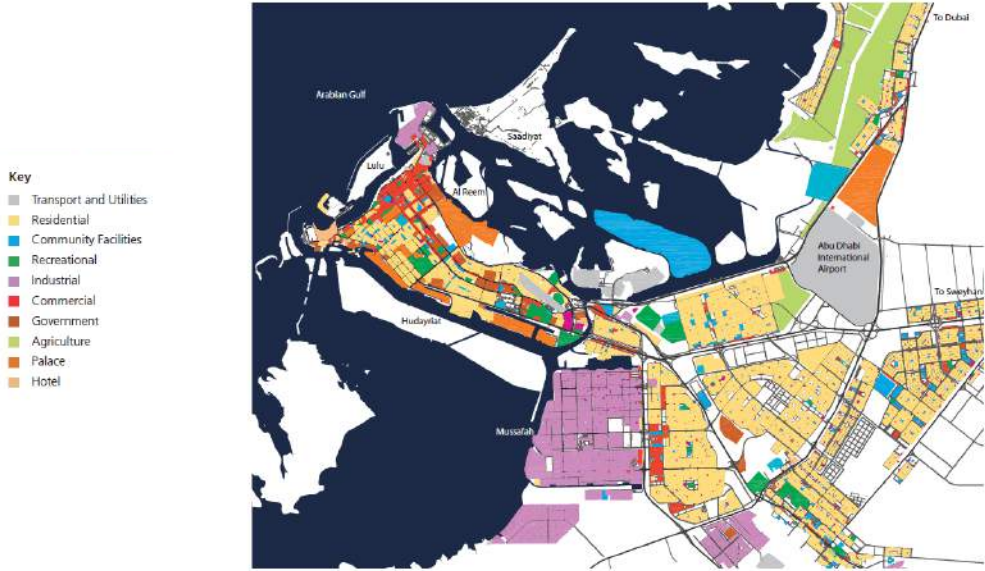


Figure 6.36 Abu Dhabi land use map 2006 - 2007

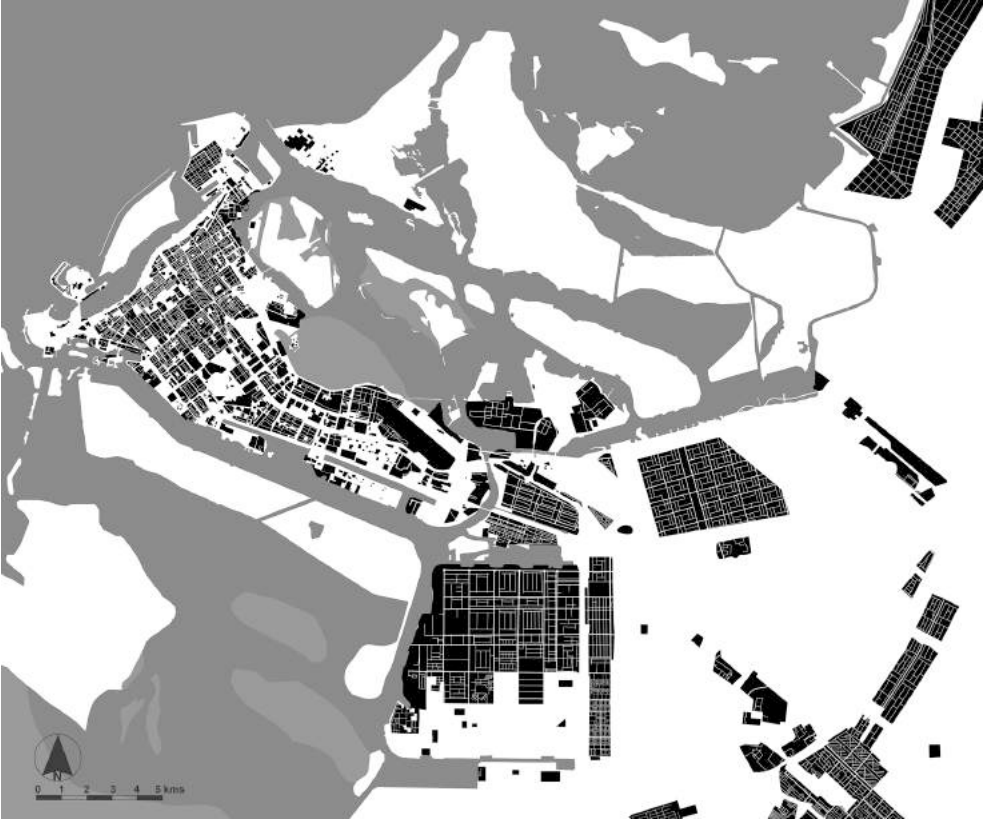


Figure 6.37 Abu Dhabi built up area 2006

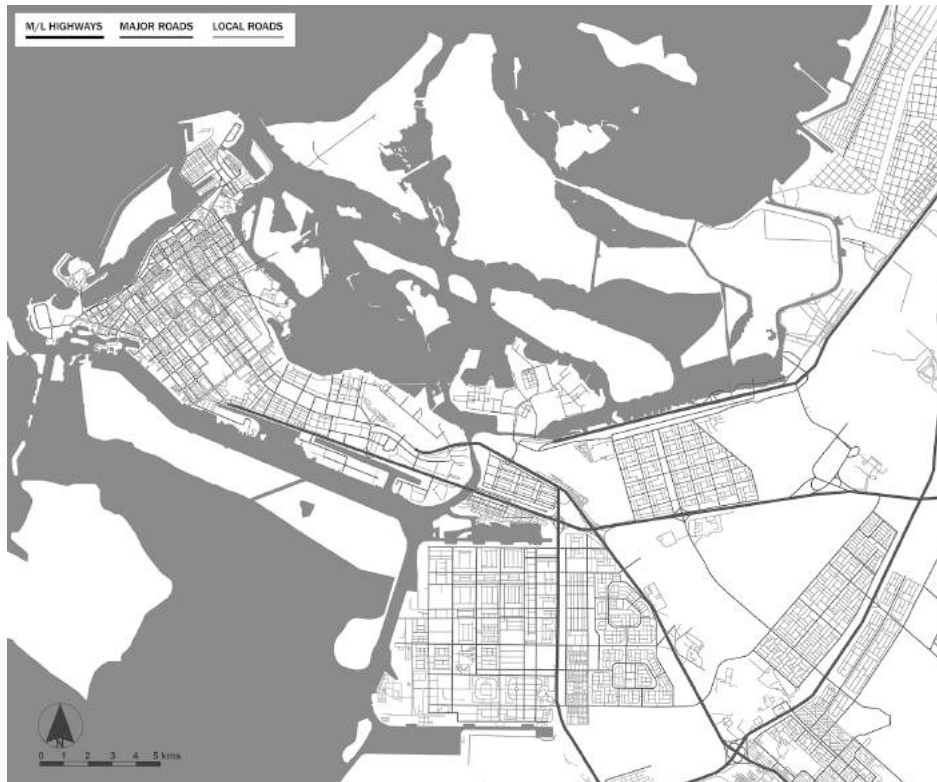


Figure 6.38 Abu Dhabi circulation network 2006

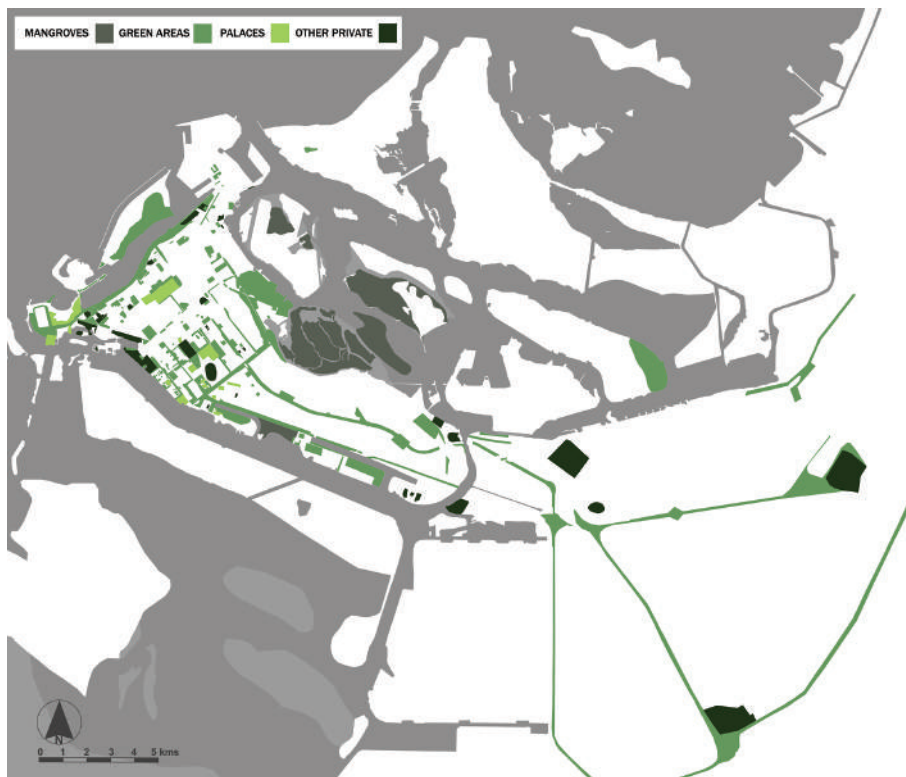


Figure 6.39 Abu Dhabi green areas 2006



Figure 6.40 Mangroves



Figure 6.41 Corniche redevelopment c.2008

2008-2013: Scaling Back

At the end of 2008, the global financial crisis brought development to a halt. Many buyers pulled out and developers found themselves with thousands of empty units on their hands, leaving both developers and buyers without liquidity (al-Kindi 2010) (see section 6.3). Some developers were forced to accept a government bailout; many announced changes in priorities for many of their future developments, veering away from a sole focus on the high-return luxury market and toward adding middle-income community projects to their portfolios. The UPC also issued directives to each private developer to set aside a percentage of all future projects for low- to middle-income residents, a necessity often overlooked in the early phases of the city's development.

After an extensive review, several projects that were in the pipeline were scaled back, delayed, or canceled altogether. For instance, the pace of building Masdar City was slowed down considerably, with the date of completion for the first phase of construction pushed back from 2009 to 2015, and then to 2025 (Stacey 2010; Emirates 247 2010). Many of the city's elements were rethought, such as the goal of becoming the world's first zero-carbon city; now Abu Dhabi is only low-carbon (Stacey 2010; Emirates 247 2010). For the most part, Masdar City remains in the conceptual stage, although Masdar Institute is up and running. Around 1,000 people reside near the campus, a Siemens research center opened up in the city, and the headquarters of the International Renewable Energy Agency (IRENA) is under construction.

Although construction tapered off dramatically during the downturn, the population of Abu Dhabi remained relatively steady. By 2009, the emirate's population had reached approximately 1.82 million, up from about 1.37 million in 2005 ("Abu Dhabi population" 2012). The national population increased from about 350,000 in 2005 to approximately 414,000 in 2009 and the non-national population expanded from around 1,050,000 to about 1,412,000 in the same period (ibid.). Between 2009 and 2010, many projects that had begun construction in the previous period were coming to

fruition (refer to Appendix D and E for maps showing the location of all developments discussed in this section). For example, the Sorbonne campus on Reem Island was completed (2009); hundreds of costly villas and houses, as well as a UAE Heritage Village, were built on the Marina Mall Peninsula; Dalma Mall opened in the Mussaffah industrial area (2010); New York University Abu Dhabi (NYUAD) was established and a small campus was built near Al Hosn Palace as its larger location on Saadiyat Island was constructed (2010); the Khalidiyah Palace by Rayhaan in Ras Al Akhdar area was built (2010); and Sorouh's Golf Gardens – a gated community development made up of single-family homes – was completed (2010).



Figure 6.42 New York University Abu Dhabi (first campus)



Figure 6.43 ICAD industrial area

Moreover, Zonescorp developed Abu Dhabi Industrial Cities (ICAD-I, II, III) near Mussaffah. The total area of Abu Dhabi Industrial City I is currently 14 square kilometers (equivalent to 5.40 square miles), with a planned expansion of 60 square kilometers (equivalent to 23.17 square miles) to come. ICAD I is outfitted with an administrative headquarters along with a range of public facilities, including a hotel, cultural center, and a business support center. Banks, shopping malls, and a medical clinic have also been built. The second part of the city contains a residential area that

accommodates up to 180,000 low-income migrant workers (Kumar 2009). The other two industrial cities, ICAD II and III, are still under construction, with some factories already in operation at ICAD II. ICAD II is 11 square kilometers (equivalent to 4.25 square miles) in size and contains 101 plots of land allocated for the clustering of specialized industries, such as chemical, plastic, engineering, wood products, and oil and gas. The 12-square-kilometer (equivalent to 4.63 square miles) ICAD III, meanwhile, is designed to contain clusters for comprehensive industries such as chemical compounds, construction materials, and engineering. Notably, the development of ICAD added to the number of permanent residential accommodation for migrant labor working in the industrial and service sectors (the first being in Mussaffah). The camps are gated, with uniform residential blocks and communal areas, communal kitchens, laundry rooms and outdoor playing fields. It is important to distinguish these camps from the temporary labor camps that house construction workers, which are commonly built in peripheral areas like Mafraq or built on site at major development locations during construction (that are cleared when the project is completed). The temporary camps or “construction villages” are generally put up by contractors who import the migrant laborers. The labor camps have been criticized by the international media and Human Rights Watch for their substandard conditions (e.g. Human Rights Watch 2009) and in both cases (permanent and temporary camps), the workers are dependent on their employers for transportation, meaning they are more or less confined to the camps except when working.



Figure 6.44 Sheikh Zayed Bridge by Zaha Hadid

In addition to the large cultural, educational, and industrial projects, several major infrastructure projects were completed in 2009-2010. Sheikh Khalifa bin Zayed Al Nahyan Bridge, a 10-lane bridge connecting Saadiyat Island with Abu Dhabi city from the Mina Zayed port, was built. A ten-lane highway linking the Shahama-Dubai-Abu Dhabi road to Abu Dhabi city was also built (Kumar 2009). Sheikh Zayed Bridge, conceived in 2003 as a much-needed third link between the island and the mainland that would relieve the overloaded Maqta’ and Mussaffah bridges, was also constructed. Zaha Hadid designed the 850-meter long (equivalent to 2788.7 feet), four-lane bridge, which connects traffic from Dubai via Shahama with the Eastern Ring Road. The Eastern Ring Road was also expanded as part of the Salam Street redevelopment project, creating a new alternative route leading directly to the Abu Dhabi Mall area. Six

temporary pedestrian overpasses were set up near Salam Street and Abu Dhabi Mall to allow for safer pedestrian crossing. Additionally, Al Mafraq Bridge was built and Yas Tunnel – connecting Al Raha Beach to Yas Island – was completed. Dredging and reclamation of the new Khalifa Port in Taweelah (Shahama-Dubai way) also began at this time (the port started operations in 2012), while a multibillion-dirham plan to upgrade and expand the city’s overloaded sewerage system commenced (*The National* 2013; Zacharias 2013).

A few significant initiatives were launched during this period. In 2009, the Department of Transport initiated a comprehensive program called Mawaqif to tackle Abu Dhabi’s parking dilemma. At the core of the program is a multi-phased approach called the Public Parking Management Strategy that applies a paid parking system to Abu Dhabi. Mawaqif was created after a surge in the number of cars tied to the emirate’s rapid population growth. According to the Department of Transport, between 2005 and 2008, the number of registered vehicles in the emirate increased by an average of 16 percent per year, while the number of license holders grew by 10 percent per year (“Abu Dhabi’s Comprehensive” 2013). Mawaqif was successful in eliminating illegal parking, particularly inside the superblocs. The second important project was a pilot street redesign project on the western side of Abu Dhabi Island. The pilot project included pedestrian-friendly improvements such as narrower streets, raised zebra crossings with clearer markings, more restrictive entrances to parking lots, one-way circulation patterns inside parking areas and Braille tiles with smooth elevations for people with special needs. Wider, shaded pavements and more greenery were also introduced. The project’s success in creating comfortable and walkable streets and changing driving behavior generated enthusiasm to redesign other main streets in the city (Shaheen 2010a). Additionally, as part of city “beautification efforts,” a policy was implemented that required all car repair shops to relocate to the outskirts of the city, while carpentry, glassworks, welding, and scrap-metal shops were moved to Mussaffah (Kwong 2010). An informant, who was afraid that Abu Dhabi’s unique mixed-use pattern would be lost, showed concern with this initiative. “There is this kind of nervousness...that some of the places are too scruffy and they are not high-end enough so we have to remove those kinds of shops...[S]omeone who lives in downtown has to drive all the way to Mussaffah to get an oil change...just because the image that that is not a very attractive thing,” the informant says (Interview #11).

Small park spaces and other greenery began to appear on the mainland. Moreover, mangrove rehabilitation and reforestation was started near Saadiyat Island, and one of the city’s oldest and largest parks, Mushrif Central Park, was closed for redevelopment. The new park design would reduce the amount of turf grass, naturally reduce urban heat buildup, and use different vegetation to reduce overall water consumption (*Arabian Business* 2010). The Corniche waterfront received another facelift only one year after its 2008 redevelopment to prepare for an increase in beach visitors coming from nearby public beaches that were closed for redevelopment (Kawach 2009). The Corniche was renovated with spaces for beach sports, along with a boardwalk housing restaurants and upgraded facilities (Henzell 2009).

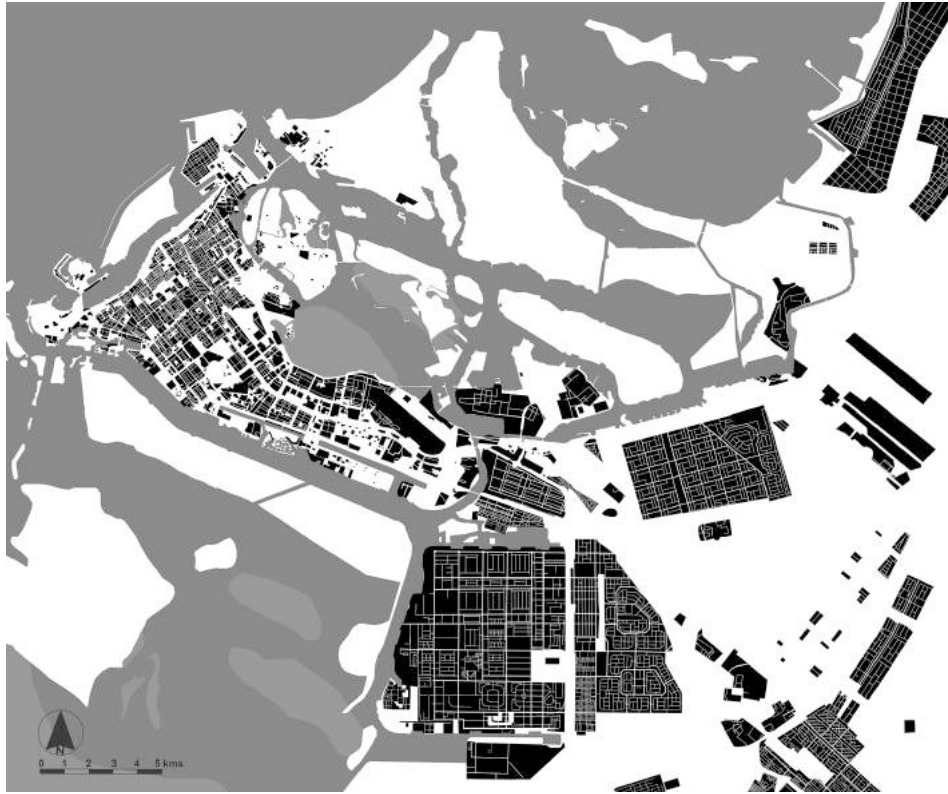


Figure 6.45 Abu Dhabi built up areas 2009



Figure 6.46 Abu Dhabi circulation network 2009

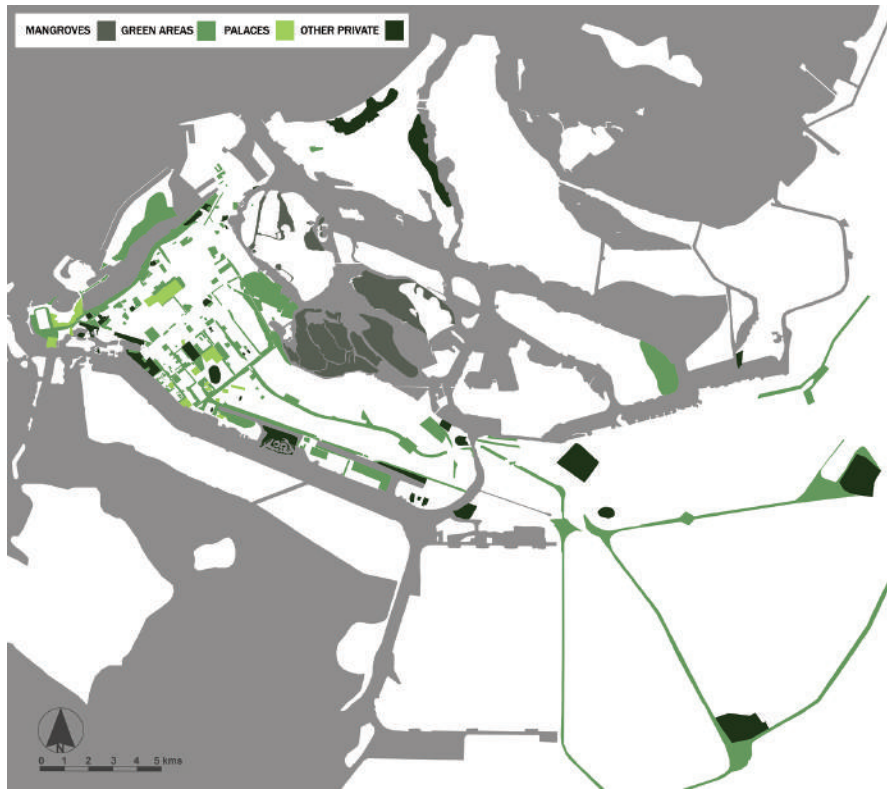


Figure 6.47 Abu Dhabi green areas 2009

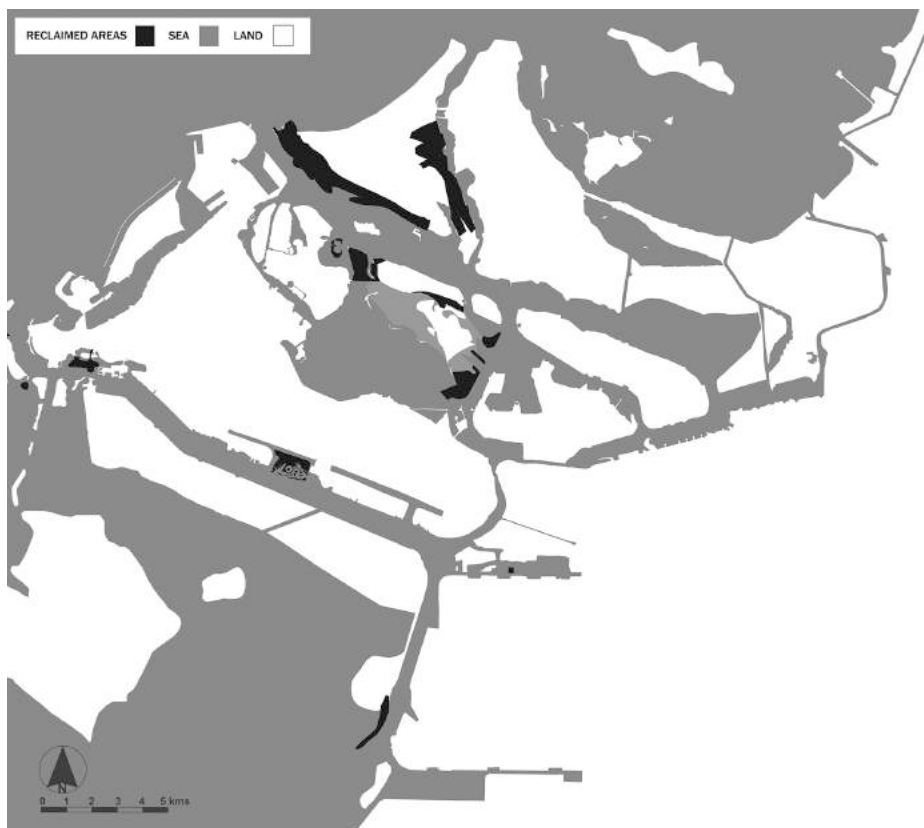


Figure 6.48 Abu Dhabi land reclamation 2009

The majority of the Ras Al Akhdar (also known as Bainuna) and al-Bateen areas were under construction. The public beach in Ras Al Akhdar and the Ladies Beach nearby were closed down to make way for the construction of a massive new presidential palace. Moreover, with Etihad Towers and Khalidiyah Palace Rayhaan being built as well, the entire road network around the Emirates Palace area had to be upgraded, with new tunnels and a dedicated U-turn built to access the towers (Bainuna tunnel was opened in 2012). In al-Bateen, several waterfront development projects were under construction, replacing the old boat building and fishermen's village. These include Bateen Wharf by TDIC and Marasy by ICT. Once completed, these developments (13 in total) will radically transform the historical fishing and boat building neighborhood. To maintain the integrity of the neighborhood and people's connection to the sea, the UPC developed the Bateen Waterfront Design Guidelines to safeguard against developers' proposals for private beaches and to encourage an active and integrated public realm.

In 2010, building and construction contributed 13 percent of GDP. The Abu Dhabi Statistics Center reports that the emirate issued 7,747 building permits in 2010, with 28 percent of these issued for new construction (Statistics Centre 2011). By 2011, the population of the emirate reached 2.12 million, an increase largely caused by migration (ibid.). Yet while the number of new buildings was increasing, so too did the number of demolitions. An informant laments, "The one thing [Plan Abu Dhabi 2030] didn't maybe do enough because it, like everything, was rushed ... we had to do it in six months so the whole process of diagnosis and assessment of existing good things to hold on to was really abbreviated" (Interview #27). After heritage efforts failed to stop the demolition of all but one of the ADNOC headquarters' buildings, which were replaced by a mammoth new 340-meter tower (equivalent to 1115.49ft), the Abu Dhabi Authority for Culture and Heritage (ADACH) launched the Modern Heritage Preservation Initiative. Previously, federal law stipulated that developments needed to apply for a preliminary cultural resource survey as part of their pre-concept design, which mainly focused on the impact of developments on paleontological, archaeological, and pre-oil historic resources, but not on modern buildings. The new initiative deemed some modern buildings to be significant, giving rise to opportunities for preservation or revitalization (Chabbi and Mahdy 2011). Examples include the bus station, Al Manhal Palace, al-Maqta' bridge, the Armed Forces Officers' Club, the Intercontinental, Meridien and Hilton hotels, and Sheikh Zayed Stadium in Zayed Sports City. There are efforts under way to involve the UPC in this process, with plans for heritage overlay layers to form part of the building code (ibid.).

While the global economy remained under severe pressure following the crash in 2008, and following the unsettled geopolitical events across the Middle East since 2011, announcements about project delays remained common. Notably, the completion dates for the Saadiyat Island museums were pushed back: TDIC unveiled a new construction timetable promising that the Louvre Abu Dhabi would open in 2015, followed by Zayed National Museum in 2016, and the Guggenheim Abu Dhabi in 2017. The Performing Arts and Maritime museums were put on hold. *The National* reported that TDIC was weighing a sale of its assets, including apartments and hotels, to pay off some of its debt

(Duncan 2012).¹²⁷ Moreover, as the first buildings on Sowwah Square (now called Abu Dhabi Global Market Square) in Al Maryah Island began to rise, plans for business districts on Saadiyat Island and Reem Island went back to the drawing board until Al Maryah Island was completed and could act as a barometer to gauge demand for other developments (Hunter 2011). At the time, Cleveland Clinic Abu Dhabi was under construction, as well as the Rosewood and Four Seasons hotels and a shopping and restaurant complex, The Galleria.



Figure 6.49 Old ADNOC buildings with new HQ tower in the background



Figure 6.50 Al Maryah Island and Galleria Mall

Moreover, as a result of reprioritization efforts, more than 12,500 villas were committed to be delivered to Emirati nationals over four years under the high-priority Emirati Housing Program. To ensure nationals had access to high-quality and sustainable housing, the UPC signed agreements with major local real estate developers to master plan and develop Emirati neighborhoods. In Abu Dhabi Metropolitan, or the Capital region, major national housing projects include Al Falah, Yas Island villas, and

¹²⁷ In 2012, TDIC was forced to cut down on its expatriate workforce. This was followed in 2013 by the merger of Aldar and Sorouh into a single entity called Aldar Properties, owned in large by the emAbu Dhabi government. See Fitch, Asa (2013). "Newly merged Aldar Sorouh faces familiar issues" in *The Wall Street Journal*, June 30. See also "Aldar Sorouh merger gets go ahead" in *Gulf News*, June 30.

Watani, developed by Aldar Properties, Royal Development Company, and Sorouh Real Estate respectively.

These projects are developed as self-contained communities comprising national houses, infrastructure and community facilities, and services. They are different from previously developed low-cost houses in that they are built according to the “highest quality” and sustainability standards set by Estidama; furthermore, they are designed as complete communities. One, the Yas Island Emirati neighborhood, was arguably the first and only Emirati housing project in Abu Dhabi developed in accordance with the traditional neighborhood style of *freej*. The Yas Island Emirati neighborhood was constructed as an interconnected housing network comprising independent villas, courtyards, gardens, shaded walkways, and other community facilities on 78 hectares (equivalent to 8.4 million sq. foot). The housing typology is based on a modern interpretation of the traditional courtyard housing structure, where homes have a central courtyard located within them.

Completed in August 2011, the first phase included 488 villas distributed to Emiratis. Almost immediately, homeowners began to complain of *majlis* that were too small, rooms that were too open, and inside temperatures that were too high. According to an interviewee, the project had but nine months allocated for construction, with its opening to coincide with the launch of the first Formula 1 race in Abu Dhabi. The project faced delays and poor construction as a result:

Unfortunately, what we ended up with was a very poor quality neighborhood; these were given over to Emiratis and the complaints haven't stopped...The wind towers, for example, have fixed windows; they don't open up, so it actually gets really warm. It turns into a chimney or a high-pressure cooker. Within it you have a stairwell and as you go up, you start feeling the heat more. What people did, they intervened and put in A/C units to cool that space because the air wasn't going out. So, it defeated the whole purpose. An old and traditional system that's meant to cool the place is actually becoming counter-productive now. We're having to use more electricity and power in order to fix the problem. It was the attention to detail and there wasn't time for that, which was unfortunate. The way the blocks were put together was not flexible at all. It almost felt like you were actually constrained within the courtyard. It generated a negative effect and every time somebody said courtyard, management and leadership were like “I don't want to hear it.” (Interview #12)

The mishap led to the termination of research on Emirati neighborhood design; since then, a return to the cookie-cutter approach to villa development has ensued (e.g., Al Falah and Watani projects). The drawbacks faced by Yas Island homeowners reflect the challenges of implementing a long-term plan in a culture that is focused on immediate gain. The promising ideals involved in the reimagined *freej* design are only as good as the attention to detail when carrying out the vision and the time dedicated to the plan's successful implementation. The issue with the Emirati housing projects thus far is that they result in urban sprawl: they are not integrated within the city, but developed as satellite cities with single-family homes on fairly large plots of land disconnected from Abu Dhabi's urban fabric. An informant attributes this to the key principles of New

Urbanism, which arguably promote “prettier sprawl” (Interview #21) Despite the delays and changing priorities, however, Abu Dhabi’s leaders were confident that the emirate’s long-term plans to realize its vision would not be derailed (see section 6.2).



Figure 6.51 Yas villas



Figure 6.52 Al Falah housing



Figure 6.53 Watani Housing



Figure 6.54 Aerial view of Al Falah showing



Figure 6.55 Abu Dhabi built up areas 2011



Figure 6.56 Abu Dhabi circulation network 2011

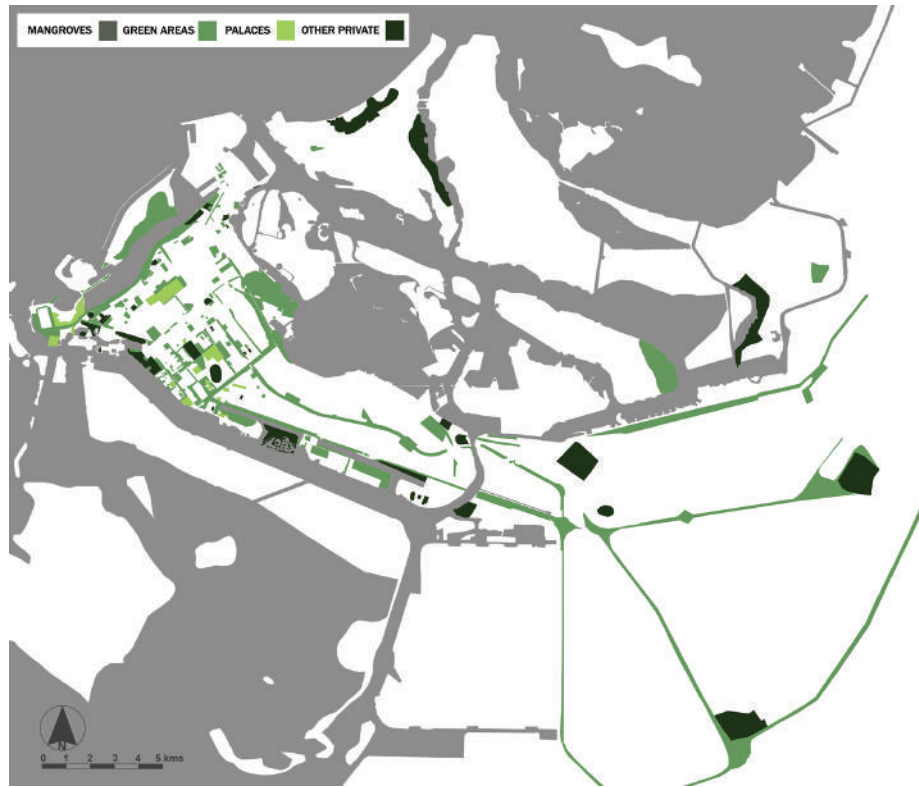


Figure 6.57 Abu Dhabi green areas 2011

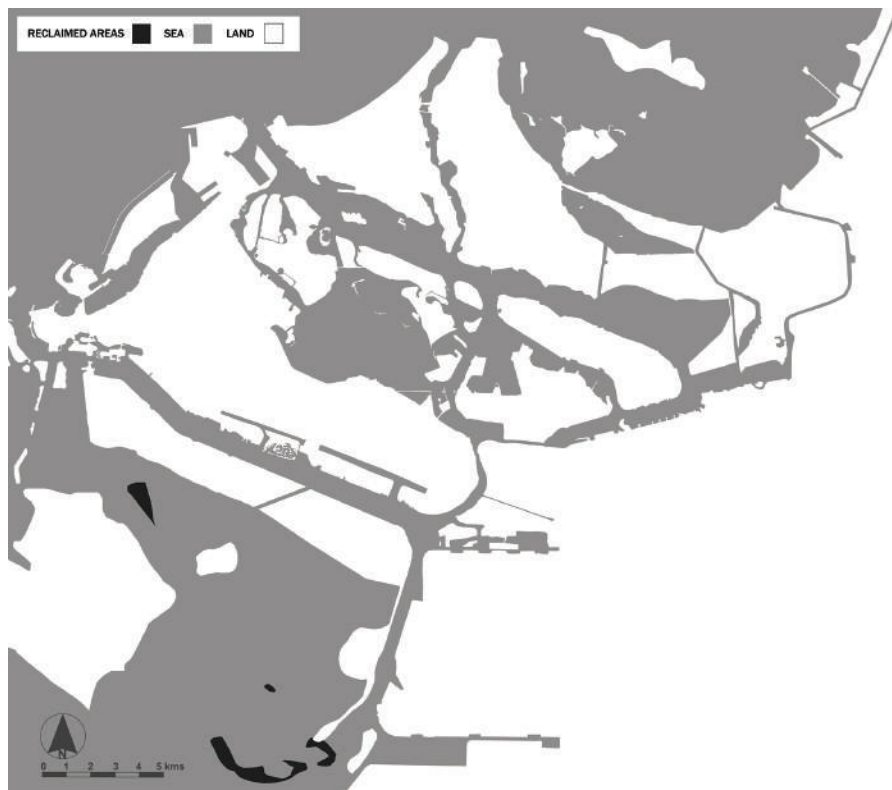


Figure 6.58 Abu Dhabi land reclamation 2011

Several landmark or iconic projects came to fruition in 2011 and 2012. The Central Market project by Foster+Partners opened in the heart of Abu Dhabi's city center, surrounded by three skyscrapers featuring a residential tower, commercial tower and hotel tower (it has now been renamed the World Trade Center). The Wahda City towers adjacent to Al Wahda Mall were completed; the five-pod landmark Etihad Towers in Ras Al Akhdar were completed, as well as Seba Tower in Khalidiyah; Nation Towers on the Corniche (two towers connected by a sky bridge) were completed with offices, apartments, a shopping mall, and St. Regis Hotel, including the Nation Riviera Beach Club; Rocco Forte and Eastern Mangroves hotels opened; ADNEC's adjoining leaning tower, Capital Gate, was completed; and IPIC Square and Al Bahar Towers were completed. Other than the two hotels, most, if not all, of these projects punctuated the city skyline with buildings taller than 200 meters (equivalent to 656.17ft).

Other projects, such as Mushrif Mall and Burjeel Hospital on Abu Dhabi Island, Deerfields Mall in Al Bahia, and Al Reef Villas near the international airport, were completed. Zayed University moved from its aluminum-clad building on Abu Dhabi Island to the Khalifa City campus on the mainland, and Khalifa University opened on the mainland as well. In 2012, small grocery shops sprinkled throughout the city were ordered to renovate their interiors to "bring shops up to speed with global food safety procedures" (Cleland 2012). All shops that met the requirements were renamed *Baqala*, Arabic for grocery, and were brought under the new brand. Moreover, as "city beautification" efforts continued to be rolled out, new commercial signage regulations were enforced that required all Abu Dhabi businesses to change their shop and business signs. This would "remove visual clutter, ensure consistency in building and project a positive image" (Thomas 2012).

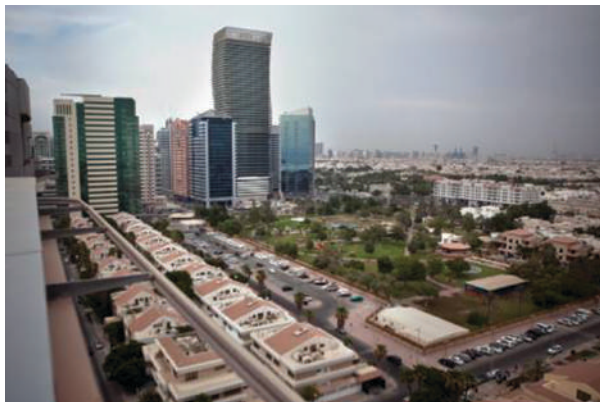


Figure 6.59 Seba Tower towering over other buildings



Figure 6.60 Capital Gate

Infrastructure projects completed by 2012 include the 53-kilometer (equivalent to 32.93 miles)-long Mussaffah Channel project, located just off the southwestern shoreline of Hudayriat Island and immediately west of the Mussaffah Industrial Area. The channel provides navigation access with increased water depth to service the Mussaffah Industrial Zone and ICAD areas. It replaced the existing access channel, which will now only be used by smaller ships. Nine pedestrian bridges opened across the city that year,



Figure 6.61 Al Bahar Towers



Figure 6.62 Nation Towers and Etihad Towers



Figure 6.63 New *Baqala* grocery store

and the long-awaited Salam Street redevelopment was completed, with the Salam Street and tunnel (renamed Sheikh Zayed Street and Tunnel) open to the public.¹²⁸ The tunnel stretches from Delma Street at the Sea Palace junction, up to the Corniche and Mina Road. The roadway allows motorists to drive uninterrupted from the Sheikh Zayed Bridge to the Mina Zayed area (Ruiz 2012; Emirates 247 2012).

The mangrove rehabilitation project was completed, with 800,000 saplings planted near Saadiyat Island. Since official recordkeeping on mangrove habitats in Abu Dhabi began in 2001, the Environment Agency Abu Dhabi (EAD) has recorded the loss of 20 square kilometers to make room for coastal developments (Todorova 2011). The project is also close to the newly opened Saadiyat Beach, a natural nesting ground for hawksbill turtles. The beach is fringed by a natural dune system in which a restriction on building activities applies within 60 meters (equivalent to 196.85ft) from the seaward edge of the dune (Radan 2013). These projects demonstrate willingness by the Abu Dhabi authorities to restore natural habitats and to mitigate and reduce the effects of coastal development. Other public beaches were opened as well, including the Bateen Beach, Western Corniche extension and Yas Beach. In addition, five residential parks, which were part of the Abu Dhabi Municipality District Parks project, were opened.

Progressing Toward Abu Dhabi Vision 2030

As of 2013, there were a reported 2.46 million people in Abu Dhabi emirate (of these, 495,300 were nationals and 1,968,762 were non-nationals) (Abu Dhabi Urban Planning Council 2014). By then, urban expansion had taken place on the mainland, with luxury apartments, investment villas, and mixed use developments around Al Raha Beach, Emirati housing on government granted land in Khalifa City and Mohammed bin Zayed City, and further community development in Al Bahia, North Wathba, Al Shamkha and Shahama. The Abu Dhabi Midfield Terminal airport expansion had made major progress. Al Reef and Al Falah villas were both handed over to occupants. Khalifa Port and Khalifa Industrial Zone (KIZAD) were both operational, with the Abu Dhabi-Shahama-Dubai road enhanced to access the industrial area. Yas Island was almost fully operational, with Yas Marina, Yas Links, du Arena, Yas Waterworld, Ferrari Themepark, several hotels, IKEA, ACE Hardware and an upcoming mega-mall located there. On Saadiyat Island, the St. Regis and Park Hyatt hotels as well as some luxury villas and apartments were built. Manarat Al Saadiyat, an exhibition center with four major galleries, a theater, and a restaurant is also located there. One of its galleries shows the Saadiyat Island project as envisioned via models, videos, and renderings. Additionally, the NYU Abu Dhabi campus is up and running and the Louvre Abu Dhabi is making progress.

¹²⁸ Renaming of projects or districts in Abu Dhabi was very common during this period. For example, the Officers City area located past Mussaffah Bridge, was renamed in 2010 as Abu Dhabi Gate City because of its strategic location as one of the key entrances to the Abu Dhabi main island. See Zaman, Samihah (2010) "Officers City renamed Abu Dhabi Gate City" in *Gulf News*, December 14. In 2013, Capital District, which was earlier renamed New Khalifa City, was changed to Zayed City. Khalifa City A became Khalifa City and Khalifa City C became Shakhbut City.



Figure 6.64 Al Raha Beach waterfront development

Coming onto the island via Sheikh Khalifa Bridge, the Mina Zayed port is slowly starting to change, with industrial activities being relocated to Mussaffah or KIZAD. The Corniche waterfront is bustling with activity, with people biking, swimming, dining, and picnicking. The Corniche beach has also been the site for major events like the Red Bull Air Race and musical performances associated with the annual Formula 1 weekend. The skyline of buildings from the Corniche waterfront shows several new, glossy buildings towering over their older counterparts. Down Corniche Road towards the Hilton Hotel and Ras Al Akhdar area, new roads and access points as well as landmark buildings have sprouted. The al-Bateen area has also changed, with business towers erected in proximity to the Crown Prince Court, and waterfront developments under construction. Along Khaleej Al Arabi Street, Aldar's Al Gurm Resorts (a residential and tourist development nestled among the mangrove forests of Abu Dhabi) has been completed. Hudayriat Island and Lulu Island, however, remain undeveloped. ADNEC exhibition hall, the Hyatt hotel in Capital Gate and the office towers surrounding the area are functioning. The houses and hotels around *Bein Al Jisrein* have spectacular views of the Sheikh Zayed Grand Mosque.



Figure 6.65 Al Gurm Resort



Figure 6.66 The Ritz Carlton overlooks Sheikh Zayed Grand Mosque

Three bridges connect the Island with the mainland: Sheikh Zayed Bridge, al-Maqta' Bridge, and Mussaffah Bridge. The Sheikh Zayed Bridge spills on to the Eastern Ring Road, where a myriad of developments have been built close to Khalifa Park, including the Abu Dhabi Media Zone Authority buildings (known as twofour54). The old Salam Street has been upgraded, and several bridges connect the Abu Dhabi Island to Al Maryah Island, where the Financial Center (Abu Dhabi Global Market Square), Galleria Mall, Cleveland Clinic, and Rosewood Hotel have opened. Across from Al Maryah, Reem Island's Shams, Arc Tower, Sun and Sky Towers, Najmat, and several other high- to medium-rise reflective glass buildings have emerged and Marina Square is slowly coming to life.



Figure 6.67 Abu Dhabi built up areas 2013

Overall, the effects of Abu Dhabi Urban Planning Vision 2030, and in particular Plan Abu Dhabi (or Capital) 2030, are becoming apparent. Abu Dhabi in 2013 was very different from Abu Dhabi in early 2004, with investment zones, free zones, new roads and infrastructure, reclaimed surrounding islands, and several landmark towers and projects. Although not everything has gone according to plan (see section 6.3), two things are notable: since the release of Plan Abu Dhabi 2030, the Urban Street Design Manual and the Public Realm Design Manual, Abu Dhabi's developments are attempting to become more pedestrian-friendly, human-oriented and transit-oriented. Moreover, the concept of Estidama – the Arabic word for sustainability – has taken root in the consciousness of architects, builders and the general population. While at first it was challenging to implement Estidama (see section 6.2), by 2013 a number of buildings were awarded 1-pearl ratings. Efforts to construct Estidama-certified buildings are on the rise.

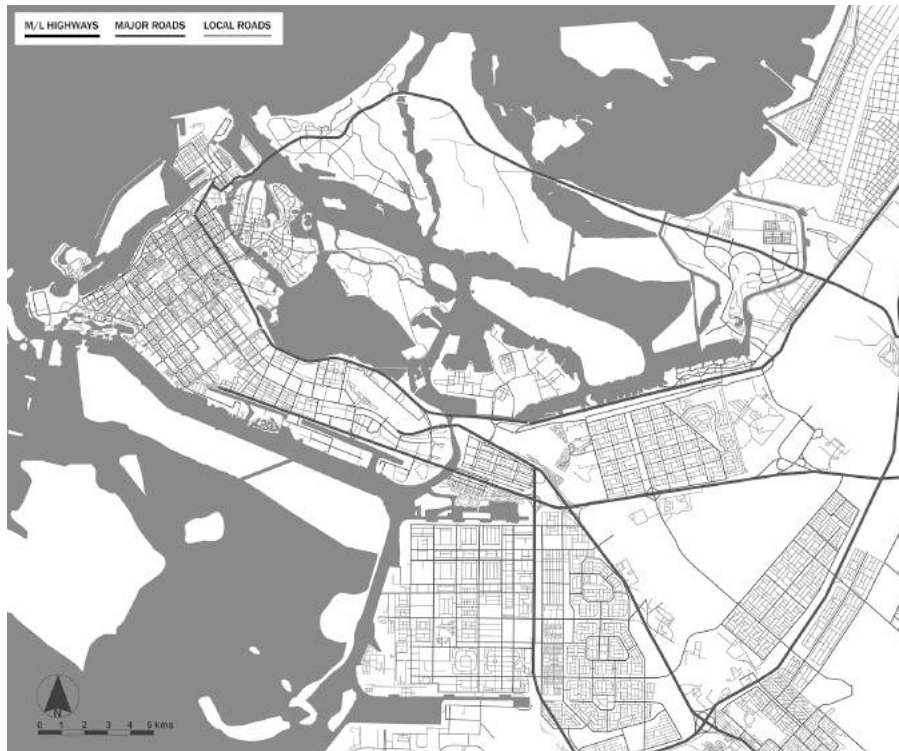


Figure 6.68 Abu Dhabi circulation network 2013

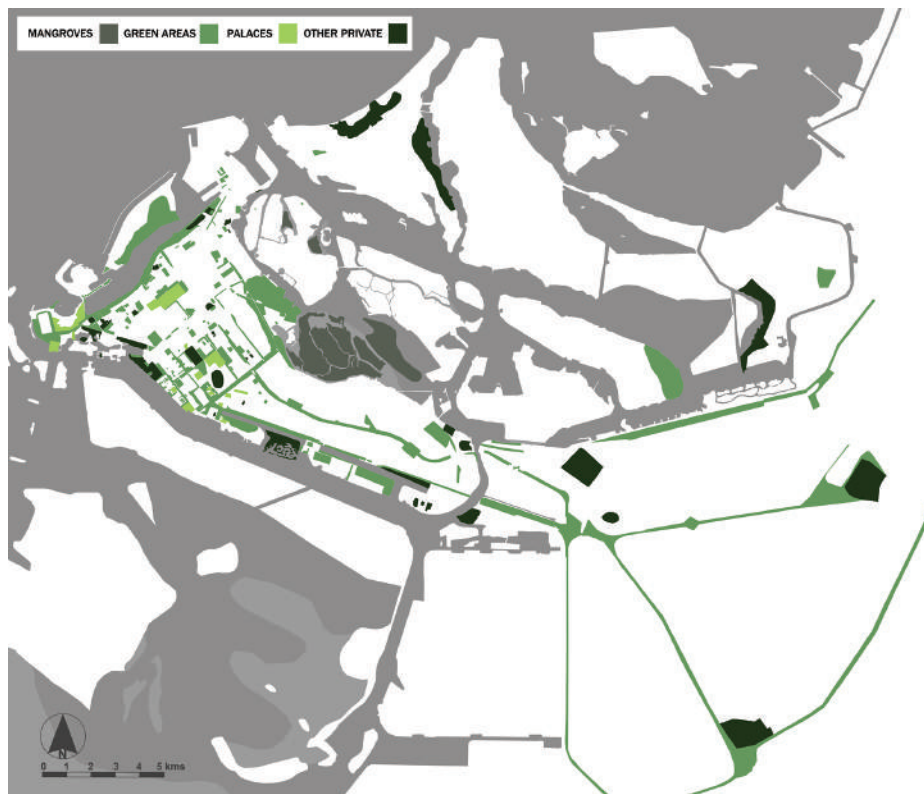


Figure 6.69 Abu Dhabi green areas 2013

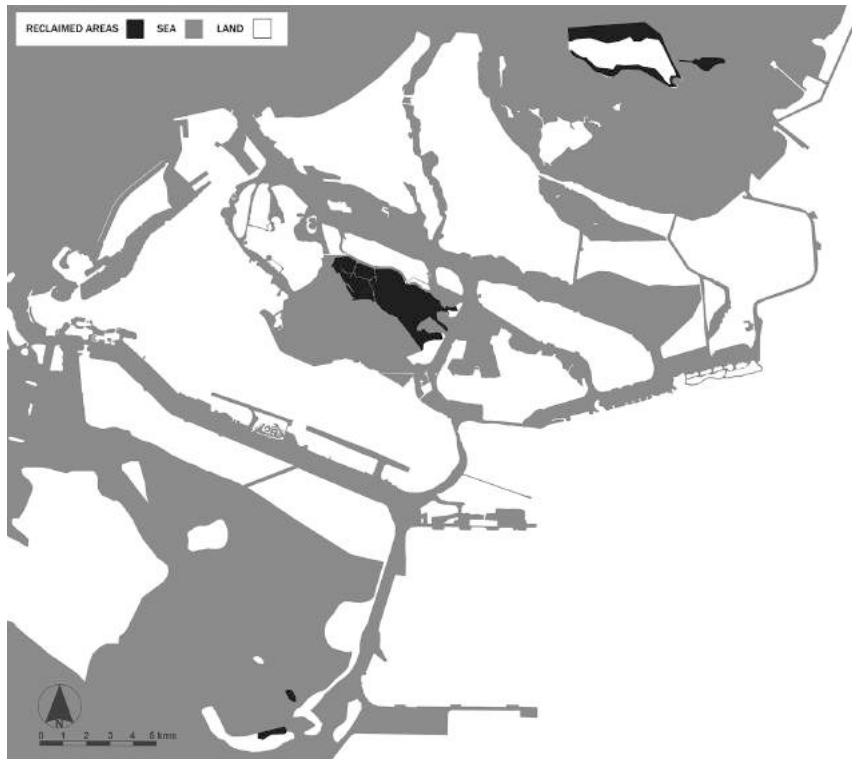


Figure 6.70 Abu Dhabi land reclamation 2013

While much still needs to be done with regard to enhancing the public realm and creating an architectural language in the city, it is clear that Abu Dhabi's desire to become a global, sustainable, and progressive Emirati city is a shared vision with significant efforts made by the leadership, government entities, private sector and all involved.

6.5 Concluding Remarks

Rooted in Sheikh Zayed's vision, the vision of Sheikh Khalifa bin Zayed Al Nahyan – championed by his brother Sheikh Mohammed – catapulted Abu Dhabi into the global economy as the city became a serious contender for tourists, investment and capital. Government restructuring was introduced, shifting the role of government from operator to regulator of services. Moreover, the leadership set out to strengthen the private sector, and part of that process involved the privatization of various companies, the creation of public-private partnerships, and the creation of public joint-stock companies in Abu Dhabi. The adoption of progressive economic policies and streamlined regulatory requirements were intended to bolster Abu Dhabi's future development by giving investors and the private sector the confidence to participate in Abu Dhabi's economy. With this, members of ruling family, heads of tribes and other notable members of the community were assigned roles as "development-focused boardroom executives" alongside their roles as cabinet ministers or officials of public sector institutions (Davidson 2009). In this way, the government is able to partake in

commercial activities, but has a controlling share that enables it to influence decisions made in shareholder meetings.

Notably, the economic diversification plans in the real estate, tourism and renewable energy sectors brought about major changes in the urban fabric. Several islands around Abu Dhabi were expanded through dredging and reclamation, land was parceled out to new real estate development companies, and starchitects were engaged in the design process, leading to a building boom that necessitated the re-thinking of urban planning in the emirate. Prior to late 2007, urban planning had been practiced on an ad-hoc basis for almost twenty years. In order to manage the staggering growth of the city, Sheikh Mohammed bin Zayed, in his role as chairman of the Abu Dhabi Executive Council and chairman of Mubadala, initiated the search for best practices in urban planning from around the world. Upon the identification of Vancouver, Canada and the subsequent hiring of its previous planning co-director, Larry Beasley, and his team of experts, Sheikh Mohammed oversaw the creation of the Abu Dhabi Urban Planning Vision 2030. With his full backing, the Abu Dhabi Urban Planning Council was established and Plan Abu Dhabi 2030 penetrated the building community's consciousness – every government entity, real estate developer, architectural and engineering consultant and contracting company was invited to get on board. A new “way of doing” urban planning was introduced, including the adherence to principles of Estidama. While the UPC sought to bring more rigor to the planning process in Abu Dhabi, the global financial crisis slowed down development and, with the ensuing geopolitical events in 2011, it obligated the reprioritization of elements of the plan.

Having taken a demand perspective during the preparation of Plan Abu Dhabi 2030, the leadership was able to negotiate unnecessary or over-scaled development projects that were proposed prior to the plan. This helped the emirate avoid some of the worst results of the economic downturn. Plan Abu Dhabi 2030 is also impressive for its focus on livability within the city, the provision of two growth centers in downtown Abu Dhabi and within Capital District, the revitalization of existing locations across the Capital Region and the importance of capturing culture and heritage through planning and design. It also gave special treatment to areas of environmental importance through the creation of National Park systems, green gradients and a sand belt to prevent urban sprawl. This allowed the preservation of ecologically sensitive areas, including some of the undeveloped islands and the mangrove areas, and allowed the desert to remain connected to the sea. The plan's emphasis on connectivity, multi-modal transport options, a finer street grid and an enhanced public realm is also commendable. However, due to the short time frame in which the plan was expected to be produced, as well as the absence of real public participation, the plan overlooked issues such as historic preservation, public utilities, and land use development options for labor camps (a prevalent phenomenon in Abu Dhabi) and various subgroups of the expatriate community (besides the revitalization of the existing CBD, where many expatriates live, there was no explicit direction for future development). Moreover, given the continually increasing population numbers and the large proportion of non-nationals to nationals, the fact that Plan Abu Dhabi 2030 highlights the building blocks of Emirati communities gives rise to the issue of city identity.

Development did not necessarily go according to the plan. While the development of surrounding islands such as Sowwah (Al Maryah), Reem, Yas and Saadiyat moved forward, plans for Lulu Island, the Capital District, Mina Zayed and Hudayriat were placed on hold. In the case of the Capital District, only the Emirati housing component was implemented. On the Abu Dhabi island, it has been difficult to implement a finer and more intimate street grid due to the challenge of narrowing utility easements or rights of way. At the same time, creating pedestrian-friendly streets has proven to be a challenge because the population continues to rely on private motor vehicles to get around; hence, the streets continue to cater to the car rather than the pedestrian. In addition, introducing a public transportation system has not been prioritized because of the perception that it will not be used by nationals. Moreover, development in Abu Dhabi garnered both praise and criticism. The fact that Abu Dhabi was the first city in the Arab Gulf (and the Middle East at large) to consider sustainable urban development and measured growth is promising. However, the extent to which development has in fact been sustainable is questionable. From a social standpoint, development has mostly focused on delivering luxury and high-end residential and commercial areas, rendering the city too expensive for the majority of the expatriate population. A Middle Income Rental Housing policy was only implemented in 2010, but this was focused on upcoming developments and new proposals that will take time to come to fruition. At the same time, there is insufficient provision of community facilities for the various subgroups (a Community Facilities Planning Standards manual was not published until 2013). An uneven spatial geography has also resulted, with enclaves housing the rich and peripheral areas housing the global poor. From an environmental standpoint, the fact that so much development is taking place in a desert city is cause for concern. This mainly involves the cumulative impact of loss and damage to valuable coastal and marine habitats, especially coastal sand sheets, mangroves and sea grass beds; elevated levels of air pollutants; depletion of groundwater reserves through over-abstraction, particularly for agriculture and irrigation; and increasing reliance on desalination, which burns a significant amount of fossil fuels and affects marine water quality and ocean biodiversity.

In 2013, a new five year economic development strategy (and a new five year financial plan) was released, spanning the years from 2013 to 2017. The new plan sought to establish the emirate's short-term development priorities to keep in line with Economic Vision 2030, focusing on economic diversification in eight key sectors: cultural tourism, aviation, manufacturing, media, health care, petrochemical, financial services and renewable energy (Arnold 2013; Barnard 2013). In addition to the new plan, the Abu Dhabi Urban Planning Council set out to reassess Plan Abu Dhabi 2030, renamed Plan Capital 2030. Stewarding the plan update was the son of Sheikh Mohammed, Sheikh Theyab, joined by international consultants ARUP who were commissioned to carry out the plan update under the supervision of Larry Beasley and Associates. By late 2013, two of the three Plan Capital 2030 Update Charrettes took place. The purpose of the charrettes was to gather international experts, government entities, local planning academics and other stakeholders to analyze the original plan, evaluate growth scenario options, identify new detailed areas for planning, and put together a capital investment plan as well as an implementation plan. While the

updated document has not yet been released, the fact that – unlike previous plans drawn up for Abu Dhabi – Plan Abu Dhabi 2030 is being revisited every five years and readjusted according to changing realities is promising. Hopefully this means that urban planning in Abu Dhabi is finally earning the attention and significance it deserves, and that there will be a rise in the number of local urban planners in the near future, bringing the vision for Abu Dhabi as a global Emirati city a step closer to realization.

Conclusion

“It will be no small irony of our times if the West eventually looks to the Middle East for something more than oil, if instead it goes to Abu Dhabi, Qatar and Oman to find models of large-scale sustainable development.”

- Larry Beasley (2007)

Abu Dhabi has grown by leaps and bounds since 1761 when, following the discovery of potable water, the Bani Yas tribe moved their base from the hinterland to this coastal settlement. Today, amidst the tall, glossy towers punctuating the skyline and the luxury villas adjacent to signature cultural attractions, it is hard to believe that this oil-rich city was once a simple fishing village with nothing more than a collection of *arish* homes, some wells, a dilapidated *souq*, and the Ruler’s palace. Understanding the process of urban growth in Abu Dhabi requires an understanding of the various historical, political, socio-economic, cultural, and globalized processes that have impacted the city’s formation before and after the discovery of oil. It also demands an investigation of the influence on the many complex facets of multiple actors (such as oil companies and planning and architectural consultants) engaging in city building, as well as the plans and policies that have shaped the city’s spatial development. Set up as a comparative analysis, this dissertation project has examined the visions and urban interventions associated with the leadership of Sheikh Shakhbut bin Sultan Al Nahyan, Sheikh Zayed bin Sultan Al Nahyan, and Sheikh Khalifa bin Zayed Al Nahyan, respectively, taking as the point of departure the year 1960, when commercial quantities of oil were discovered. This concluding chapter revisits the four organizing themes of this dissertation, setting each theme as it relates to each period of study side by side for comparison. This is followed by reflections, ending with ideas about how my research contributes to the literature on Abu Dhabi, by building upon the arguments of others and forging new territory, and how the experience of Abu Dhabi may contribute to the theory and practice of urban planning and design.

Vision of the Ruler

By that time, Sheikh Shakhbut had been its ruler for more than thirty years. His personal principles and his style of government had been shaped by the logic and rules of Abu Dhabi’s pre-oil society – a society based on tribal relations and a Bedouin way of life. Shakhbut feared that “rapid oil-financed development would have far-reaching socio-cultural consequences for Abu Dhabi, predicting that the resulting changes would soon erode the traditional way of life” (Davidson 2009). Shakhbut had also been leading Abu Dhabi through a difficult recession and extreme poverty for many years and was uncomfortable with the sudden oil wealth – in his opinion, money had to be saved for future emergencies. Also, more money meant a loss of control and an obligation to spend on development works, which he was not prepared to do. In addition, he was worried about the influx of other Arabs and foreigners into Abu Dhabi, which would

render his people minorities in their own home. If progress meant Abu Dhabi would become predominantly non-Arab while its own inhabitants were forced to relinquish their traditional way of life, then Sheikh Shakhbut would not have it (Mann 1964). He remained convinced that development had to proceed slowly, with any changes introduced gradually over many decades. Shakhbut liked to keep all aspects of Abu Dhabi's internal affairs under his personal control, and consistently challenged the British political representatives in the region and even his own family when they pressured him to develop Abu Dhabi. Shakhbut believed increased oil wealth would bring more woes than benefits to Abu Dhabi, and that preserving the status quo was the only way to save his Bedouin emirate.

His brother Sheikh Zayed, on the other hand, believed the oil wealth belonged to the people of Abu Dhabi, and worked to ensure its benefits were spread to all. His priority was the welfare of his people, and his desire to improve their lives and work for the common good dictated his primary tasks when he became ruler in 1966. Providing healthcare and decent living conditions were at the top of his agenda. He also aspired for human development and hoped to work with the people to build a nation. He strongly believed that building infrastructure and educating the local population were vital for the emirate to flourish, viewing his investment in people with a sense of reciprocity such that "a sense of mutual commitment between the government and governed" would breed a new generation of leaders for the nation (ECSSR 2013). Another part of the Ruler's early vision was to provide each citizen equally with three plots of land: residential, commercial, and industrial or agricultural. This was intended to provide the citizen with a home and a source of income.

Unlike Sheikh Shakhbut, Sheikh Zayed was not afraid of change and saw in urban development an answer to all the major problems of Abu Dhabi. He was considered the principal architect of Abu Dhabi, involving himself directly with planning the city and frequently appearing on building sites or marking out areas for new development. Zayed was very dedicated to building Abu Dhabi and wasted no time in moving projects along. Sheikh Zayed invited his Arab and other neighbors to participate in the city's development. His vision for Abu Dhabi included the preservation of their cultural traditions in planning and design, the inclusion of an Arab-Islamic identity in architecture, the preservation of mosques and historic sites, and the encouragement of social and tribal cohesion through neighborhood design. He envisioned Abu Dhabi as a modern city suited to perform the functions of a capital city. Sheikh Zayed was also passionate about greenery and pushed for the preservation of trees and the allocation of vast areas for parks and gardens, as well as afforestation, agricultural experimentation, and the planting and protection of mangroves. In planning Abu Dhabi, Sheikh Zayed frequently expressed care for the environment. Zayed's vision was also one of unity and security: he demonstrated political shrewdness by boosting Abu Dhabi's population, securing the loyalty of many tribes and pushing ahead with development projects. Leading by example, Sheikh Zayed strove to achieve modernization in Abu Dhabi, and succeeded in bringing together the federation of seven United Arab Emirates, previously known as the Trucial States.

After Sheikh Zayed's passing in 2004, his son Sheikh Khalifa was determined to carry on his legacy. Like Sheikh Zayed, Khalifa believes in promoting the welfare of his people and is invested in ensuring that they continue to benefit from the country's increasing wealth. Since his time as Crown Prince, Sheikh Khalifa prioritized the needs of nationals and offered financial assistance to encourage them to build homes and businesses. Similar to his father, and unlike his uncle Shakhbut, Sheikh Khalifa believes in providing education, healthcare and decent living conditions to his people. He also believes, like his father, in spreading benefits across the entire emirate.

Sheikh Khalifa's vision for Abu Dhabi, which was formalized into the Abu Dhabi Policy Agenda 2007-2008 and the Abu Dhabi Economic Vision 2030, is one that involves a knowledge-based and post-oil economy, in which the private sector is encouraged to play a larger role and the city adopts neoliberal economic policies. Under Sheikh Khalifa, Abu Dhabi has joined the global competition for capital, upper-class residents, and tourists. This vision, shared by Sheikh Khalifa and his brother, Crown Prince Sheikh Mohammed, is also part of a unique shared leadership of Abu Dhabi. As Chairman of the Executive Council, Mohammed is responsible for much of the urban restructuring and growth of the emirate. Apart from Sheikh Khalifa being too ill to deal with the day-to-day affairs of Abu Dhabi, Sheikh Mohammed oversees urban development because the Crown Prince, who is also the Chairman of the Executive Council, has been in charge of this since the creation of the Executive Council in 1974. Sheikh Mohammed is responsible for much of the city's new layout, making executive decisions that shaped important areas of the city. With his input, the Urban Planning Vision for Abu Dhabi 2030 reflects a sustainable and walkable city with strong connectivity, a variety of transport options, access to the desert and water, and an abundance of green or open spaces. It also calls for a return to the basic unit of settlement, the *freej*, which Sheikh Shakhbut may have appreciated.

Urban Governance and Planning Institutions

Along with the specific visions of rulers during each period, the political and administrative framework under each of the three rulers differed, ultimately affecting urban development. Sheikh Shakhbut administered a tribal society. No centralized bureaucracy existed in the tribal infrastructure of Abu Dhabi society, and Shakhbut controlled all of Abu Dhabi's internal affairs, including financial matters (Rabi 2006). During his time, civil servants played a significant role in the administration of the sheikhdom: Shakhbut had a secretary working for him at the palace; he also had representatives or governors, a judge, a tax collector, and a customs official. The establishment of oil companies, the discovery of oil, and the prospect of development in Abu Dhabi in the middle decades of the twentieth century brought significant changes to this tribal administration, including the Ruler's financial autonomy from his people. The British government, along with members of the ruling family, pressed Shakhbut about carrying out administrative reforms, but he continued to demur until the pressure mounted and he agreed to an "embryo administration" in 1966.

In contrast, Sheikh Zayed welcomed administrative reform, immediately signing decrees to create new government institutions, appointing members of the ruling family to various departments, and recruiting experts and administrative staff. Sheikh Zayed was adamant about delegating responsibility and evolving from the traditional absolute rule of the past. He believed that this would encourage stability and burden-sharing to modernize and legitimize the state apparatus. To further widen the political and economic structure, Sheikh Zayed also brought into his government circle a group of then-newly educated Abu Dhabians as his advisors. Their involvement, as well as the establishment of a number of government institutions, represents Sheikh Zayed's attempts to balance powerful traditional networks with a modern form of bureaucratic rule, creating a hybrid political system that some scholars have termed "bedoucracy" or "sheikhocracy" (Al-Rumaihi 1977; Abd-al-khaliq 1984; Al Kubaisy 1985). Indeed, Sheikh Zayed was responsible for setting up his government to resemble a modern administration while at the same time exercising a leadership style grounded in tribal tradition.

In 2004, less than a month after Sheikh Khalifa and Sheikh Mohammed's installments as Abu Dhabi's new Ruler and Crown Prince, respectively, a certain amount of government restructuring took place. This restructuring was intended to improve coordination and efficiency, with the desired outcome for the government to emerge as less of a service provider and more of a regulator. Part of its efficiency drive meant the government sought to reduce residents' reliance on the public sector and further stimulate privatization. Under the brothers' administration, a form of e-government was also introduced. These changes reflect the new entrepreneurial spirit of "Abu Dhabi, Inc." such that the city actively participates in economic development and growth rather than focuses on its initial modern mission of local provision of services, facilities, and benefits to urban populations. The reality, however, is that very little separation between public and private sectors in Abu Dhabi has taken place; the two are practically joined. Corporations are all either majority-owned by the government or public entities, or are companies with ties so close to key members of the ruling family that they are still effectively under the government's control. Furthermore, the same actors (members of the royal family or patriarchs of key tribal allies) have key positions in public decision-making and the management of private companies in Abu Dhabi, creating a hybrid political system that Christopher Davidson (2009) calls "tribal capitalism."

This shift from government to governance parallels the change in planning institutions in Abu Dhabi from the rational-technocratic model typically tied to the modernist project (brought into Abu Dhabi during Sheikh Zayed's time by planning experts who were educated and trained under this model), to a participatory or collaborative model inspired by the New Urbanist movement and in particular the charrette process (brought in during Sheikh Khalifa's rule by Vancouver's former planning director, Larry Beasley), such that several stakeholders, together with major decision-makers and urban experts, are involved in city planning instead of the top-down approach generally applied in the rational model. It must be noted, however, that the collaborative model only went so far in Abu Dhabi: the charrette process was hardly

democratic, since the number of actors taking part in urban planning and development decision-making is very limited. The only exceptions are the cases of, the redevelopment of rural mainland settlements like Al Bahia and Shahama, where public consultation processes involving citizens were initiated. The move away from the rational planning approach is also illustrated by the shift from producing master or comprehensive plans to the creation of an urban structure framework plan, which is more flexible. Additionally, Abu Dhabi adopted the concept of strategic planning, although Brooks (2002) argues that it is “simply one more entry in the long line of rationality-based strategies that have been packaged for use by planners.” Where once only one government institution, the Abu Dhabi Municipality, was responsible for planning the emirate, now there are several, including the Abu Dhabi Urban Planning Council, Department of Municipal Affairs, and Department of Transport, to name a few. Accordingly, one can posit that planning moved from being a centralized activity to a decentralized one, that its views shifted from modernist to postmodernist (Innes 1995; Brooks 2002; Sandercock 1998), and that its contemporary counterpart recognizes planners deal with “wicked” problems as opposed to tame ones (Rittel and Webber 1973), suggesting an abandonment of the concept of rationality altogether. However, a continued reliance on foreign experts supports the argument that rationality remains a powerful theoretical organizing concept for planning practice (Teitz 2007).

Under Shakhbut’s rule, planning regulations were non-existent. Sheikh Shakhbut refused to employ municipal personnel to handle building permitting and land applications, preferring to assign these responsibilities to his planning or engineering consultants – in 1962, he designated these tasks to Sir William Halcrow & Partners and Scott & Wilson, Kirkpatrick & Partners (the Abu Dhabi Consultants), and when ARABICON took over as the ruler’s consulting engineers in 1966, he transferred control of building permit requests and land applications to them. When Sheikh Zayed took over as Ruler of Abu Dhabi, administrative arrangements regarding urban planning and building regulation control were handled on an ad hoc basis. In 1967, Zayed ordered the transfer of town planning and land application procedures to the Abu Dhabi Municipality. By 1971, as Sheikh Zayed focused more on matters related to the federation, planning approvals began to follow the decisions of the Abu Dhabi Executive Council, with advice from the Department of Finance. Building regulations were first issued in 1983 and amended in 1985 and 1994. These regulations attempted to restrict actual uses (e.g., mezzanines in commercial buildings not to be used for residences) but no clear objectives or systematic application of discernible principles appear to have been involved. Moreover, there was no separation of planning-related matters from those related to architectural and engineering standards and design criteria. Furthermore, no explicit land use allocation or zoning plans existed to guide developers. Planning matters were usually handled by reference to individual plots or otherwise defined areas such as industrial sites, rather than looking at the city as a whole. Even when Atkins took over as planning consultants, their recommendations for a zoning schedule were not adopted. For the most part, approvals came in the form of a nod from Sheikh Mohammed for projects he thought worthwhile. When the UPC was established in 2007, the Development Review division oversaw all development proposals in the emirate, bringing in a different, more rigorous approach to the

approval process. In order to have more leverage with developers, the policy team at the UPC attempted to work with the outdated planning and building regulations issued by the ADM to produce a zoning bylaw known as the Development Code. The code was complicated, resembling a typical North American zoning bylaw, which made immediate acceptance or approval of the code difficult. As a result, the code was shelved for some time. In 2010, the Department of Municipal Affairs released a building code based on the International Building Code, which is a complete set of comprehensive building safety and fire prevention codes, and regulates the physical construction elements of structures such as plumbing and wiring. In addition, several supporting initiatives were also developed at the UPC, including the Urban Street Design Manual (USDM), Public Realm Design Manual (PRDM), Community Facility Planning Standards, Mosque Development Regulations, Middle Income Rental Housing Policy (Affordable Housing Strategy), Coastal Development Guidelines, and Utility Corridors Design Manual. The UPC Development Review team consults these manuals and standards – in addition to Estidama and Safety and Security principles – when evaluating project submissions, an approach that has significantly changed the way that developments are proposed and approved.

As for land allocation and ownership, in Sheikh Shakhbut's time the ruling family owned the land, titling it to nationals through slips of paper from Shakhbut, who refused to sell any land in the emirate. All construction rights were based upon leases ranging from 10 to 25 years. After some pressure from his family and the British, Shakhbut assigned the responsibility of land allocation to his consultants. During Sheikh Zayed's rule, no land purchases or sales were permitted, and land applications and allocation were generally controlled through the ADM (and ADMTPD). Nationals could apply for a residential plot (for private residence/owner-occupation), a residential investment plot or a mixed commercial and residential plot (that can be leased or rented to non-nationals), and an industrial plot. In rural areas, nationals are also entitled to an agricultural plot. Foreigners were restricted from owning land or property, and could only reside in areas investment residential areas or mixed use areas in the Central Business District. In 1976, following an economic recession, the government created a special committee called The Khalifa Committee to administer the investment, funding, and construction of building projects by advancing loans on behalf of citizens. In 1981, the committee became a full-fledged government agency, the Department of Social Services and Commercial Buildings (DSSCB). The Directorate of Social Services received applications for national housing, but when it was dissolved in 1990, its responsibilities were transferred to the ADM. The Directorate of Commercial Buildings continued to receive applications for investment residential and commercial buildings (built and owned by nationals and then usually leased or rented out to non-nationals), while the ADM continued to receive applications for private residential plots (for nationals). In the 1990s, the land allocation and ownership practices resulted in spatial segregation of nationals and non-nationals, including laborers. They also provided clear distinction in areas inhabited by nationals, between higher-income private residences and national housing developments. For non-national areas, there was a clear distinction between family housing areas and communal housing areas, with the latter generally occupying older low-cost housing areas and lower quality

development. In Sheikh Khalifa's period, land speculation and foreign land ownership were permitted. GCC nationals are allowed to freehold while the foreign national was entitled to a leasehold (based on 50- or 99-year leases) excluding the land. While UAE nationals are entitled to freehold ownership anywhere in the Emirate, GCC nationals and foreigners are entitled to purchase property on the open market, provided the land is within a designated investment area. Outside the investment areas, non-nationals are only able to rent apartments or houses owned by UAE nationals. The change in property law introduced several new entities responsible for land allocation and registration. These include a Land Registration Department (Registrar) in Abu Dhabi, Al Ain and the Western Region municipalities, the UPC, Crown Prince Court, and the Ministry of Presidential Affairs.

Plans of the Experts

The experts invited to draw up plans for Abu Dhabi come from different places and represent different planning traditions. During Sheikh Shakhbut's rule, the British political agents in Abu Dhabi and Dubai managed to convince the Ruler to allow a survey and mapping of the emirate, and with the help of Sheikh Zayed and their brother Sheikh Khalid, they also persuaded him to hire experts who would assemble a development plan for Abu Dhabi. The first master plan drawn up for the Island was by British architect John R. Harris, a graduate of the prestigious AA. Like many of the British planning and engineering consultants working in the Arab Gulf in the mid-20th century, Harris was influenced by the post-war New Town planning in England (Ramos 2010). His architectural influence on the plan for Abu Dhabi also reflected the practice of planning during that time, when architects fulfilled the role of town planners (Taylor 2011). His plan for Abu Dhabi, which was intended to guide growth corresponding to 100,000 people for ten years, was focused on the area northwest of the island, along the coast. It called for distinct areas for industry, health, public utilities, housing, education, government institutions and commerce, emphasized architectural style, and considered roads to be based on the main roads then in use. The only consideration given to the public realm was to raise the sidewalk at a level higher than the road and to have the *souq* as a pedestrian shopping area. Tree planting along the roads, in plazas surrounding mosques and in cemeteries was proposed. One of the major components of Harris' plan was the residential neighborhood unit that included different housing configurations and provisions for small grocery stores, replacing the traditional *arish* and mud-brick homes. His plan also called for a new city center, which would include mixed-use and government buildings, including the Abu Dhabi Municipality. It also accounted for a small hospital, and provided an implementation plan. Although the Harris Plan was not fully realized due to Sheikh Shakhbut's intransigence, construction of an embryo road system based on the plan was initiated. Also, when the Abu Dhabi Consultants conducted a survey of the island in 1962, they noted the existence of the Abu Dhabi Municipality building.

The joint plan by the Abu Dhabi Consultants (Sir William Halcrow & Partners Co. and Scott & Wilson, Kirkpatrick & Partners) reflects the modernist tendencies of the team, and demonstrates the move from an architecture-based planning tradition to a

more technocratic style of planning (Taylor 2011). The plan offered two development options, one based on a five-year growth projecting a population of 25,000 and the other for 100,000 (ultimate development). It identified Abu Dhabi mainly as an oil export station with some industrial, administrative, and commercial functions. Importantly, the plan assigned a new location for the port at the entrance to the east creek, allocated a site for an oil terminal nearby the port, and designated a new location for the airport farther south towards al-Maqta'. As for circulation, the principal roads envisioned were comprised of one main route passing across the head of the island, linking the industrial, commercial, and administrative areas; another main route would lead from the causeway, past the airport and towards the industrial areas and the port. These two routes would be connected by a third, which would skirt the southwestern edge of the island. The palace would be the focal point in the whole system of roads. The administrative center was conceived on open formal lines, providing a "visual symbol of prestige and authority which civic and national pride have always tended to require from the earliest days of city building." An informal grouping was proposed for the neighborhoods and shopping centers to accord with traditional ways while providing safely and conveniently for pedestrian and traffic circulation. Moreover, the plan accounted for tree-lined boulevards along two axes: one from the palace to the sea and the other culminated at the mosque, with the crossing having a wide tree-planted plaza or public garden. Open spaces and recreational areas were also considered, particularly around the housing groups, which were each designed for a total population of about 7,000 persons with a mixed income range. The idea was to create a complete neighborhood that would provide all the local facilities needed by this population, such as mosques, shops, clinics, schools, police stations, and community centers. It is not clear whether these neighborhoods were meant to house both nationals and expatriates. The plan addresses many elements and even includes an implementation plan; however, it does not consider the environmental impacts of building in a desert city and also does not go into architectural and urban design detail. While Sheikh Shakhbut stalled on implementing much of the plan's elements, the port was built, and the road linking Abu Dhabi Island to Dubai was also constructed. A causeway at al-Maqta' was also partially built. Furthermore, building heights in the center were set at two to three stories. Very little progress was made during the reign of Sheikh Shakhbut.

In contrast, during Sheikh Zayed's time, a number of experts were invited to draw up plans for Abu Dhabi according to his vision, and the Ruler wasted no time in implementing his ideas. The firm ARABICON was already working on the planning of main roads and street lanes when Sheikh Zayed came to power, and they began to seriously engage in town planning shortly after, when John Elliott joined the team. Sheikh Zayed "had a vision of a garden city with parks and space and the Quranic values of the rights of people to a clean, safe environment" and his ideas coincided with those of the socialist planner John Elliott, who believed in "people-empowered" planning and in being sympathetic to the landscape when designing new plans. The ARABICON plan considered a population of 350,000 and focused on the upper part of the Abu Dhabi Island, although Elliott also participated in planning for the massive extension of housing outside of the island. This was during the time that Sheikh Zayed was trying to strengthen the Abu Dhabi population and encourage the Bedouins to

settle. Sheikh Zayed worked with John Elliott to develop a standard housing unit for nationals, built on a plot measuring 80 feet by 80 feet, and the distance apart one cubit as proscribed either in the Quran or one of the *hadiths*. The focus for these individual neighborhoods was the plentiful provision of mosques. Moreover, the ARABICON plan was based on the design of superblocks that incorporated mixed uses and mixed-income households (both national and non-national), and although a strict grid system according to the Abu Dhabi Consultants plan was already in place, the city functions were not entirely separated. The plan also included roundabouts, inspired by English town planning, and accounted for more parks and tree-lined boulevards. In addition, Elliott's plan accommodated public utilities in the road cross-sections (slip roads), and included climatically responsive architecture. His plan, however, did not focus on other elements of the environment besides raising the island to protect from flooding and did not consider housing typologies for expatriates of various subgroups. Moreover, the superblocks, slip roads for utilities, tree planting, roundabouts and Corniche seawall were the elements that made it from vision to reality, although the faultiness of the seawall put a halt to further implementation of the ARABICON plan and a new urban planner was invited to create a plan for Abu Dhabi.

Katsuhiko Takahashi, a Japanese-American, arrived in Abu Dhabi prepared to apply his modernist ideas that were inspired by Le Corbusier. His vision was for the main city of Abu Dhabi to be established on the mainland, while leaving the island to serve as a resort with villas and small residential buildings. His land use plan reflects the modernist principles of separation of uses and a road network based on the gridiron system. Unfortunately for Takahashi, his refusal to accommodate the Ruler's vision and his insistence on forming a Capital District on the mainland – a sensitive topic considering that the British withdrawal was announced during this time and Sheikh Zayed was trying to forge a union of emirates – meant that his experience in Abu Dhabi was short-lived. Takahashi's plan was very basic, addressing little more than the roads and land uses.

Abdelrahman Makhoulf, an Egyptian planner educated first in Cairo and then in post-war Germany, was invited to replace Takahashi. Makhoulf was the first Arab expert to draw up a master plan for Abu Dhabi. Being the son of the Grand Mufti of Egypt and student of Hassan Fathy, Makhoulf was very much influenced by the Islamic concepts of living as well as by Fathy's ideas for vernacular architecture – leading the planner to fuse ideas of East and West in his plans. The major influence, however, was the systems and rational process views of planning, such that his vision for Abu Dhabi developed around three related systems: the system of relations between the major city elements of housing, communal services and work places, the system of movements for people and goods, where there is a hierarchy of channels for different velocities of movements, and finally the system of urban growth, such that the expansion of the town is to be directed and planned in new self-contained communities that would each include housing, community services and work places (Makhoulf 2006). Makhoulf's plan accounted for a population growth of 250,000, and considered separate areas for commerce, industry, administration and housing. Two important elements of his plan included the residential community unit and the redevelopment of the city center,

where nationals and non-nationals were expected to live, respectively. The former included seven houses in a cluster (per unit), with each house built on a plot size of 80 feet by 60 feet. The units were equipped with mosques, services and schools, as well as a meeting point for neighbors to gather after prayers. For the latter, plot sizes were increased to 60 feet by 80 feet or other variations with a maximum size of 100 feet by 100 feet to accommodate more buildings, and with a height cap of 8 to 10 stories. To ensure sufficient open space and car parking, buildings on each side of a road were planned to be at least 200 feet apart. Makhlouf also designed the upper-west portion of the island, known as Khalidiyah, which was fully realized. His land use plan was also followed, as were the plans for the Central Area (including the new *souq*), a Capital Garden, and the Tourist Club area. Makhlouf's plan did not address environmental issues, public utilities, architecture and urban design, parking, or labor camps and worker housing.

Makhlouf left his position as Director of Town Planning in the ADM in 1976. By then, Sheikh Zayed was preoccupied with matters related to the federation. Accordingly, planning was being overseen by the Executive Council and taking place in a piecemeal fashion. An increase in vehicle ownership necessitated a new transportation plan for the city, and De Leuw Cather International Limited was commissioned to produce this plan. Although it was not a master plan like the previous ones, it greatly affected the city's development. The main features of the plan included the extension of the road system, replacement of roundabouts by traffic lights, changing the dual two-lane carriageways to three lanes, and building bridges and tunnels at some important road intersections.

By 1989, considerable liquidity in the market led the Executive Council to commission foreign experts once again in the planning of Abu Dhabi. WS Atkins and Partners Overseas, a British firm, put together a comprehensive plan for Abu Dhabi, and for the first time, the Abu Dhabi region was examined as a whole. Planning was no longer restricted to the Island, but instead incorporated the mainland, surrounding islands, and sub-regions. The Master Directive Plan (MDP) – a component of the comprehensive plan – divided growth evenly between the Abu Dhabi island, mainland, and surrounding islands. It considered a rise in population to 712,000 inhabitants, and was meant to guide Abu Dhabi for twenty years (1990-2010). The plan considered a two-tier structure for residential development (which account for both nationals and expatriates), with neighborhoods of between 6,000 and 8,000 inhabitants forming the basic unit and districts with a population of 24,000 to 32,000 inhabitants that offered a wider range of community facilities. It also proposed a four-tier hierarchy for the provision of retail and services, which included, at the highest level, the city center, followed by a number of district centers, major centers and local centers. Additionally, the plan envisioned locating industrial areas at the periphery of development, well served by freeways and primary roads. In contrast, major government and institutional uses would be sited in major centers and on prominent sites along primary roads and freeways. Moreover, five integrated development zones would be established, constituting major nodes of activity and employment, each anchored on a main institutional, industrial, commercial or recreational function or a combination of activities. Also, the plan adopts a five-tier road hierarchy (freeways, major regional

roads, primary roads, distributor roads, and local and access roads). The Atkins plan was perhaps the first of the plans to consider the environment, although Sheikh Zayed had driven environmental sustainability for many years; it just happened outside of the expert plans. The Atkins plan set as a goal a balance between development and conservation to permit the exploitation of the visual assets provided by the coastline and islands while ensuring the protection of marine resources in the mangroves and shallow waters surrounding Abu Dhabi Island. The Atkins plan was full of recommendations and made very acute observations of the city, and covered all aspects of development from public utilities to the environment to urban design. It was the first plan to touch on important socioeconomic issues that did not only focus on the national population, but it did not address labor camps. It also outlined a specific implementation plan. Several, but not all, elements of the plan were implemented, however. The neighborhoods as outlined by the plan were quickly developed and even went beyond the areas allocated in the plan, occurring mostly in the direction of Dubai. Implementation also steered away from the proposed use of the islands, particularly Saadiyat and Hudayriat Islands, such that uses on Saadiyat were not agreed upon and the reclamation on Hudayriat was halted. Moreover, the bridges meant to link the islands with Abu Dhabi Island were not constructed; the Musaffah area remained industrial despite a proposal in the plan to convert it to residential uses; the proposed locations of institutional buildings, such as the Government Ministries complex at Bateen Airport, were changed; proposed major capital projects, such as a national library, a national museum, and a major public square, were not considered; and the high-technology industrial area planned for Shahama was not created.

The Atkins plan was outlived before 2010. Development was taking place outside its urban growth boundaries and this was exasperated by the change in property law during the leadership of Sheikh Khalifa bin Zayed, which allowed land speculation and resulted in an explosion of developments across the city. Plan Abu Dhabi 2030 (or Plan Capital 2030) Urban Structure Framework Plan was thus created to manage this growth. The plan was developed by a team of expert urbanists (led by Larry Beasley) with the input of leadership and major government representatives, and embodies principles of New Urbanism or progressive urbanism, including sustainable urban development. One of the major elements of New Urbanism that Larry Beasley and his team introduced to Abu Dhabi is the charrette process, whereby the role of the planner is that of facilitator rather than someone who possesses a specialist expertise to make these judgments him- or herself (see section on Urban Governance and Planning Institutions above). Although Crown Prince Sheikh Mohammed inspired the vision for Plan Abu Dhabi 2030, the plan was the result of a collaborative process between several stakeholders, including international experts and government entities; however, this process did not play out as it would in a Western context because there was only a narrow range of stakeholders and the larger public was not involved.

The highlights of the plan include its focus on livability within the city, the provision of two growth centers in downtown Abu Dhabi and within the Capital District on the mainland, the revitalization of existing locations across the metropolitan area, the respect for and consideration of the environment, the emphasis on Abu

Dhabi's role and stature as a capital city, and the importance of capturing culture and heritage through planning and design. The Land Use Framework Plan proposes that the existing city, which sits on an island, accommodate some of the projected growth, but there would also be development on other islands, connected by modest-scale bridges. To support the two main cores, the Grand Mosque District and southern portion of Hudayriat Island are identified as major development opportunities, while the area around Marina Mall and the transit corridor along Airport Road are recommended for densification. Moreover, Emirati neighborhoods are integrated within and around higher-density commercial nodes, with lower-, medium- and higher-density Emirati housing choices included in the plan. Finally, three major industrial areas are allocated, such that heavy industries surround the new Khalifa Port, high tech industries surround the airport and smaller service-based industries are located in Mussafah and Mafrq. The plan does not address areas for military or defense and does not consider labor accommodation. The Transportation Framework Plan is guided by the Land Use Framework Plan, with a network of roads and bridges acting as through-roads to maximize connectivity and relieve congestion, two new alternate freeways, and a new highway providing entry into the Island. The plan also envisions a transit network featuring a high-speed rail line, freight rail line, metro, trams, and buses, as well as a fine grain of interconnected, walkable streets. The Public Open Space Framework Plan integrates a hierarchy of formal and informal open areas throughout the city and connects them to a National Park system to the northeast of the city. City parks, community parks (local green spaces), community recreation spaces such as sports fields and playgrounds, as well as planted boulevards and byways form the green links of the city. Additionally, public plazas such as those in front of mosques or public buildings are emphasized in the plan. Moreover, Plan Abu Dhabi 2030 includes an Environmental Framework Plan that implements National Park systems, a green gradient, a sand belt (adapted from "green belts" that ring other world cities) to prevent urban sprawl, and a series of "desert fingers" that provide undeveloped buffers between the city, each coastal town and Dubai.

At the next level, the plan identifies mixed use precincts or districts (with the exception of those that represent a specific economic activity) and provides a way to control identity and order in the city through defining building heights in specific areas. This is the first instance in which building heights are thoroughly considered in a city plan for Abu Dhabi. Additionally, the plan introduces prototypes of building blocks of Emirati communities. These are intended to guide the full integration of Emirati neighborhoods throughout the various scenarios created by the plan: urban neighborhoods, desert eco-villages, and island eco-villages. Moreover, residential, retail, infrastructure, and amenity development are clustered around a "high street" or public square, but the shape, boundaries, and size of each community differ, depending on the setting (*ibid.*). The Plan specifically reexamines and encourages a return to the *freej* or traditional neighborhood system – a group of homes large enough to accommodate an extended Emirati family clustered around a courtyard. The homes are built to the edge of the plot to optimize land use and narrow, shaded *sikka* (walking paths) strategically link the homes to neighboring homes, community facilities and public spaces. Several *freej* are grouped together into "Local Clusters" arranged around a small central park

complex. The catchment area is sufficient to support a kindergarten or childcare facility, an outdoor play area, and a local mosque. Local clusters are then grouped together into “neighborhoods” with a population of 8,000 to 10,000 people. This is the catchment area for two single-sex primary schools, a Friday mosque, a park, and a women’s center. Local shops and higher-density housing service the neighborhood. Finally, the plan shows ideas for the revitalization of the Central Business District as well as streetscape designs for new and existing streets. The plan certainly provides direction for future preparation of a Comprehensive Plan; however, apart from the absence of certain allocations in the land use plan as stated above, the plan could also benefit from an implementation plan as well as a historic sites overlay to ensure preservation of important landmarks.

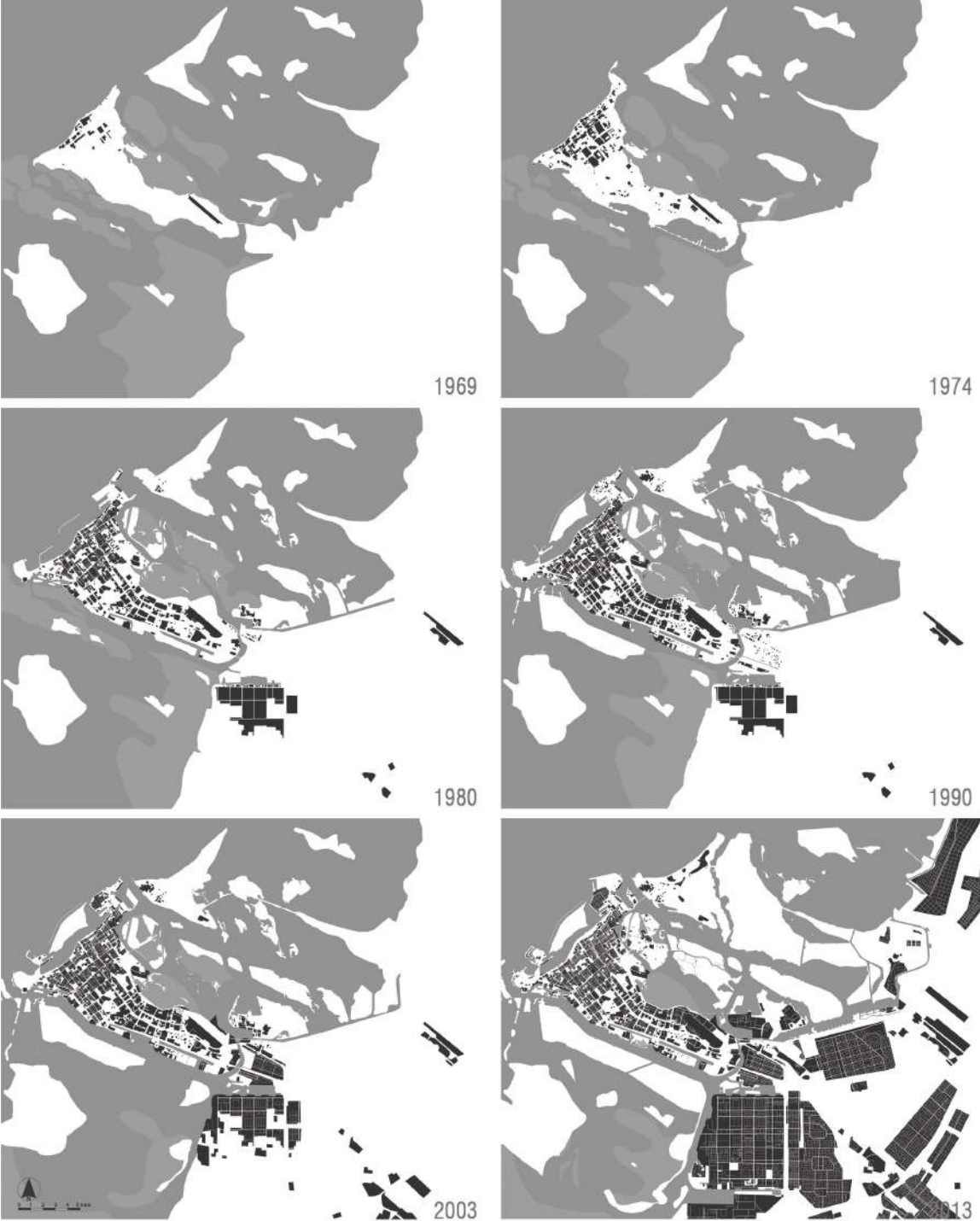
The global financial crisis had a significant impact on Plan Abu Dhabi 2030, stopping or delaying many projects, as well as redirecting some of the proposed land uses in the city – particularly in the surrounding islands like Al Reem, Al Sowwah (Al Maryah), and Saadiyat. Plans for public transportation were also delayed, although a bus network was implemented. The Capital District project was also placed on hold, although the Emirati housing component moved forward. In addition, the redevelopment plan for Lulu Island has been put on hold indefinitely. Also, implementing block-by-block revitalization in the existing CBD did not go according to the plan. The reasons for this mismatch between the vision and reality are purely political, economic and cultural. Plans for public transit did not come to fruition because of interagency politics, although at the same time, experts were warned that nationals would not use it because of the stigma attached to it and because the national population prefers to drive. The reasons for the delay in developing the Capital District and Lulu Island are also political: The population required to sustain Capital District meant that there would be a large influx of expatriates, and building Capital District may even endanger the existing CBD on the island. Lulu Island is a prime gateway into Abu Dhabi from the sea side and also serves to protect Abu Dhabi Island. Regrettably, also the building blocks of Emirati communities did not fare well. This is because of the failure of the first attempts at delivering communities based on this design, which served to bring any ideas for developing neighborhood design manuals to a halt. On the other hand, the fact that Emirati housing development is charging ahead at full speed speaks to the current geopolitical situation of the region. The planning policies and manuals that developed as a result of Plan Abu Dhabi 2030, however, are a testament to the plan’s intended goals (e.g. Estidama and the Pearl Rating System; Urban Street Design Manual; Public Realm Design Manual), and demonstrate a new “way of doing” planning in Abu Dhabi, although Nigel Taylor would argue that this is not necessarily a “paradigm shift” in the pure Kuhnian sense (Taylor 2011).

While some of these plans were implemented and some were not, the impact of these decisions is evident in the urban fabric.

Urban Morphology

As a result of the purposeful vision of each ruler, and his consultants and advisors, as well as the effects of governance on city-making, Abu Dhabi in 2013 is radically different from Abu Dhabi in 1960. In 1960, the main town at the northern part of the island consisted of dirt tracks for travel by camel, a small jetty for small craft, a central area with mosques, the *souq*, palace, and recreation area, an airport strip, a causeway at al-Maqta' with a customs fort and watchtower, and some banks. There were no public utilities, no electricity, no greenery lest for some palm trees, a number of small wells, and one water distillation plant. Residential areas consisted of *arish* homes and coral or stone houses separated into tribally distinct quarters. Between 1962 and 1973, a road system was developed based on several different plans (Harris, Abu Dhabi Consultants, ARABICON, Takahashi, and Makhlouf), al-Maqta' bridge and a permanent jetty were built, electricity, water pipelines, and distillation plants were introduced, as were a hospital, schools, and a sewage network. Building and construction included a housing program that replaced the *arish* huts with reinforced concrete (*sabsoub*), a new airport, a breakwater, and land reclamation (raising the island level). During this time, building projects mostly served functional ends and had no ornamentation. Between 1974 and 1979, the city grew rapidly and expansion occurred horizontally to the north, south and west (see Figure 7.1). Architecturally, the influence of modernist design and the international style was prevalent. Between 1980 and 1988, the city continued to expand horizontally, and implementation of the DLCI plan meant that traffic lights replaced most of the roundabouts in the city and carriageways were expanded from two to three lanes (see Figure 7.2). The city also grew vertically, as buildings were demolished and reconstructed at greater heights (see Figure 7.3), with Arab architects attempting a nostalgic (and superficial) turn towards Arab or Islamic ornamented buildings. Moreover, the greening of Abu Dhabi began to take shape (see Figure 7.4). Between 1989 and 2004, development was expanded onto the mainland, several bridges and tunnels were built, and building heights in the Central Business District were further increased while lower densities were achieved towards the south of the island and on the mainland (see Figure 7.2 and Figure 7.3). Aluminum cladding and reflective glass were the materials of choice during this period. Mangrove planting and green area development was also heightened (see Figure 7.4). Finally, between 2004 and 2013, land speculation led to a huge building boom in Abu Dhabi, with development expanding onto the surrounding islands and the mainland (see Figure 7.1). Building heights along the northern part of the island and in the CBD were further increased, all in the name of creating "iconic" towers (see Figure 7.3). The road network was further expanded, including the construction of new bridges and tunnels such as the Sheikh Zayed tunnel and bridge. Some important landmarks were demolished, while new ones were built, such as the Emirates Palace Hotel and Sheikh Zayed Grand Mosque. Furthermore, several areas around the city were redeveloped, including al-Bateen, Ras Al Akhdar, and the Corniche. By 2013, "Abu Dhabi [had] changed directly from the perspective of being more or less a global city rather than a city that was housing tribes here or there," claims an informant (Interview #10). During all of these periods, land reclamation continued unabated (see Figure 7.5). Also, the spatial distribution of nationals and non-nationals demonstrated clear distinctions between

their residential areas, as well as distinctions in nationals' areas (private residential versus national housing) and non-nationals' areas (communal areas versus investment housing and family households), and this is reflected in the urban morphology of the different periods.



BUILT UP AREAS

Figure 7.1 Abu Dhabi Built Up Areas 1969-2013

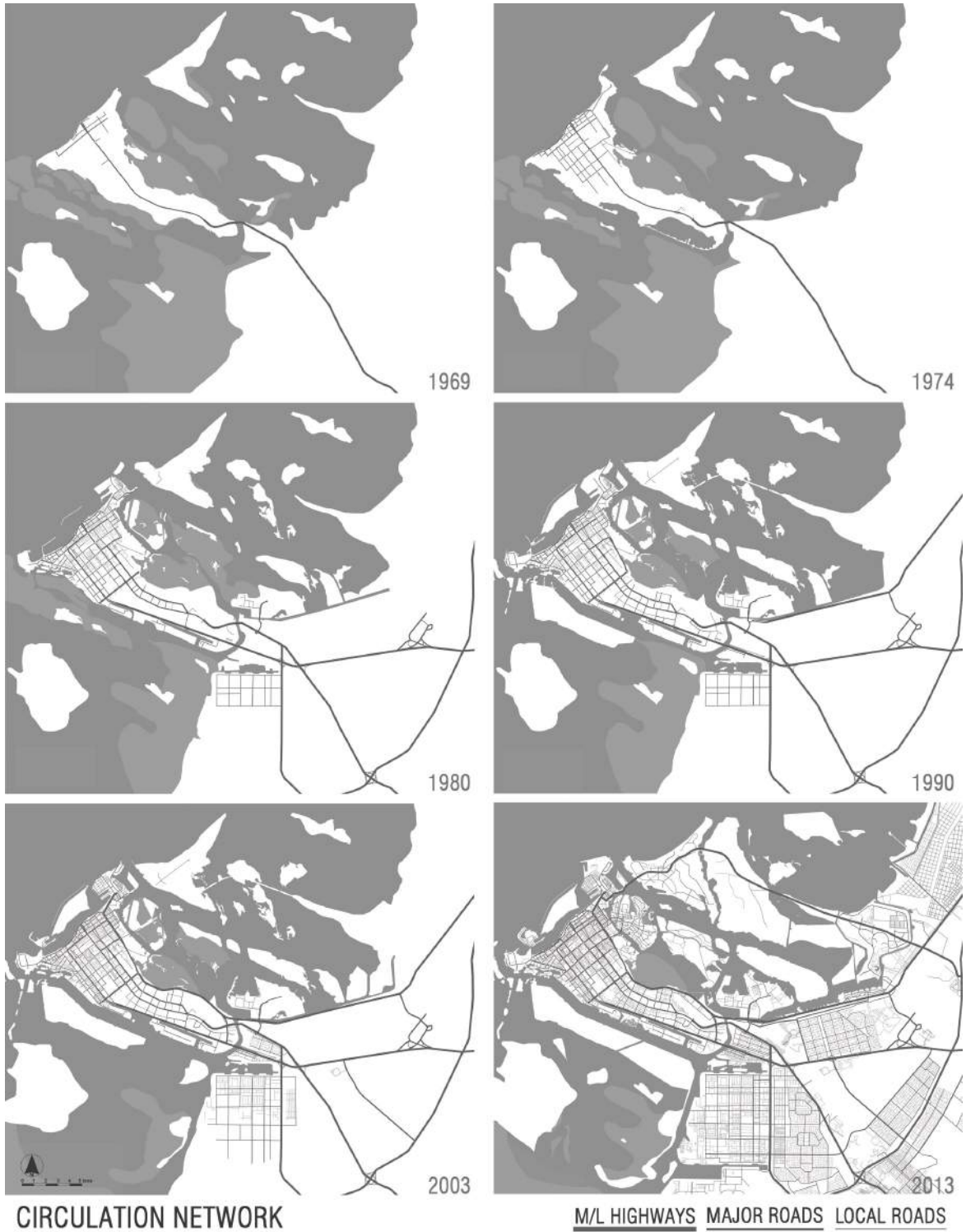


Figure 7.2 Abu Dhabi Circulation Network 1969-2013

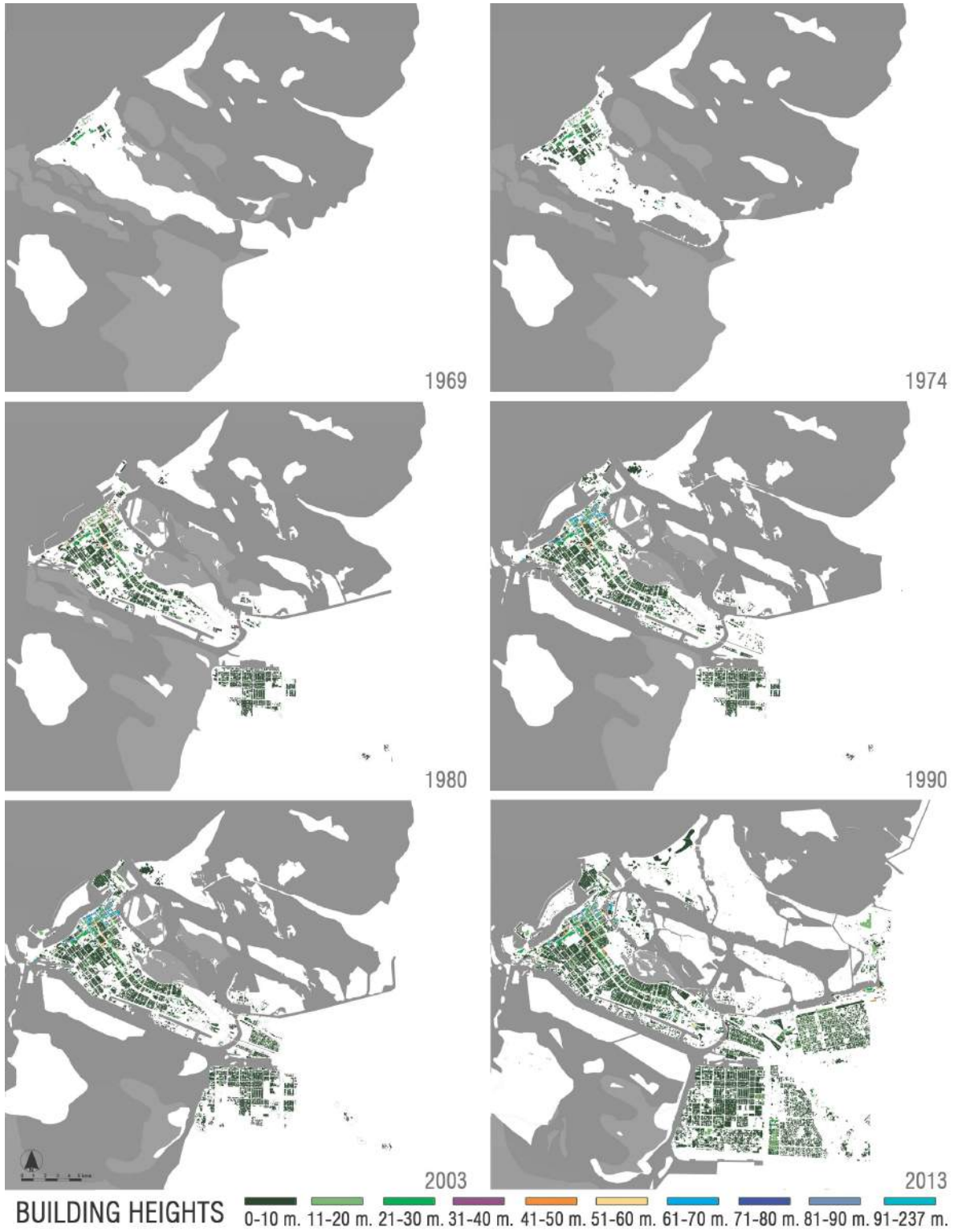


Figure 7.3 Abu Dhabi Building Heights 1969-2013

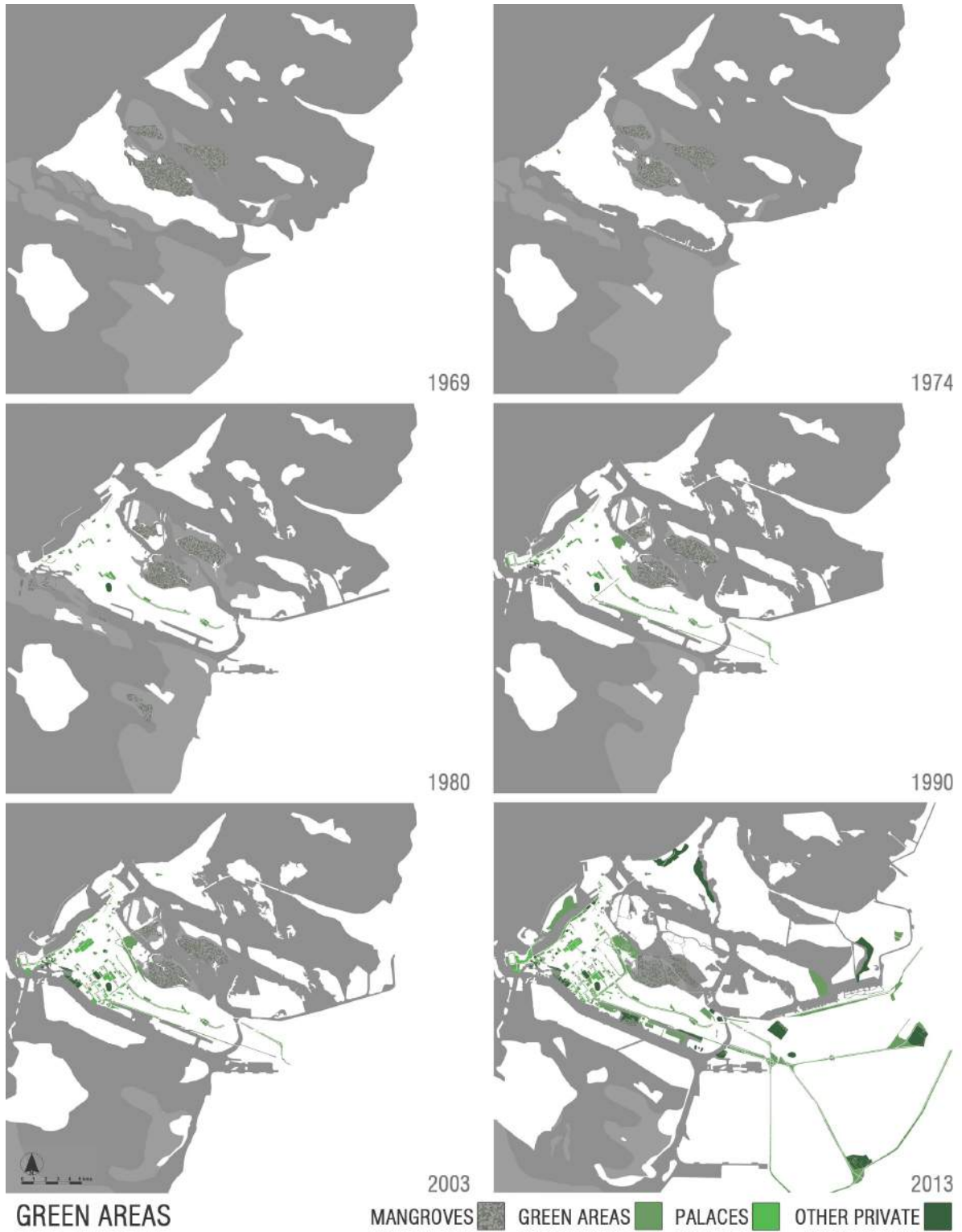


Figure 7.4 Abu Dhabi Green Areas 1969-2013

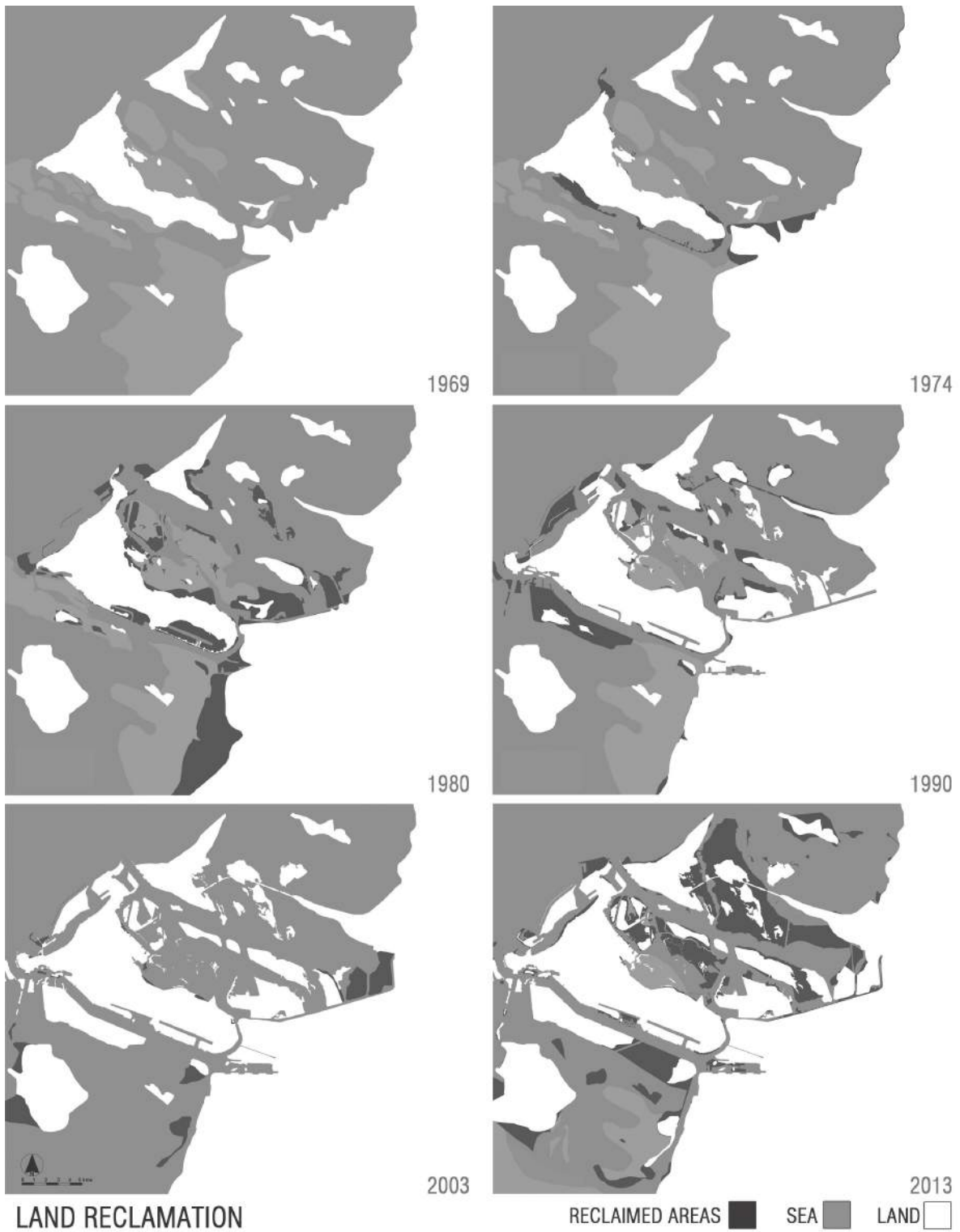


Figure 7.5 Abu Dhabi Land Reclamation 1969-2013

Reflections

The case of Abu Dhabi makes a valuable contribution to the understanding of planning institutions in rapidly urbanizing societies. It is a unique case, in that a planning apparatus was set up over the short span of almost fifty years and is challenged by the need to creatively respond to continuous change and expectations for immediate gain. For this reason, it has proven difficult to import planning systems from the West. Western planning systems are challenged in Abu Dhabi because the strong kinship and tribal structures mean that development happens differently than in many western countries. That is, urban development in Abu Dhabi is heavily influenced by a small number of actors and although a private sector has been given teeth, ultimately it is controlled by the ruling family with the help of a narrow group of tribal allies. Additionally, while contemporary western style planning incorporates widespread participatory planning mechanisms, decision-making in Abu Dhabi has always been strongly hierarchical. Because of this, and despite efforts to adopt the charrette process, planning in Abu Dhabi lacks real public participation.

The establishment of strict planning regulations (in the form of a zoning code) remains a particular challenge, as older ad hoc practices (such as political influence) resist change and reassert themselves. An informant claims that, "No one [wants to implement] a planning law. It has no meaning here. In this part of the world, in this political system, it has no meaning" (Interview #5). This makes it difficult and often frustrating for planners in Abu Dhabi to control development in a systematic manner, or to guide planning decisions in the public interest or in what most would consider the long-term interest of Abu Dhabi environmentally, socially, culturally, and economically. This begs the question: what kind of planning system is suitable for Abu Dhabi? An informant argues that "you cannot do any sort of the systematic planning that's [taught] in the U.S. ... simply because of the decision-making system, the models of rationality and the cultural and political limits of effectiveness" (Interview #13).

"It's a chaotic thing," the informant says. "You're throwing everything [together] and when they meet each other there is a chance something might happen. It's not long-term planning, it's not something systematic for a long time." The informant believes that the kind of planning that has taken place in Abu Dhabi thus far would be better suited to more incremental planning, where an overall vision precedes detailed planning on a case-by-case basis (Interview #13). This discussion warrants further exploration, particularly as the tribal factor has remained a fundamental characteristic of politics in Abu Dhabi.

Another issue to note is the apparent vision to implementation gap. Most – if not all – of the plans drawn up for Abu Dhabi since 1961 were not fully actualized according to the consultants' recommendations. Even the Abu Dhabi Consultants' plan and the Atkins plan, which included details for implementation (and were the only two besides the Harris Plan that did), fell short of following through. The reasons are almost always the same: (1) money and political influence, (2) a preference for the status quo, or (3) planning that is inextricably linked to the political and economic context. For the

former, although the situation is not unlike most jurisdictions worldwide, it is especially nuanced in Abu Dhabi. To understand this, one must take into account that what is different about Abu Dhabi is the existence of a political will and financial largesse that is rarely seen in other parts of the world. As Larry Beasley (quoted in George-Cosh 2008) points out, "...the change [in Abu Dhabi] happens immediately and with gusto." A focus on speed and immediate gain means that the leadership (or those working for them) prioritizes projects that would demonstrate "progress" or that would satisfy citizens (e.g. national housing) at any cost, while other parts of the plan are put on hold. At the same time, many of the areas where development has been recommended (e.g., Lulu Island, Saadiyat Island, Hudayriat Island, Capital District, and others) are highly politicized and tend to be heavily debated before any construction is to commence. Also, the status quo is generally preferred because those involved in planning and development in Abu Dhabi (especially many of the long-established engineers and architects) are not well-trained in planning, do not engage in continuing education, and are focused on financial gain rather than quality of life in the built environment. Though this has slowly been changing since the inception of the Urban Planning Council, based on the issues with implementation as described above, the question to be posed is: Is Abu Dhabi really ready to be more progressive in its approach to urban planning rather than succumb to political influence and/or the status quo? An informant is hopeful that with the younger generation taking the lead and driving planning decisions, a progressive approach to planning Abu Dhabi will prevail (Interview #22). The third reason is a little difficult to control, although preliminary studies and regular evaluations would help to adjust the plans accordingly in order to avoid a complete mismatch between vision and reality. In the recent period, another factor may have added to this gap: The decentralization of planning or the involvement of several authorities in planning has led to a discrepancy in implementation. Generally, while the various entities agree in concept with the vision set out by the UPC and with the development review standards imposed, the strategies for implementation tend to differ. For example, the Community Facility Planning Standards recommends the provision of a certain number of schools per community, but in reality, this recommendation is subject to approval by the Abu Dhabi Education Council, which may choose not to carry it out if it does not align with the council's emirate-wide strategy for schools.

The issues of place-making and place identity in Abu Dhabi are also significant and ought to be explored. This is because Abu Dhabi experienced great cultural change with the introduction of modernity, and its identity as translated through the built environment is still in question. While in the past, the architectural language of Abu Dhabi was defined first by basic need, then by the modern vernacular, and evolved from being controlled by the Heritage Committee in the Town Planning Department to having no controls at all (leading to reflective glass towers and skyscrapers), I follow Janet Abu-Lughod's (1992) calls for a renewed interest in vernacular architecture, particularly as one of the principles of Plan Abu Dhabi 2030 states that Abu Dhabi would be a "contemporary expression of an Arab City." This, as well as the notion of an Emirati identity in the built environment, needs to be further defined. Is it purely to be considered from a design perspective, such as in the building blocks of Emirati

communities? These encouraged a return to the *freej*, yet until now, this has not successfully manifested in the urban form of the city. Also, how does one achieve a balance between the traditional and global city? Moreover, as an informant questioned, “We’re trying to cater to the Emirati needs, but is that enough? Is that the identity we are looking for? What exactly is the Emirati identity?” (Interview #12). These questions warrant further research, especially given that there is such a high proportion of expatriates living in Abu Dhabi.

An overarching question comes to mind: Who decides? While the vision of the ruler is still a guiding force, to this day, planning in Abu Dhabi relies on the expertise of foreign consultants. Given that few UAE nationals are trained in urban planning, this is expected. I would argue, however, that the establishment of the Urban Planning Council as well as the sharing of the Abu Dhabi Urban Planning Vision 2030 has raised awareness about urban planning in general, whereas in the past there was hardly an understanding or even a culture of planning in Abu Dhabi. “In the beginning, planning was a new thing not only to Abu Dhabi, but to the entire region. It wasn’t something you hear about every day. Everybody still thinks it has to do with engineering,” says an informant (Interview #10). This newfound appreciation has resulted in an “explosion of consciousness about these issues of quality of life and the utility and efficiency of the city but also the environment,” claims another informant (Interview #17).

Recently, there has been an attempt to reduce the reliance on foreign consultants and to build capacity in-house (within the planning institutions), and to provide training and education to develop planning skills among nationals. Having an indigenous planning team is a long-term goal for both the leadership and some of the non-Emirati senior managers across the board. An informant, a planner, admits: “I hope one day that they won’t even need expats to do it, and I think that is the goal, that we work ourselves out of our job, pretty much, and the local people take this over and really truly make it their own” (Interview #27). By building up the planning experience of the indigenous population, I argue that only then it becomes possible to imagine what an Emirati city balancing globalization and tradition might look like. This compels the need for the strengthening of the professional institute and an increased patronage of the profession. The Abu Dhabi Urban Planning Council has been making commendable attempts at this by providing training and education to nationals and through signing memoranda of understanding with local universities that offer urban planning programs. More is still to be done, however, and it is a matter of time before Abu Dhabi will have the number of skilled local planners it needs. The quota of Emiratis enrolled in urban planning programs is still very small, and as more and more are encouraged to take up planning as an undergraduate or even graduate degree (and as the programs themselves mature), this will need time. What is problematic in the foreseeable future is that the push for Emiratization across planning institutions might mean those without a planning background will fill many positions in planning. How, then, does one ensure that planning-related decisions are made in the most informed manner?

In the meantime, the various policies, guidelines and manuals created by the UPC are a good start. By ensuring that all upcoming developments include an adequate provision of community facilities, mosques or prayer rooms, and utilities, and that they carefully consider the treatment of the public realm, offer options for middle income housing and employ best practices in street design, the emirate is well on its way to creating “complete communities” and making robust planning decisions that would positively affect the spatial development of the city. Coupled with this, it is worthwhile to continue to organize public consultation sessions that engage community input at various stages of the planning and implementation processes. Though the jury is still out about the effectiveness of these sessions as they have been arranged thus far, involving citizens and residents in a democratic/participatory planning process would serve to strengthen the mutually informing relationship between theory and practice. I realize this might seem like a dreaming exercise to many, but the dedication to transparency and accountability in governance leaves me hopeful for the future of planning in the emirate.

Indeed, Abu Dhabi is an experiment in urbanization altogether. It is still grappling with a myriad of planning issues while finding its way. Michael Cameron Dempsey puts it best when he describes the initial growth spurt of the 1960s and 1970s as Abu Dhabi’s infancy, then the post-Zayed era as its adolescence, “a time to seek its own identity and place in the world” (Dempsey 2014). An informant argues that like every other city in the world, Abu Dhabi has to learn from its own experiences as well as the experiences of others, and that its development in such a compressed period of time has certainly amassed a great deal of learned lessons (Interview #18).

What, then, can Abu Dhabi offer for the theory and practice of urban planning and design? Three things come to mind: First, being a place where citizens are the minority as opposed to the majority, Abu Dhabi presents a case study on how to balance planning for a small indigenous population - and expressing or maintaining their civic identity - and ensuring that the non-national population is accounted for as well. The experience of expatriates in Abu Dhabi and the unusual conditions and restrictions on where they can live, what they can own, and under what conditions they can remain in the country has produced a transient and insecure population. While this is a federal issue, the implications on planning are many, including and not limited to issues of land allocation, neighborhood design, and connectivity via alternative modes of transportation. In the recent era in Abu Dhabi, the development of planning institutions and implementation of plans has gone hand in hand with Emiratization, meaning that planning has prioritized the needs of nationals. At the same time, the focus on the tourism aspect of the emirate’s economic diversification plans has led to spectacular developments and projects that cater to outsiders, while at the same time perpetuating social inequality. But what of those who reside in the emirate? This also touches on the issue of a sense of belonging that has been presented by many place-making advocates such as Kevin Lynch and Edward Relph. As such, Abu Dhabi offers an opportunity to reflect on and challenge current planning practices in other cities around the world that also rely on and house a large foreign population.

Second, Abu Dhabi is a significant example of planning for urban sprawl. Since the late 1960s, Abu Dhabi has been planned around the car, due to the oil wealth making possible the importation of motor vehicles. In fact, owning and driving cars have become embedded in the nationals' lifestyle, to the extent that they have become signs of wealth and prestige. Thus, wide streets and an expansive network of highways define the urban fabric of Abu Dhabi, connecting low-density areas on the mainland to others on the island. The idea of suburban living is analogous to the traditional Emirati way of living, where communities are created on large plots of government granted land each housing a tribe or family and its extended relatives. This kind of dwelling is prized among natives as it embodies the concepts of privacy and proximity significant to both their culture and Islamic beliefs. The common practice of land gifting and national housing has also raised significant issues in the planning domain, particularly as there is a finite amount of space for that (an informant mentions that calculations based on the present rate of demand would mean that the entire urban growth boundary within Abu Dhabi city will be used up by 2030 [Interview #11]) as well as associated costs (e.g. roads, sewage and water connections, and maintenance, to name a few). Even more concerning is that sprawl is occurring in a fragile desert environment: all (terrestrial) ecological habitats are being degraded due to fragmentation and are being lost to development. Overuse of the land and poor management is having a major impact on desert natural ecosystems; therefore, land management is critical. In Plan Capital 2030, there is an emphasis on integrating low- to medium- density housing in the urban fabric in a way that is not susceptible to sprawl and that is able to carry forward the notions of livability and sustainability. This has initiated research into alternative options such as townhouses and apartments on the island and where appropriate – admittedly a notable change for a citizen population whose average household size is decreasing. An informant states, "It's a discussion that's starting to happen with the government and that will really change things over time. They're starting to realize the costs of building and maintaining the ever-growing city, so that will have a big impact over time on how we do planning. We're at the very beginning of that, but that door being open right now is very positive" (Interview #9).

Finally, Abu Dhabi offers an alternative view of sustainable urban development, which until recently has been guided by theories from the West. Those involved in planning Abu Dhabi have attempted to define what sustainability means for a non-Western city with a very different climate and context, by introducing a new program known as Estidama that uses a Pearl Rating System. Yet, although the planning rhetoric communicated to the public demonstrates that this oil-rich, fragile desert city is serious about sustainability, what is actually happening? Abu Dhabi continues to poorly manage groundwater resources to the point of overexploitation, and it is believed that this valuable resource will be depleted in between 30 to 50 years. Moreover, the increasing reliance on desalination plants is further exacerbating environmental problems, as this method burns a significant amount of fossil fuels and negatively impacts both the air and marine ecology. Also, traffic and congestion in built up areas of the city, as well as construction and other industries, are affecting air quality. And as Abu Dhabi continues to forge ahead with dredging and reclamation to make way for coastal settlements, marine and coastal habitats are being destroyed. These are but some

of the major issues Abu Dhabi is facing due to the rapid pace of development, compounded by the fact that environmental impact assessments, which usually take years to complete, are expected to be completed in months not years. The consequences as a result of rushed or lack of environmental assessments are sometimes only understood when developments and communities have been constructed and operational. The case of Abu Dhabi therefore allows planners who work in similar contexts to seriously reflect on the cumulative impacts as a result of plans and development on the natural environment.

More generally, the experience of Abu Dhabi contributes to the larger discussion on contemporary Arab urbanism. Theories of the Arab-Islamic city are outdated and arguably irrelevant, particularly as there is hardly any city in the world that can be labelled as such. In fact, the term “Islamic city” has been challenged by many scholars in the late 20th century (e.g. Abu-Lughod 1987), as it is believed to have been invented by Western scholars operating within an Orientalist perspective. Now in the current climate of globalization, the concept of the Arab city is being revisited (e.g. Elshehstawy 2008). Abu Dhabi’s quest to become “a contemporary expression of an Arab city” may serve to enrich this discussion, particularly as the global and local processes are constantly being tested against each other as they play out (for example, the global expert working within the parameters of an overwhelmingly tribal structure) and as new urban typologies are being presented.

Returning to the existing literature on Abu Dhabi, while there are some parallels between my account and the literature, particularly around the issues of decision-making, economic development and urbanization, my study of Abu Dhabi contributes to the narrow field of research on the city by providing an in-depth examination of the intricate processes and systems that have shaped its urban landscape. In particular, it provides new insight into the modern urban history of Abu Dhabi by presenting first-hand accounts of the planning scene since the discovery of oil – both of the players involved (such as the foreign experts and advisors) and of the urban planning and governance systems. My role as an Emirati national conducting this research has had both advantages and pitfalls, as I was able as an insider to access a significant amount of data, documents and people while at the same time attempting to maintain critical distance from a subject I am deeply invested in and on which I am very familiar. Abu Dhabi’s experience in urban planning is multi-faceted, rich and full of interesting lessons. I hope that this study will be useful to a large and wide-ranging audience. This includes planners and urban designers interested in new ways to regulate urban form and design to create better cities; Emirati urbanists and Abu Dhabians at large, especially the city’s development and design communities; local planning, development and architecture students; as well as anyone interested in the history of Abu Dhabi.

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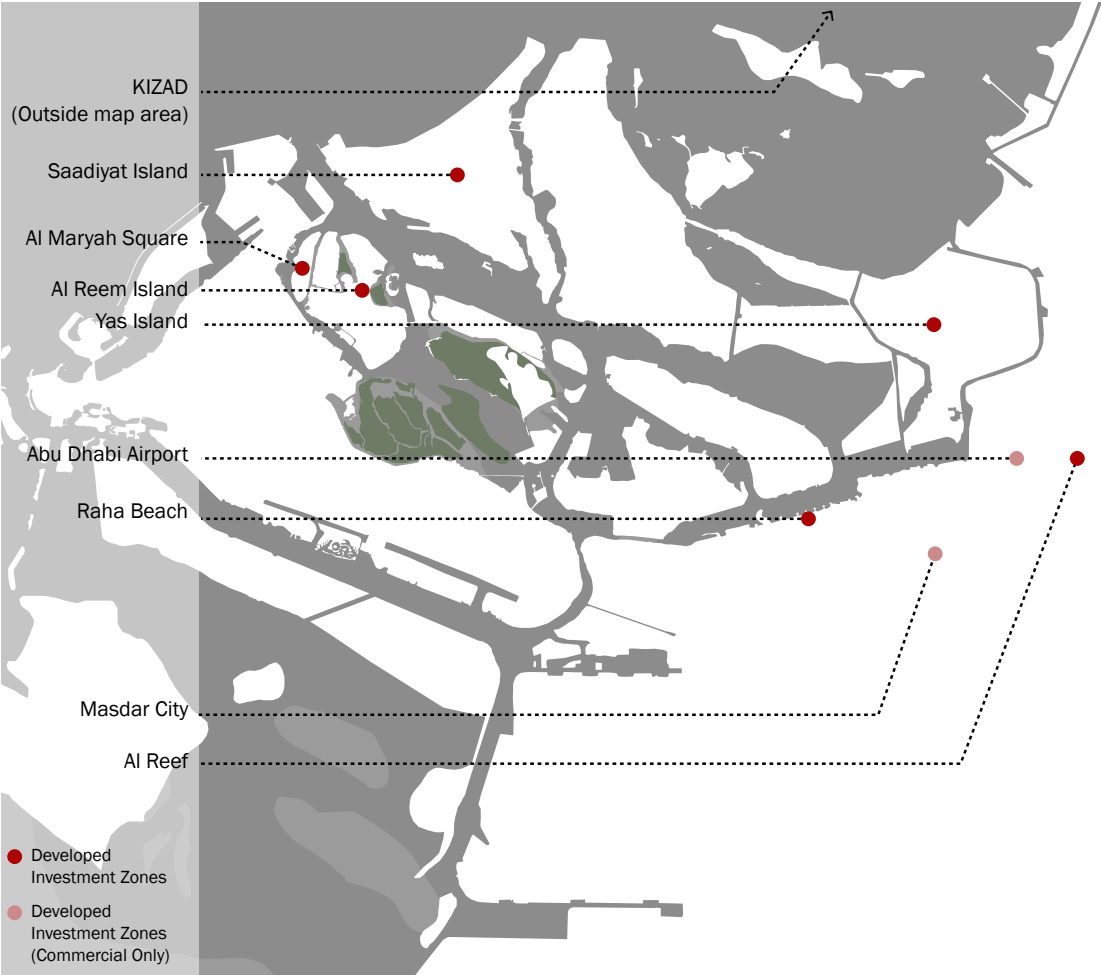
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- Interview 32.** [local academic], [16 November 2013]
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- Interview 34.** [civil engineer], [13 December 2013]
- Interview 35.** [tourism and culture consultant], [14 October 2013]
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APPENDIX C:
List of Entities for No Objection Certificates (NOCs)

The following shows the typical list of No Objection Certificates (NOCs) required by the various agencies during the permitting stage. Required NOCs vary according to the project type. It can sometimes take up to a year to secure all these approvals.

1. Abu Dhabi Municipality (ADM)
2. The Department of Transport (DOT)
3. Abu Dhabi Ports Company (ADPC)
4. Environment Agency Abu Dhabi (EAD)
5. Abu Dhabi Education Council (ADEC)
6. Health Authority Abu Dhabi (HMD)
7. Abu Dhabi Water & Electricity Authority (ADWEA)
8. Abu Dhabi Distribution Company (ADDC)
9. Abu Dhabi Sewerage Service Company (ADSSC)
10. Abu Dhabi Transmission & Despatch Company (TRANSCO)
11. Abu Dhabi Gas Industries Ltd. (GASCO)
12. Abu Dhabi National Oil Company (ADNOC)
13. Telecommunications Regulatory Authority (TRA)
14. Abu Dhabi Tourism and Culture Authority (ADTCA)
15. Abu Dhabi Police (ADP)
16. Abu Dhabi Civil Defence (ADCD)
17. The UAE Armed Forces
18. Critical National Infrastructure Authority (CNIA/CICPA)
19. National Emergency and Crisis Management Authority (NECMA)
20. Higher Corporation for Specialized Economic Zones (Zonescorp)

**APPENDIX D:
Investment Zones in Abu Dhabi**



**APPENDIX E:
Abu Dhabi Areas Map**



**APPENDIX F:
New and Upcoming Developments (2004-present)**



01	Nareel Island Master Plan
02	Marina Mall Extension
03	St Regis Hotel, Residences & Galleria
04	Central Market Mixed Use Development
05	Lulu Island Master Plan
06	Al Mina Plaza
07	Mina Zayed - Government Master Plan
08	Saadiyat Island, Cultural District
09	Tourist Club Revitalisation
10	Al Maryah Island, CBD Master Plan
11	Sham AD
12	The Gate District
13	Najmat
14	Al Reem Island Master Plan
15	Yas Island - Marina, Mall, Ferrari World
16	Anantara Resort Spa and Residences
17	Al Gurm Resort
18	Danet AD Master Plan
19	ADNEC - National Exhibition Centre
20	Zayed Sport City Mixed Use Master Plan
21	Khalifa Park
22	Al Raha Beach - Residential Master Plan
23	Abraj Development
24	Fairmont Hotel
25	Emirates Palace
26	Sheikh Khalifa Medical City Master Plan
27	Cultural Foundation
28	Zayed University
29	Manarat Al Saadiyat
30	New York Univeristy Campus Master Plan

31	Saadiyat Cultural District - Zayed National Museum/ Louvre/ Guggenheim Museums
32	Sorbonne University
33	ICAD
34	ALDAR HQ
35	Watani
36	Masdar City
37	NMC Speciality Hospital
38	AD University
39	Al Shamkha
40	National Rehabilitation Centre
41	Bawabat Al Sharq Mall
42	Motor World
43	AD Airport/ Midfield Terminal
44	Al Falah
45	Al Bahya
46	Khalifa Port - KIZAD
47	Shahama
48	IPIC Square
49	Deerfield Mall
50	Al Reef Villas
51	Khalifa University
52	Twofour54
53	Al Wahda Mall
54	Al Bahar Towers
55	ADNOC HQ
56	Etihad Towers
57	Etihad Plaza
58	Capital Gate
59	Sheikh Zayed Grand Mosque
60	Marasi Mixed Use Master Plan

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Chapter Three

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