

Foreign Nationals' Liveability in the Dammam Metropolitan Area Petroleumscape

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Abstract

Since oil was struck at Dammam's Oil Well No. 7 in 1938, the Dammam Metropolitan Area (henceforth referred to as 'DMA') has undergone rapid urban expansion, in part due to the influx of foreign national oil workers. With their lifestyles differing from the local population, the urban sphere has developed to cater to their diverse demands. There is limited literature on the relationship between the history the foreign national populations' urban experiences in the DMA and its petroleumscape. The petroleumscape, as defined by Carola Hein, is the physical, represented and lived palimpsest of petroleum's physical and financial flows into the (urban) landscape guided by corporate and public actors. In the DMA, the petroleumscape's main actor - ARAMCO – was the first to define spatial distributions of ethnic and socioeconomic groups in Saudi's Eastern Province. Other actors such as the Saudi government and other petrochemical companies followed suit, resulting in ethnically segregated urban zones and architectural typologies. A failure to understand the historical relationships between petroleum, ethnicity and nationality could be an obstacle to current Saudi city-planning strategies, particularly frameworks such as Vision 2030, which anticipate an economy slowly shifting away from oil and 'inclusive' cities. This paper investigates how the development of the DMA's petroleumscape resulted in urban spaces for foreign national populations (henceforth referred to as 'FN populations') and affected their urban liveability in terms of their housing, work, education and leisure environments. A study of this intricate historical relationship could provide a background for future urban planning policies in the DMA and the Eastern Province of Saudi Arabia. The analysis of historic documents, aerial imagery, photographs and geographical information systems can locate oil-related infrastructure throughout history. Coupled with personal accounts and statistics, segregation and integration of FNs in urban space is explored. An online questionnaire conducted for this research provides quantitative and qualitative data on the quality of life for FNs. Secondary sources, such as books, articles and magazines which investigate housing and employment conditions in Middle Eastern oil and port cities are used to analyse and deduce findings from primary sources. A cross analysis of sources and findings identifies and maps out urban interventions that improve liveability arising from Dammam's petroleumscape. The historical upward trajectory of Dammam's petroleum industry has improved liveability for FN residents since the discovery of oil in 1938. Consequently, through the creation of urban spaces, such as gated communities, cultural enclaves and commercial districts funded by petrodollars, liveability for FN populations has improved in tandem with the rise of petroleum. However, a generalisation of all FN groups cannot be made as their urban liveability has historically depended, and continues to depend, on their position on the racial and socioeconomic ladder. Saudi's waning reliance on oil revenue will affect liveability in the DMA for Saudis and foreign nationals alike, possibly even altering urban distributions of various FN groups. The objective is to present the correlations and causations in the history of the DMA's urban development and its FN population and to illustrate how and why this affects liveability for FNs so that the objectives of local planning authorities can better manage the demands of a historically diverse population, in line with the Vision 2030 framework and local urban planning schemes.

Keywords: oil spaces; oil industry; petroleumscape; foreign nationals; racial urbanism; urban liveability; urban history; urban planning; segregation

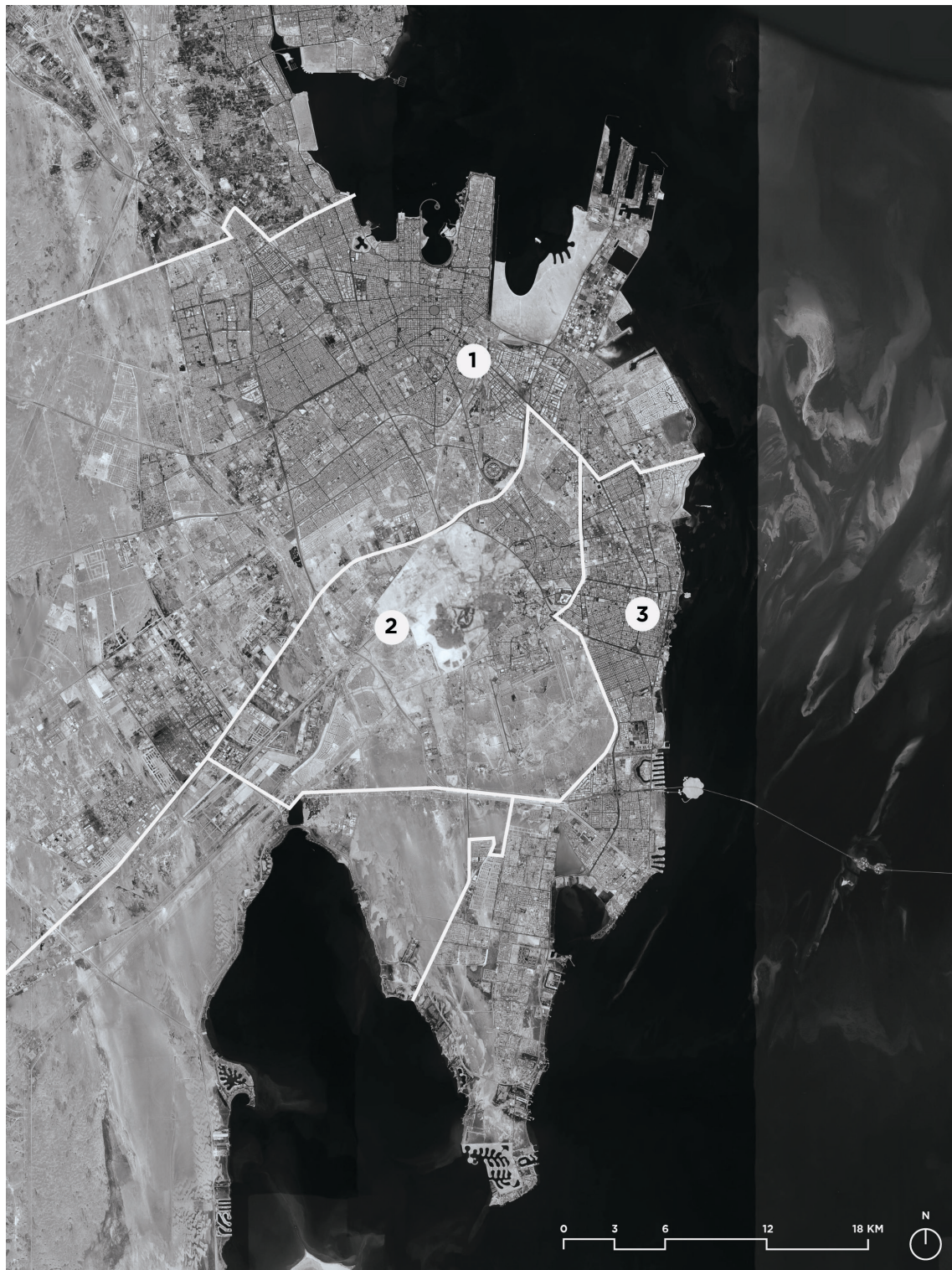


Figure 1: Satellite image of the Dammam Metropolitan Area: 1. Dammam, 2. Dhahran and 3. Khobar. (Source: Mapped by author, 2022.)

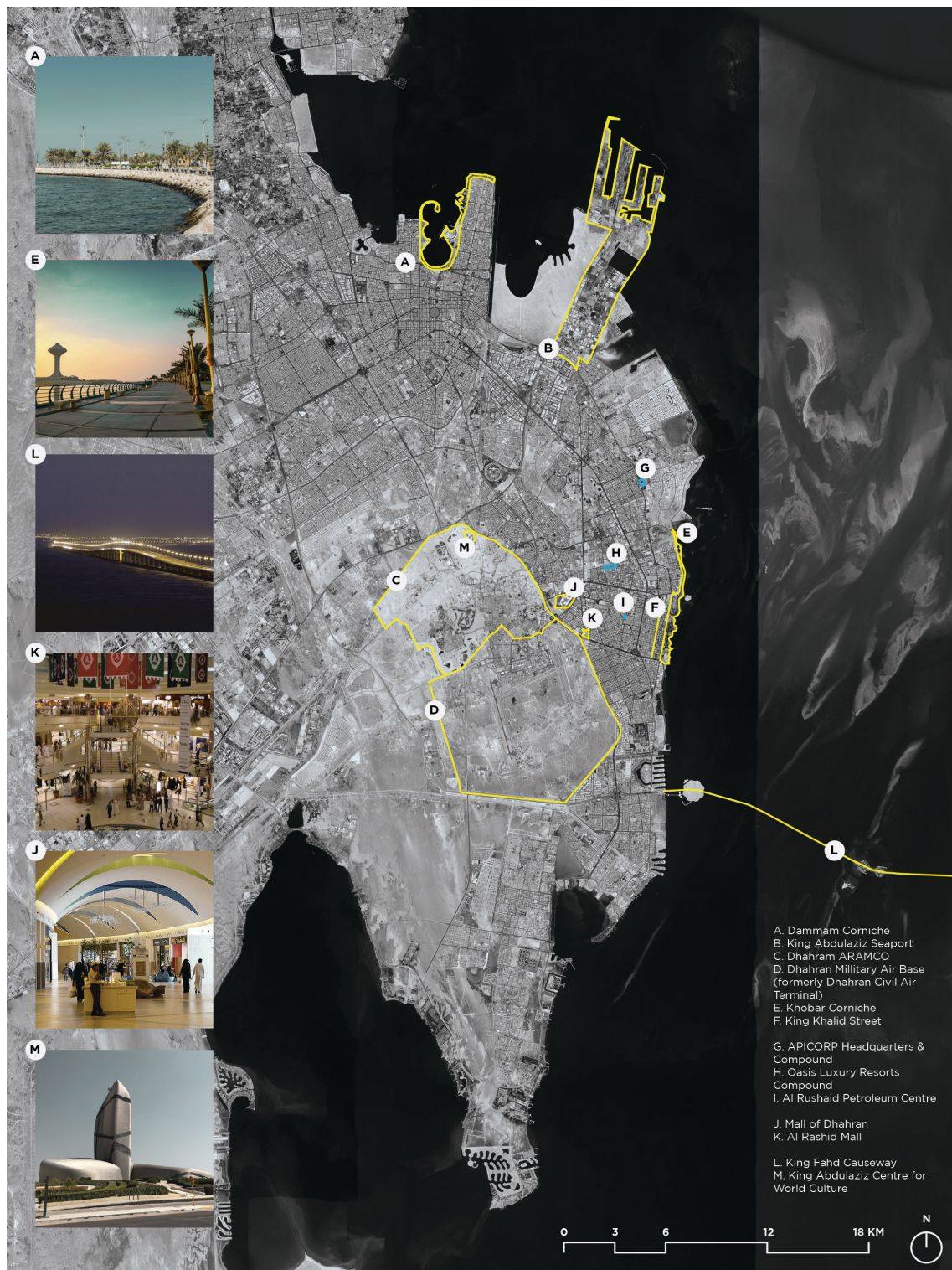


Figure 2: Urban and Architectural landmarks which will be discussed in this paper. (Source: Mapped by author, 2022.)

1. Introduction

In 1938, the Arabian-American Oil Company (ARAMCO) finally struck oil in Dammam's Oil Well No. 7, after years of speculative searching on a concession from then-Saudi King, King Abdul Aziz. ARAMCO was a subsidiary of the American-owned Southern Californian Oil Company. In the subsequent decades, the desolate desert consisting of ARAMCO's suburban gated communities in Dhahran, and the sleepy fishing villages of Dammam and Al-Khobar a few miles away grew into Saudi Arabia's 3rd largest conurbation.¹ As the main actor in the region's petroleumscape, ARAMCO played a pivotal role in the spatial urban changes in the region: it started gated communities in Dhahran as well as in the nearby oil fields of Ras Tanura and Abqaiq. It was also responsible for the gridiron street plan that now characterises Downtown Khobar, as well as land-reclamation projects such as the development of King Abdulaziz Sea Port, which currently juts out 6 kilometres into the Arabian Gulf. This is consistent with Carola Hein's theory of the petroleumscape wherein the physical, represented and lived palimpsest of petroleum's physical and financial flows create a feedback loop with the urban landscape and the people residing within.²

In addition to urban expansion, early petroleumscape activities caused social change through an influx of immigrants, both from within and outside Saudi Arabia, to work in the emerging petroleum industry. The workers and the petroleumscape had a range of proximities: from as intertwined as labouring in the oil fields, or as far removed from the oil fields as being a teacher at an international school for oil workers' children. In 1934, foreign nationals accounted for only 6% of the total population. But by 1980, they grew to make up 44% of the population. As of 2014, about 30% of the population is of foreign nationality.³ Though they are not the majority, the historical relationship between FN populations and the urban development of the DMA - which includes Dammam, Dhahran and Khobar (See Figure 1) - provides insights into the symbiosis between the city, its people and the petroleumscape. This paper investigates how the development of the DMA's petroleumscape resulted in urban spaces for FN populations and how the petroleumscape affected their urban liveability.

The Cambridge Dictionary defines 'liveability' as "the degree to which a place is suitable or good for living in."⁴ The Economist Intelligence Unit's Global Liveability Index ranks cities' liveability based on qualitative and quantitative parameters within the headings of Stability, Healthcare, Culture and Environment, Education, and Infrastructure.⁵ The ranking could be criticised for being too 'anglocentric'⁶ as it attempts to compare socially and culturally incommensurable cities by applying 21st-century Western parameters of liveability. Having lived in the DMA as a foreign national from 2005 to 2017, housing and employment played were pivotal factors affecting liveability. This was partly due to the lack of cultural institutions in the region at that time. Consequently, it was a reflection of a culture wherein FNs came to live, work and save their money to spend elsewhere, making housing and employment much more important to one's liveability in the DMA than in other cities. The Index fails to account for such cultural differences, assuming that the provision and quality of housing and places of work have a relatively limited effect on 'liveability'. It must also be noted that standards of liveability will have changed as a result of the petroleumscape's development over time. Considering the range of nationalities investigated, each group of foreign nationals, and each individual as well, will have a particular notion of acceptable liveability based on their background, their expectations and their lived experience of the DMA. Therefore, this paper attempts to qualitatively study urban liveability through the parameters of housing, employment, education and leisure environments, as well as other notable spaces in the petroleumscape that would have affected liveability for FNs as a more appropriate method to study the DMA than that proposed by the Liveability Index.

1 Abou-Korin, A. A. (2011). *Impacts of Rapid Urbanisation in the Arab World: the Case of Dammam Metropolitan Area, Saudi Arabia*. <https://www.researchgate.net/publication/263847805>

2 Hein, C. (2018). Oil spaces: The global petroleumscape in the Rotterdam/The Hague area. *Journal of Urban History*, 44(5), 887–929. <https://doi.org/10.1177/0096144217752460>

3 Alhowaish, A. K. (2015). Eighty years of urban growth and socioeconomic trends in Dammam Metropolitan Area, Saudi Arabia. *Habitat International*, 50, 90–98. <https://doi.org/10.1016/j.habitatint.2015.08.019>

4 Cambridge Advanced Learner's Dictionary & Thesaurus. (n.d.). Liveability. In *Cambridge English Dictionary*. Retrieved April 6, 2022, from <https://dictionary.cambridge.org/dictionary/english/liveability>

5 The Global Liveability Index - a Free Overview. (2019). Retrieved April 2, 2022, from https://www.eiu.com/public/topical_report.aspx?campaignid=liveability2019

6 Greenway, H. D. S. (2010). *Opinion | The Best Place to Live?*. The New York Times. <https://www.nytimes.com/2010/05/27/opinion/27iht-edgreenway.html>

To avoid the taint of socioeconomic class hierarchy that is implicit in the nomenclature of ‘expatriates’ and ‘migrants’, the aforementioned terms are altogether avoided. The terms ‘foreign national’ or ‘FN’ are used throughout the paper to refer to people who still have the nationality of their home country even if they are born in Saudi Arabia, as Saudi Arabia does not grant citizenship to children born to foreigners in the Kingdom.⁷ It is also worth noting that foreign nationals cannot obtain Saudi citizenship – regardless of how long they have lived there for – unless they can make a direct claim to Saudi lineage. Ignoring urban typologies arising from the range of socioeconomic classes implied by the words ‘migrant’ and ‘expatriate’ would limit the scope of this study to a particular type of foreign national; differences between social classes are highlighted at key points throughout the paper.

The FN population in the DMA is set to reduce from 30% to 20% by 2030.⁸ Saudization policies, including mandates for every company to have a minimum proportion of Saudi staff, expensive monthly fees for family resident permits, and the introduction of value-added taxes caused a sizeable portion of the FN population to emigrate.⁹ These policies are part of the broader Vision 2030 initiative to nationalise jobs and to diversify the economy beyond oil. So far, they have “unlocked opportunities for growth and investment, opened Saudi to the world, built and launched platforms for future growth, and increased citizens’ quality of life”¹⁰ according to Vision 2030’s official website. To diversify its economy, it has invested heavily in tourism infrastructure and the entertainment industry, as exemplified by the permission of Saudi cinema operations in 2018, which would have been unthinkable even a decade earlier. To bolster Vision 2030 policies on ‘quality of life’, foreign nationals need to be considered not as a dwindling population, but as a force that can drive the economy and the overall quality of life on a upward trajectory through their historically vital role in the DMA’s urban development.

Arguing that the FN population and their urban infrastructures need to be studied within the framework of the petroleumscape, for them to be a successful force in the DMA’s future development, their quality of life cannot be brushed aside. With elements of social science, this paper studies architectural and urban phenomena arising as an effect of the DMA’s various foreign national groups through a chronologically structured study demarcated by key events such as the First Oil Boom of 1938, the Second Oil Boom of the 1970s, terrorist attacks at the turn of the millennium and current Vision 2030 policies. To understand where and how various foreign nationalities live(d), work(ed) and spend/spent their free time in the DMA, an online questionnaire was conducted to gather information about the lived experiences of the DMA’s past and current residents. The sample was selected on the basis of a snowball effect and is, admittedly, mostly Indian, female, employed and of middle-income. This sample bias likely arose due to the response rate of particular dissemination channels. Nonetheless, the geospatial data collected from the questionnaire has been useful to understand the results of historic urban development at the hand of the petroleumscape’s actors.

The DMA’s petroleumscape offers a key analytical lens through which the history and future of foreign nationals in the DMA, and in the wider region, can be understood. It also offers valuable resources which include archived ARAMCO newspapers and magazine publications, letters written by ARAMCO employees and books commissioned by ARAMCO (published and unpublished). The paper also consults the work of academics at the King Fahd University of Petroleum and Minerals and the Imam Abdulrahman bin Faisal University (both based in Dammam), as well as academics who have studied the petroleumscape across the Arabian Gulf in cities such as Dubai and Kuwait. Resources relating to Dhahran and Khobar were more accessible. The former is likely due to its centrality to the DMA petroleumscape’s origin. The latter is at least partially due to the author’s personal familiarity with the Khobar area. The combination of these sources, and the author’s lived experience in the DMA, offer the basis of correlations and causations between the historic urban development of Dammam, Dhahran and Khobar, the wider region’s petroleumscape and liveability for foreign nationals in the DMA.

7 Al-Sharif, D. T. (2022, March 1). Saudi citizenship: Laws and regulations. *Arab News*. Retrieved April 6, 2022, from <https://www.arabnews.com/node/2034301>

8 Alhowaish, A. K. (2015). Op. cit.

9 PricewaterhouseCoopers. (n.d.). *How Saudisation and Vision 2030 are shaping the Kingdom’s immigration landscape*. PwC. Retrieved April 6, 2022, from <https://www.pwc.com/m1/en/blog/how-saudisation-vision-2030-shaping-kingdom-immigration-landscape.html>

10 Overview - Vision 2030. (n.d.). Vision 2030. Retrieved April 2, 2022, from <https://www.vision2030.gov.sa/v2030/overview/>

2. The First Oil Boom

With the establishment of ARAMCO (then still known as SoCal) in Dhahran in the early 1930s, and with hopes of discovering oil as had been found in nearby Bahrain, a small group of White-American 'senior staff' migrated to remote Eastern Saudi Arabia. It is reasonably likely that most of the 400 non-Saudi residents of the region at that time¹¹ were American. Their employment contract included the provision of air-conditioned American-style villas in purpose-built gated communities. These gated communities were built in Dhahran, as well as in Abqaiq and Ras Tanura and were secluded, lush American suburbs in jarring contrast to the emptiness of the Arabian desert (Figure 3). By contrast, blue-collar oil workers, who, at the time, were mostly Saudis, were not provided any accommodation. Instead, they lived in tents or barastis - traditional houses with palm-leaf roofing and mud walls - without electricity or hot water in squatter settlements outside the walled American Camp (Figure 4). By the 1960s, these Saudi squatter settlements were formalised by ARAMCO through the provision of portable cabins and concrete housing, and were referred to as the 'Saudi Camp'. There is evidence for this being a racially-motivated division, rather than socioeconomically-motivated. In his book, *America's Kingdom: Mythmaking on the Saudi Oil Frontier*, Robert Vitalis (Professor of Political Science at the University of Pennsylvania) mentions that until the 1950s, ARAMCO's white-American executive staff refused to employ university-educated Arabs for office work. Perhaps the historical underpinning for such divisions was the symbiosis established between King Abdul Aziz, the first king of Saudi Arabia, and America, forged in the early 20th century in the context of Western Imperialism and the scramble for Middle Eastern oil concessions.¹² The oil concession granted to SoCal in 1933 was essentially a sale of the power, from King Abdul Aziz to SoCal, to build or hinder oil infrastructure on Arabian land in exchange for the recognition of the territory which King Abdul Aziz controlled. Due to their historical leverage and the long history of Western imperialism, and because the power to begin the petroleumscape had been sold to SoCal, the Americans were at the top of the social hierarchy from the outset of the First Oil Boom. Due to this, liveability for foreign nationals – the majority of whom were likely American nationals – was better than for Saudis in the DMA.

However, there is evidence to suggest that the quality of life for foreign national residents depended, and continues to depend, on the nationality one refers to. After oil was struck, workers from all over the world – "Adenese, Pakistanis, Indians, Sudanese, Bahrainis, Somalis (French, British and Italian), Iraqis, Chinese, Kuwaitis, Malaysians, Omanis, Persian, Syrian, Hadramoutis, Muscatis, Zansibaris, Javanese, Egyptian, Italian, Palestinian, Lebanese, Celonese, Eritreans"¹³ – arrived to work for ARAMCO. There has been an unfortunate history of racial hierarchy established by the white-American senior staff in the 1930s and 40s that arguably exists to this day. Vitalis describes the plight of Pakistani workers in the 1940s who would have endured the sweltering Arabian heat in tents without electricity or distilled water. Perhaps this would have been an acceptable level of liveability if air-conditioned housing had not been introduced as a more comfortable option in the region. The dissonance created by the inaccessibility of existing comforts for Pakistani workers, and other non-American workers, was compounded by demeaning racism from the American senior staff. If the Pakistani workers complained, they were deported without any consideration of the terms of their job contracts. Vitalis suggests that liveability and ethnicity were correlated on a spectrum of colour in the early oil days: whites had the best quality of life available, with 'ranch-style homes, swimming pool, movie theatre...' at their disposal, followed by Italian workers, who were provided with far fewer amenities than the Americans, despite being White (which caused them great dissatisfaction, and impeded their urban liveability), then Indians who lived in the so-called 'Servant Camp' and finally, the Saudis' squatter settlements.¹⁴ New housing regulations prohibited huts and mud-and-brick dwellings and limited construction materials to stone,¹⁵ systematically restraining Saudi citizens with regards to the spaces that they could occupy and through a prohibition of their vernacular traditions.

The oil concession meant that ARAMCO held administrative power over what was then a weak Saudi government. It was thus the sole urban planner of the region. It began by importing American-style suburban neighbourhoods into the American Camp. With the influx of third-country nationals, ARAMCO began to realise that the issue of housing shortages could no longer be ignored at the cost of the petroleumscape's

11 Alhowaish, A. K. (2015). Op. cit.

12 Vitalis, R. (2007). *America's Kingdom: Mythmaking on the Saudi Oil Frontier*. Stanford University Press. <https://www.sup.org/books/title/?id=10072>.

13 Webster, K. (1950, June 30). [Letter to Webster Family in USA]. 'Dear Folks' series of letters edited by Ken Slavin. ARAMCO Expats. Retrieved March 15, 2022, <https://www.aramcoexpats.com/articles/dear-folks-chapter-9/>

14 Vitalis, R. (2007). Op. cit.

15 Alhowaish, A. K. (2015). Op. cit.



Figure 3: ARAMCO's white-American senior staff lived in lavish Garden City-inspired gated communities which took 20th century American suburbia as precedent. (Source: ARAMCO Handbook, copy of Ken Slavin, n.d.)



Figure 4: In the 1930s and 1940s, nearly all Saudi workers lived in traditional *Barastis* in squatter settlements near Dhahran's American Camp as ARAMCO did not provide accommodation for them until the 1950s. The mosque in the centre was built by Yemeni workers and was a gift from King Abdul Aziz (Source: Fahmi Basrawi/Saudi Aramco, n.d.)

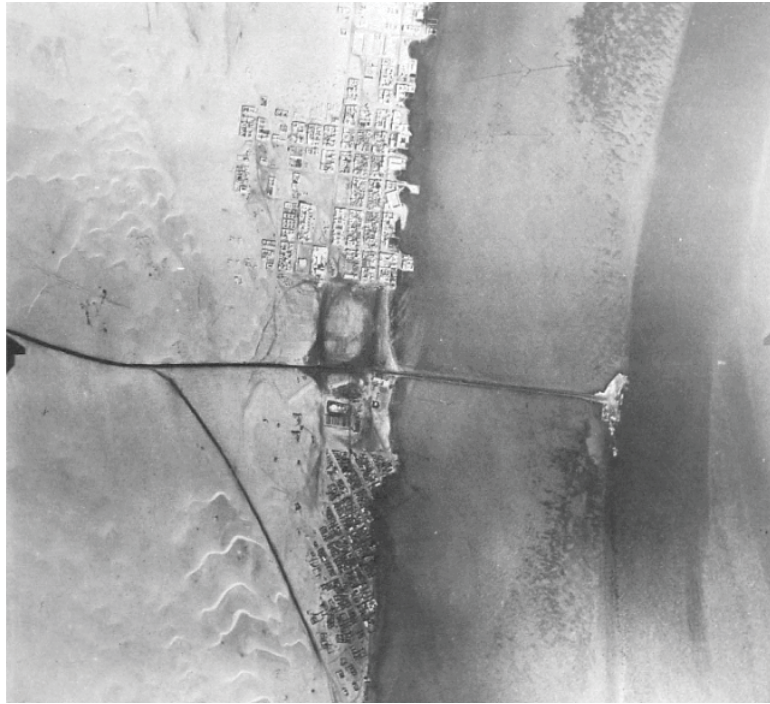


Figure 5: Aerial photograph of Khobar in 1951. Khobar's gridiron plan was in its beginnings along the coast. The desert in the hinterland separated Khobar from Dhahran, with a single road connecting Khobar and Dhahran. (Source: Shuaiby, 1976.)

efficiency. ARAMCO could not afford to provide free housing for its non-American workers but they were faced with mounting pressure from them. Oil workers had held several strikes throughout the late 1940s, most notably so in 1945, protesting about the inequity of the living conditions and pay between Americans and everyone else.¹⁶ There was particular resentment to the American hegemony among Italian workers, who also organised several protests. However, ARAMCO managed the Italian worker crisis by annulling the recruitment of Italians by 1954, instead relying on the increasing supply of Palestinian refugee labour who were perhaps less demanding, and who were arriving in droves due to the Israeli-Palestinian crisis that had begun in 1948.¹⁷

Nonetheless, the Saudi government endeavoured to create housing provision for its Saudi employees even before the first worker strikes in 1945. This began with the introduction of the government's Land Distribution Act of 1939, which enabled ARAMCO's Saudi employees to lease government-owned land in Khobar without any cost for ten years as long as they developed the land within two years of the lease agreement. Non-local Arabs whose aim it was to become naturalised Saudi citizens were also able to lease land in Khobar, enabling them to improve their liveability in the DMA through their housing provisions' stability. A positive feedback loop of even more immigration to the Khobar and Dammam had been created by the policy. Rapid urbanisation led to a project between the Saudi government and ARAMCO to develop Khobar into a city suitable for ARAMCO's non-American workers. ARAMCO's involvement - and leverage over the government - led to the first introduction of a planned gridiron city in Saudi Arabia, imported straight from the textbooks of American Modernist urban planning (Figure 5).¹⁸

The location of Al Khobar might have been strategically selected by ARAMCO for its distance to the DMA's petroleumscape. It enabled ARAMCO to accommodate foreign labour in urban fabric that was decidedly separate from Dhahran. Firstly, distancing non-Americans away from the petroleumscape (oil

16 Chalcraft, J. (2011). Migration and Popular Protest in the Arabian Peninsula and the Gulf in the 1950s and 1960s. *International Labor and Working-Class History*, 79(1), 28–47. <https://doi.org/10.1017/S014754791000030X>

17 Vitalis, R. (2007). Op. cit.

18 Alshehri, A., & Almana, L. (2021). Khobar City Plan and the New Public Space in Saudi Arabia. *The Journal of Public Space*, Vol. 6 n. 1, 215–234. <https://doi.org/10.32891/jps.v6i1.1323>

fields and refineries) meant that their commute, and by proxy, their mobility, was of a lower standard than American ARAMCO executives, whose offices were inside the American Camp. Secondly, by spatialising non-Americans away from petroleumscape that was under ARAMCO's control, the responsibility for their welfare was conveniently shifted to the Saudi government, who struggled to address their populations' concerns due to their lack of power over ARAMCO.

The enforcement of the gridiron plan erased any trace of the Arab vernacular tradition of urban planning of clustered courtyards housing. This erasure, as well as the provision of air-conditioned American imports of architecture, posited that the American imported product was better for the non-American citizens' liveability than vernacular practices that were perhaps more suited to the local culture and climate. This raises the question of the definition of 'liveability' as a Western construct of the 20th century. Could American standards of liveability provided by ARAMCO have been accepted by a local Saudi resident? It is arguable that the answer is 'no': the gridiron was a rejection of a community-orientated life that the local Arab population was familiar with. But dissent amongst non-American workers suggested that they were unhappy with the inequitable distribution of quality housing. By shifting ARAMCO's labour further from the American camp, the gridiron certainly alleviated stresses over dissenting subordinates of American senior staff. More importantly, it systematically averted the threat of these workers' protests disrupting life in the American Camp.

As a by-product of the region's emerging petroleumscape, Khobar and its enterprising merchants offered various commercial services for its inhabitants as well as for the American Camp's residents. Ken Webster, an American senior employee at ARAMCO in the 1940s and 50s, mentioned in a 1950 letter to his family in the USA that "Indian tailors [in Khobar] can copy a dress or suit that fits you, but can't take measurements and make anything satisfactory to Americans, either men or women."¹⁹ It is difficult to ascertain whether the quality of clothing provided to Webster was poor because of Webster's racial bias, or whether this was because of cultural differences between Indian and American clothing. Regardless, this debate nods towards a thriving cosmopolitan Khobar. The presence of tailors from abroad reflects an emerging liveability for third-country nationals that was starting to improve beyond near-imprisonment in squatter settlements. But the exact circumstances that brought them to Khobar remain unclear: one could speculate that these tailors were sponsored by ARAMCO to serve an American clientele. However their location in Khobar - beyond ARAMCO's spaces of direct control - suggests that their presence was an effect, rather than a cause, of the petroleumscape. The presence of Indians working to provide secondary services for oil industry workers perpetuates the racial hierarchy mentioned earlier in this paper: people of colour were the essence of servatile industries building around the petroleumscape, headed by white-Americans. The spatial separation of Al Khobar and Dhahran as intended by ARAMCO reinforced this hierarchical separation.

Webster mentions the diverse range of nationalities present in the DMA in the 1950s: "Saudi Arabs, Adenese, Pakistanis, Indians, Sudanese, Bahrainis, Somalis (French, British and Italian), Iraqis, Chinese, Kuwaitis, Malaysians, Omanis, Persian, Syrian, Hadramoutis, Muscatis, Zansibaris, Javanese, Egyptian, Italian, Palestinian, Lebanese, Celonese, Eritreans..." It is difficult to ascertain liveability for all these nationalities during this time as there exist limited written accounts of such. With the exception of American residents, whose lives were well documented by ARAMCO's archives, it is even more difficult to accurately map out where the different foreign national groups lived, worked and spent their leisure time and what bearing their spatial relationships had on their liveability. That said, a study of the policies regarding families for oil workers and schooling for their children provides some insight into liveability for foreign national populations. In the 1940s, the first international school in the region was established in the American Camp. It was exclusively for the children of American staff, who eventually were able to pursue higher education in Lebanon or further afield in Europe or North America. According to Vitalis, it was only due to pressure from the Saudi government that ARAMCO established a school for the children of Saudi staff. Vitalis states that this happened only in the early 1950s,²⁰ whereas an ARAMCO publication posits that this happened as early as the 1940s.²¹ Regardless, this school was in Dammam, rather than near the heart of the petroleumscape in Dhahran. ARAMCO orchestrated a distancing strategy similar to that between Al Khobar and Dhahran

19 Webster, K. (1950, May 12). [Letter to Webster Family in USA]. *'Dear Folks' series of letters edited by Ken Slavin*. ARAMCO Expats. Retrieved March 15, 2022, <https://www.aramcoexpats.com/articles/dear-folks-chapter-9/>

20 Vitalis, R. (2007). Op. cit.

21 McMurray, S. (2011). *Energy to the World: The Story of Saudi Aramco* (1st ed., Vol. 1). Aramco Services Company. <https://www.aramco.com/-/media/publications/books/energytotheworldvol1english.pdf>. p. 111.

was used to keep Saudi families in Dammam away from American families in Dhahran.^{22, 23} (see Chapter 4. *The Second Oil Boom*). It could be deduced that there was limited, if any, provision of schooling for non-American and non-Saudi children. However, that would be too superficial an answer as it assumes that third country nationals could easily bring their families to the DMA from abroad to create sufficient demand for schools.

Aside from the racial dimension, the distances from Dammam and Al Khobar to Dhahran were (and are, to this day) distances suited for motorised vehicles, rather than for walking or cycling. Given American Modernism's love for industrialisation, and therefore, for motorised vehicular traffic as a supposedly more convenient option²⁴ this is unsurprising. More obviously, this makes sense with the proximity of fuel-producing ARAMCO. The region was a perfectly clean slate to demonstrate the supposed superiority of internal combustion engines and, more crucially, to advertise ARAMCO's oil. But, it remains unclear how the emerging motorway network was used by workers residing in Dammam and Al Khobar to commute to their workplaces in the petroleumscape: did they have their own cars or did they rely on communal transport provided by their employers? The distances thus raises questions of physical mobility, and consequently, of social mobility. A non-American worker having to commute from Al Khobar to Dhahran for longer would have had less free time, would likely have earned less and would have therefore struggled more to climb up the socioeconomic ladder much more than an American worker living in Dhahran.

ARAMCO's American Camp, the first spawn of squatter settlements have been likened to Jim Crow-style colonial farming or mining settlements where the managers of the operations, often White, lived comfortably whereas the labourers, often people of colour, were provided with no support from their employers or from the state. The densely-populated gridiron of Khobar for non-Americans and the low-density Garden City suburbs of the White American Camps were more concrete developments of the same racial divisions. Through an American hegemony that had the Saudi government in an invisible grip, ARAMCO was able to spatially organise people of different nationalities and races to assert a racial, spatial hierarchy. For the First Oil Boom of the region, this is not a question of liveability between Saudi and non-Saudi populations, but rather that of white-American and non-white-American populations. However, with rapid urbanisation, increasingly fervent strikes by non-American workers between 1953 and 1956, and with the death of King Abdul Aziz in 1953, changes to American domination were on their way.

3. Petro-dissent

The Post-War era ushered an unprecedented worldwide dependence on internal combustion engines, motorised vehicles, and thus, oil. With the decline of Western colonialism and the rise of Arab nationalism, Middle Eastern oil states began to reconsider their relationship with their dominant Western counterparts, wishing to enforce a more balanced power dynamic. This was preceded by the 1953 – 1956 workers protests. Though the beginnings of dissidence can be found in the 1940s worker protests, the protests of 1953 and 1956 were larger and more significant. They were headed by foreign-educated Saudi nationals whose higher studies abroad had been reluctantly sponsored by ARAMCO to appease the Saudi government's requests for the welfare of Saudi populations. Educated and uneducated low-wage Saudi workers protested. By this time, the racial ladder described in the previous chapter became manifest in the DMA's spatial organisation, particularly in Dhahran: Americans lived most comfortably in the American Camp; Pakistani, Indian and Palestinian clerical staff lived reasonably in the 'Intermediate Camp' and the Saudis former squatter settlements were formalised by ARAMCO and referred to as the 'Saudi Camp' (Figure 6). ARAMCO had begun to provide levels of liveability to Palestinian and Pakistani support staff which were previously only available to white senior staff. They were becoming more financially attractive human capital and could now use facilities in ARAMCO's Intermediate Camp.

What frustrated the Saudi protesters was that their non-Saudi counterparts lived so comfortably, whilst they remained at the bottom of the racial hierarchy, leading to the worker strikes of October 1953. Their movement was arguably influenced by radical political attitudes (especially nationalism) imported by foreign

22 Kurdi, A. (2021). *Radical shifts and slow adaptations: The transformation of patterns of dwelling and urban planning since the discovery of oil in Dammam Metropolitan Area, Saudi Arabia*. <https://doi.org/10.4233/uuid:6b9441d5-6e48-4046-b88d-d84178e16bcb>

23 Vitalis, R. (2007). Op. cit.

24 Humes, E. (2016, April 12). *The Absurd Primacy of the Automobile in American Life*. The Atlantic. <https://www.theatlantic.com/business/archive/2016/04/absurd-primacy-of-the-car-in-american-life/476346/>

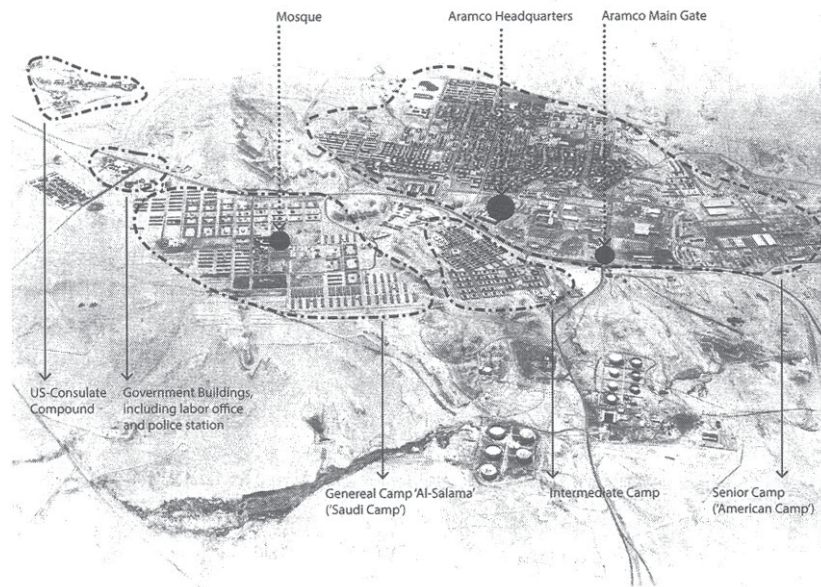


Figure 6: Spatial organisation of Dhahran in 1965. (Source: Drawn by Melody Mosavat, based on an aerial photo by courtesy of J.P. Mandaville, n.d.)

workers from post-colonial states such as Egypt, Palestine, Sudan, India, Lebanon and Syria.²⁵ Firstly, however, the non-Americans strikers had been deliberately marginalised by ARAMCO: they lived either in Khobar or in settlements outside the walls of the American Camp. This spatial organisation also resulted in the segmentation of American Camp life as the dissenting workers only got a partial view of what luxury was afforded on the other side of the Camp's walls. The marginalisation, segmentation and fragmentation of non-American populations meant that the efficacy of their protests likely did not disrupt American Camp life in Dhahran,²⁶ evidenced by an absence of the strikes' coverage in the October and November editions of ARAMCO's newspaper for its American Camp residents.²⁷

Another constraint to the effectiveness of the workers' protests was related to the physical nature of oil. Previously dominant carbon-based fuels such as coal required labour in large numbers to mine and transport the fuel. Since coal was solid and heavy, physical distances between mining sites, transportation routes and destinations were small enough for workers' strikes to spread along the coal supply chain disruptively. Oil, on the other hand, was a liquid fuel. It required far fewer people to extract from oil fields and it was moved using automated oil pumps and pipelines across much larger distances. Additionally, the distances across which the oil supply chain operated in the region were too large for dissent to effectively flow from one part of the supply chain to another.

Nevertheless, Saudi worker protests occurred and ARAMCO's initial response was to reallocate overtime work to the oilfields to Americans and other nationals, and to do without services provided by the Saudi workforce such as driving, gardening, cleaning and waste collecting.²⁸ The Saudi Government was keen to control the situation and minimise disruptions to oil flows and oil revenues, sharing its petro-aims with ARAMCO. Thousands of Saudi protesters were either given jail sentences or were deported from the Eastern Province. The poorest Saudi workers returned to ARAMCO, desperate for an income that would give them a small scrap of liveability.

25 Robinson, K. (2021). *What Is the Kafala System?* | Council on Foreign Relations. <https://www.cfr.org/background/what-kafala-system>

26 Freitag, U., Fuccaro, N., Ghrawi, C., & Lafi, N. (2020). Structural and Physical Violence in Saudi Arabian Oil Towns, 1953–56. In *Urban Violence in the Middle East: Changing Cityscapes in the Transition from Empire to Nation State* (1st ed., pp. 243–264). Berghahn Books.

27 Archived newspaper editions from 1945 - 1976 of ARAMCO's newspaper publication, 'The Arabian Sun and Flare', can be accessed here: <https://www.aramcoexpats.com/sun-and-flare/>

28 Vitalis, R. (2007). Op. cit.

In the aftermath of King Abdul Aziz's death in November 1953, the Saudi Government's Labour Commission, under the rule of newly-ascended King Saud, was in a position to further pressurise ARAMCO about the welfare of Saudi workers. ARAMCO conceded, agreeing to provide a wage increase to all its Saudi employees. With ARAMCO, meeting the demands of one nationality group, other foreign national groups also demanded more. ARAMCO conceded to them more easily as it was more financially profitable to do so. Preferential treatment of foreign employees was becoming intolerable to the Saudi workforce. Additionally, the conditions settled in 1953 for the welfare of Saudi workers between ARAMCO and the Saudi Government had not yet been fully addressed. Dissident Saudi workers resorted to bolder forms of protest, such as storming Ras Tanura's Intermediate Camp.²⁹ Crackdowns on the Saudis were enforced by the Saudi Government, which went on to issue a Royal Decree (no. 17/2/23/2639) making incitement of strikes or demonstrations punishable with a two-year jail sentence. Dissidents had two options: to protest loudly and risk a jail term or to continue earning an income quietly. The petroleumscape did little to elevate the Saudi people's liveability; ARAMCO improved liveability for populations which it viewed as worthy human capital in their operations.

Despite the increasingly global interconnectedness of oil flows (a pipeline between Dhahran and Lebanon had just been completed to supply Saudi oil to Europe), the disruption caused by both the 1953 and the 1956 protests were contained sufficiently to prevent significant, long-lasting shockwaves in the oil supply chains. Such a petroleumscape was only possible because oil revenue was a common goal of both ARAMCO and the Saudi Government, who possessed power and social leverage to contain dissent.

In the aftermath of Saudi officials turning against Saudi workers were Saudi intellectuals who forming negative opinions on America's grip on the Saudis. The most ardent critic of ARAMCO by the 1960s was Abdullah Tariki. In the early 1950s, he had been working in Dammam's Ministry of Finance and had friendly ties with the Saudi royal family. After having studied in the USA and then having married a white woman, he, a man of Saudi ethnicity, demanded that he and his family be allowed to live in the American Camp in Dhahran. Though permission was reluctantly granted by ARAMCO, Tariki faced discrimination in the Camp, being barred entry to the Camp's amenities (such as the swimming pool and the cinema). Neighbours refused to associate with his family;³⁰ his house was an island of suburban green in a sea of Garden City white supremacy.

By the end of the 1950s, people like Tariki were confronted with the political waves of pan-Arab nationalism (such as Egypt's Nasserism). Personal experiences of racial discrimination that resulted in boundaries for where Saudis could live, work and enjoy their leisure time fed their resentment. Saudis were increasingly dissatisfied that King Abdul Aziz had apparently prioritised oil revenue interests in alliance with ARAMCO at the expense of their welfare. A combination of failed expectations and racial hierarchies meant that liveability for foreign nationals was generally much better than for Saudis. The seeds for nationalists such as Tariki had been sowed.

4. Second Oil Boom

In 1960, Tariki was appointed Oil Minister and co-founded the Organisation of the Petroleum Exporting Companies (OPEC). Along with Iran, Iraq, Kuwait and Venezuela, Saudi Arabia and OPEC's aims were to "co-ordinate and unify petroleum policies among Member Countries, in order to secure fair and stable prices for petroleum producers; [to create] an efficient, economic and regular supply of petroleum to consuming nations; and [to ensure] a fair return on capital to those investing in the industry."³¹ This provided Saudi Arabia with the leverage to renegotiate terms and conditions with ARAMCO, including royalty and revenue-sharing agreements, legitimising their claims to a larger share of ARAMCO's revenues. Additionally, King Saud's aims were aligned more towards the welfare of the Saudi population than King Abdul Aziz. One would expect that the national and local government would have more influence over the DMA's built environment than before.

29 Freitag, U., Fuccaro, N., Ghrawi, C., & Lafi, N. (2020). Structural and Physical Violence in Saudi Arabian Oil Towns, 1953–56. In *Urban Violence in the Middle East: Changing Cityscapes in the Transition from Empire to Nation State* (1st ed., pp. 243–264). Berghahn Books.

30 Vitalis, R. (2007). Op. cit.

31 OPEC. (n.d.). *OPEC: Brief History*. Retrieved March 7, 2022, from https://www.opec.org/opec_web/en/about_us/24.htm



Figure 7: Saudi riyal banknotes featuring two ports that were key to the petroleumscape: King Abdul Aziz Seaport (above) and Dhahran Civil Air Terminal (below); 1968. (Source: Collection of Alkhabbaz, n.d.)

This was the case with the Dhahran Civil Air Terminal, designed by Japanese-American architect Minoru Yamasaki. It had been built on the grounds of what was formerly the U.S. military airbase in Dhahran, which was itself formerly the airbase for ARAMCO's early commercial operations. The US Army Corps of Engineers likely picked Yamasaki to catalyse a shift in the DMA's image of the USA, and of ARAMCO, from an imperial power to an advocate for racial inclusion. The terminal's design drew inspiration from vernacular Arabian Islamic architecture such as hypostyle mosques and pointed archways, fusing it with the Western Modernism.³² It is an anachronistically amicable fusion of Saudi and foreign influences shortly after the Saudi worker protests. But the prestige and positive reception of the construction, which was completed in 1961, were motivated by a petroleumscape that wanted to demonstrate that its petromodernity was not at the expense of Saudi welfare. To that extent, the design included both a domestic and an international terminal, rather than solely the latter, at the insistence of King Saud, who wanted to improve the mobility of domestic populations in tandem with the foreign population. He commended the design so highly³³ that the terminal featured in Saudi bank notes of 1968, alongside other icons of the DMA's petromodernity such as King Abdul Aziz Seaport (see Figure 7).³⁴ Furthermore, the airport was an advertisement for the use of airplanes and airplane fuel for civilians, pandering to the notion that ARAMCO's petroleum was imperative to better liveability in the DMA, as per Western industrialisation. It had an important contribution to the mobility of foreign nationals as it enabled foreigners - Americans and non-Americans - to travel to their home countries without needing to travel as far out as 60 kilometers to the Bahrain Airport.³⁵

32 Alkhabbaz, M. H. (2019). Yamasaki's Dhahran Civil Air Terminal and the Shaping of Saudi Modernity. *Prometheus - Journal of the PhD Program in Architecture of Illinois Institute of Technology*. 1, 26–35.

33 Herring, N. (2014, May 23). *A Lasting Legacy: The Dhahran Airfield and Civil Air Terminal*. US Army Corps of Engineers Middle East District Public Website. <https://www.tam.usace.army.mil/Media/News-Stories/Article/485031/a-lasting-legacy-the-dhahran-airfield-and-civil-air-terminal/>

34 Alkhabbaz, M. H. (2019). Op. cit.

35 Public Relations Division, Arabian American Oil Company (ARAMCO). (1953, November 11). ATTENTION. VISITORS TO

In 1973, OPEC, led by Saudi Arabia, announced an oil embargo to the West in retaliation to their support of Israel in the Yom Kippur War. The inflation of oil prices arguably emboldened a shift in power towards Saudi Arabia in the Saudi-American relationship. The government was able to use its funds to educate Saudis who could manage ARAMCO more self-sufficiently. By 1980, the Saudi Government owned 100% of ARAMCO's shares, effectively becoming a state-run private company. In the interim, the population of the DMA grew nearly four-fold due to the rapid influx of foreign workers, who, by 1980, constituted 44% of the urban population. The foreign population was becoming more South Asian, with a relatively inexpensive workforce migrating from India and Pakistan. The Council on Foreign Relations suggests that because both ARAMCO and the Saudi government were becoming wary of prior waves of Arab nationalism that could overthrow either the profit-making Americans or the control-enforcing Saudi government respectively, workers from the Indian subcontinent were preferred.³⁶

4.1 Champs Elysees of Saudi Arabia

Saudi Arabia prospered in the aftermath of the 1973 Oil Embargo. In Khobar's gridiron, King Khalid Street emerged as the 'Champs Elysees of Saudi Arabia'. The petroleumscapes service-sector needs were increasingly being met by merchants who provided international products to residents of the DMA not catered to by ARAMCO. In Dammam and Khobar, and in Khobar's King Khalid Street particularly, merchants set up supermarkets, bookstores and jewellery stores.³⁷ A comparison of Figure 8 and Figure 9 demonstrates the architectural effects of petromodernity: the density and materiality of the 1950s vernacular was replaced by wider, more 'efficient' {Efficient in that they could be built much faster and accommodate more people but not efficient in their suitability to local culture and climate.} cement-based constructions; the road were widened and asphalted to make way for oil-driven automobiles and pedestrian sidewalks; and transnational corporations such as Philips, Omega and Kodak were setting up their advertisements and operations to meet the demands of oil workers. Despite such a drastic overhaul to King Khalid Street, it maintained its status as a thriving mercantile street until the 1990s. What seems to be an oppressive, high-density gridiron in a plan view (see Figure 5) was a surprisingly successful urban space due to its optimal porosity and urban shade. Inadvertently, there was a similarity in relative urban porosity between the gridiron and pre-oil village settlements in the DMA, if the latter featured the characteristically dense urban fabric of historic Islamic towns and cities (such as Dubai Old Town and Jeddah's Al Balad). The presence of a lively civic street where oil workers could spend their free time improved the local economy. Furthermore, the availability of imported goods from foreign nationals' home countries improved liveability through international commerce for local and foreign populations.

The DMA's housing distribution patterns by nationality are unclear during this period as there is a lack of secondary data and evidence to support any substantial claims. Even so, inferences can be made on the basis of the locations of present-day cultural enclaves and the study of pre-1960s ethnic distributions. For example, given that Pakistani and Indian workers were likely considered 'intermediate' citizens and their presence as merchants and tailors in Khobar, they most likely lived either in Dhahran's small Intermediate Camp or in Al Khobar before the 1960s. From 1976 onwards, government began a 'quick-housing' program to house these foreign nationals, with its Real Estate Fund providing loans to investors and buyers.³⁸ With the government in a more powerful position to provide more housing than was possible with ARAMCO, more foreign workers were able to bring their families from abroad to live with them in the DMA, subverting decades of ARAMCO-initiated policy which had made it difficult for foreign families to live in the Kingdom, with the exception of white-Americans.

4.2 International Schools

The increase in foreign national families and children led to the emergence of several international schools catering to different countries' curricula between the 1970s and 1990s. In the 1940s, ARAMCO established the first international school exclusively for the children of its American senior staff. Children of non-American workers were not provided schooling until ARAMCO started a school for Saudi workers' children in Dammam, strategically distanced from the American school in Dhahran. Albeit more subtle, such international divisions exist to this day in the way schools have manifested. The International Indian

BAHRAIN ISLAND. *Arabian Sun and Flare*, 4.

36 Robinson, K. (2021). Op. cit.

37 Alshehri, A., & Almana, L. (2021). Op. cit.

38 Dammam metropolitan area: Dammam Municipality. (1993). *Cities - The International Journal of Urban Policy and Planning*, 60-66.



Figure 8: King Khalid Street in the 1950s. Streets were primarily for pedestrians and were dominated by vernacular architecture. A few foreigners can be spotted by their Western clothing. (Source: ARAMCO, n.d.)



Figure 9: King Khalid Street in the 1960s. Vernacular construction was being replaced by modernist buildings and automobile-orientated asphalt roads, with sidewalks for pedestrians. A Philips billboard in Arabic text can be spotted in the top-right corner. (Source: ARAMCO, n.d.)

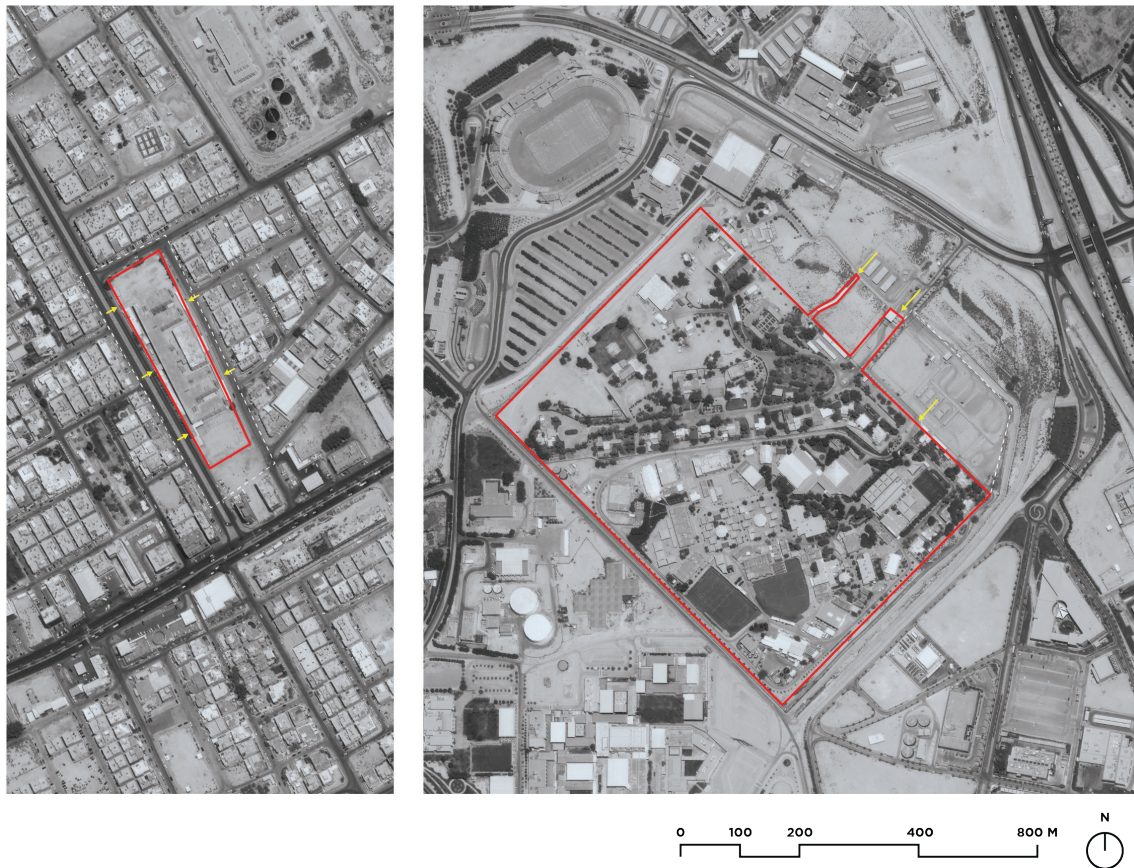


Figure 10: Aerial images of the Girls' Campus of the International Indian School (left) and the campus of the American and British Schools of Dhahran (right). The red line is the campus boundary wall, and the white dashed lines enclose pick-up and drop-off zones. The yellow arrows are points of entry to the campus. (Source: Mapped by author, 2022.)

School Dammam, which was established in 1982 by the Indian Embassy of Saudi Arabia, only admits Indian students and the Pakistani International School in Al Khobar only admits Pakistani students. British and American schools tend to be more international in their social demographic but they were and continue to be seen as more elite.

It is useful to compare the architecture and layout of schools to understand the subtleties of ethnic and socioeconomic segregation. The author studied at International Indian School Dammam and has visited the American School of Dhahran several times. The latter is located adjacent to ARAMCO's present-day 'Main Camp'. On the basis of personal experience, Figure \ref{220403ia Schools.png} describes the scale and population density of the two schools. The Indian School currently has about 8,000 students squeezed in its Girls Section building whereas the American school has about 1,500 - 2,000 students on its sprawling campus. The schools' relationship to the urban context is markedly different. The Indian School is large compared to the smaller surroundings surrounding, it coheres to the street grid and its boundary wall has more points of entry directly from the street. On the other hand, due to the American School's proximity to ARAMCO's Camp - and possibly due to the racial segregation practices of the 1940s and 50s - the American School has a high-security entrance well away from the main highway. However, whilst the Indian School only admits Indian students, the American School teaches students of 70+ nationalities. Regardless of the embrace of diversity, Western schools are still closely tied to the 1950s American Camp's spatial manifestations of security, seclusion, extracurricular facilities (such as gyms and swimming pools) and an elitism reinforced by high tuition fees that only the upper-middle classes can afford.

4.3 Land, Sea, Oil and Construction

Throughout the 1980s, the DMA had undertaken many urban infrastructure projects, using petroleumscapes prosperity to improve liveability in the DMA (see Figure 2, p. 5). The cities of Dammam and Al Khobar had begun to merge into one large conglomeration. One of the most notable infrastructure projects was the creation of a seafront promenade – locally known as the ‘Corniche’ – in Dammam and Al Khobar. Large portions of the shallow sea were reclaimed to create parks, walking routes and restaurants on the seafront. The King Fahd Causeway, a bridge connecting Khobar to the Island of Bahrain, was also completed in 1982, allowing citizens to access goods and services without the hinderances of Saudi religious laws such as the ban on cinemas.³⁹

The land area of the King Abdulaziz Seaport, which had been in use since before the establishment of ARAMCO, was also significantly increased through land reclamation to increase oil export capacity and commodity imports for its rapidly growing population. Without its existence in the petroleumscapes and its facilitation of foreign imports, foreign nationals would have had to accustom themselves to the limited range of commodities produced locally, which would have hampered their liveability.

The sheer quantity of construction projects to make the petroleumscapes a more liveable place for its oil workers would have required a large construction workforce. Given that, in the early 1990s, the shift towards a non-Arab diaspora intensified when millions of Egyptians, Yemenis and Palestinians were expelled from the country due to their countries’ support for Iraq during the Gulf War (in which Saudi sided with Kuwait),⁴⁰ is likely that a large portion of construction workers was from Asia or Africa. This pinpoints a population boom of blue-collar workers to the early 1990s. Unfortunately, there is very limited documentation on the living conditions of such workers during this time period. If contemporary reports concerning the poor liveability of low-wage foreign workers in the Kingdom are to be taken as representative of the historic condition, it is not unreasonable to infer that the housing, employment and leisure facilities that were afforded to these workers were of unacceptable quality. Today, the uncomfortable distinction between an ‘expatriate’ and a ‘migrant’ is almost palpable in the DMA’s urban makeup. Wealthier foreign nationals can afford to live in well-serviced gated communities and have their own cars or privately-arranged transport. Unskilled labourers are provided squalid accommodation – with reports of up to 10 construction workers to a single bedroom – and can only afford bicycled to commute in the sweltering heat and unforgiving multi-lane car traffic. Of course, such a racial hierarchy of spatial division and a lack of architectural rights arguably has its foundations in the Jim Crow segregation practices set up by ARAMCO in the 1940s.

Besides urban developments which permanently altered the coastline, malls rose outside the historic city centers of Dammam and Khobar. That, combined with the increase in car traffic and associated infrastructures, left more vernacular, walkable, social shopping spaces (referred to as ‘souqs’) such as King Khalid Street in decline. Malls became associated with the image of wealth and status; traditional, outdoor shopping spaces became unattractive due to their proximity to non-Arab ethnic neighbourhoods – where the concentration of low-wage workers from Asia and Africa meant that crime and unemployment were prevalent. The petroleumscapes facilitated the rise of malls as an elite destination in a similar manner to its facilitation of King Khalid Street a few decades prior, albeit much faster.⁴¹

Most sources agree that the first indoor shopping mall as is commonly known today was built in Minnesota in the 1950s. It was seen as a social forum where citizens could gather, socialise and shop without the hindrances of harsh weather.⁴² Given that the weather in the DMA can often reach beyond 35°C in the summer months, it is hardly surprising that malls were so popular. According to its website, the design of Al Rashid Mall, built in the 1990s, was “based on extensive field research on the most important and largest shopping malls in the world, particularly in both the USA and Europe, to benefit from their strength points

39 After banning cinema for decades, Saudi Arabia is making movies. (2021). *The Economist*. <https://www.economist.com/books-and-arts/2021/12/18/after-banning-cinema-for-decades-saudi-arabia-is-making-movies>

40 Robinson, K. (2021). Op. cit.

41 Feinberg, R. A., & Meoli, J. (1991). A Brief History of the Mall | ACR. *The Association for Consumer Research*, 18, 426–427. <https://www.acrwebsite.org/volumes/7196/volumes/v18/NA-187C>

42 Meyer, S. (n.d.). *The History and Evolution of Retail Stores (From 1700s to 2022)*. BigCommerce. Retrieved April 3, 2022, from <https://www.bigcommerce.com/blog/retail/#the-history-and-evolution-of-retail-stores>

and avoid disadvantages.”⁴³ The historic pattern of Western architectural and urban imports prevailed. This time, it was part of a nation-wide ‘architectural renaissance’, rather than the direct enforcement of petroleumscape actors such as ARAMCO. And it was wholly welcomed by residents of the DMA.

In Khobar, smaller grocers and restaurateurs from the Indian subcontinent concentrated themselves in South Asian ethnic enclaves near King Khalid Street. Through the creation of culturally-homogenous urban spaces, liveability for foreign national populations was incumbent on the fact that ethnic communities were generally concentrated in the same urban space, and thereby able to benefit from cultural camaraderie and know-how from previous residents of the same background.

Did the malls improve liveability for foreign national populations? Though they provided great comforts and a convenient meeting place, they intensified the ethnic divisions set up by ARAMCO’s race-driven urbanisation. Furthermore, by virtue of the mall typology and their out-of-town locations, they were only accessible by car. This made it far less feasible for low-wage workers to be able to freely visit the mall, somewhat widening the Gulf between foreign nationals and Saudis, the former of whom had, on average, lower income and less social and spatial mobility. But to deny that malls improved liveability for foreigners would ignore the fact that they are an important element of leisurely activity in the DMA’s public realm. Data from the online questionnaire suggested that malls and the Corniche were the most frequented public spaces in which foreign nationals spent their leisure time. Most respondents seem to believe that malls and the Corniche provided an acceptable range of leisure activities in the DMA.⁴⁴ Therefore it is reasonable to conclude that petroleum-driven urban infrastructure projects of the 1980s and 1990s – mall-building and coastal land reclamation – improved foreign national liveability in the realm of leisure.

From the 1980s onwards, leisure-related typologies were increasingly consolidated in DMA’s newly-built gated communities - locally referred to as ‘compounds’ - mimicking the seclusion and comforts of ARAMCO’s gated camps. With ARAMCO’s waning influence on urban development, and with increasing land ownership among Saudi nationals, the latter could use their land parcels to create private housing communities. The vast majority of these compounds were cropping up in newly developed urban areas (see Figure 1), and most notably in Al-Rakah, an area in between the urban centres of Khobar and Dammam. In a strange way, this was arguably a home-grown Saudi rebuttal to ARAMCO’s city-building exercises of the First Oil Boom. However, Saudi landowners tended to be either medium to large corporations with ties to the petroleumscape. One of the most notable landowners was APICORP (Arab Petroleum Investments Corporation). They were a financial services provider for petroleum-related activities founded by a consortium of ten oil exporting countries in 1975.⁴⁵ Headquartered in Dammam, they employed several nationalities who were housed in a company-owned compound adjacent to their headquarters - perhaps taking ARAMCO as precedent. A second notable landowner was Al Rushaid Group, a Saudi-owned firm which provided services for the construction and installation of petroleum-related goods.⁴⁶ It is striking that despite historic tensions between Saudis and ARAMCO, Saudi enterprises and ARAMCO now existed symbiotically to form the contemporary petroleumscape of the DMA. Al Rushaid also owned Al Rushaid Petroleum centre, a large building which hosted their headquarters, as well as the head offices of APICORP and other firms – western-owned and Saudi-owned - with operations in the petroleumscape.⁴⁷ The building was designed in the ‘Islamic-modernist’ style of which the Dhahran Airport had been a harbinger, once again representing the petroleumscape’s ability to fuse local culture with international modern capitalism. These firms drew skilled workers from all over the world, making the DMA ever more diverse. Though the burgeoning petroleumscape was bringing economic prosperity, and by extension, improving urban liveability for Saudi and foreign residents alike, there were certainly disparities persisting from the First Oil Boom. Workers at these corporate firms were well-paid foreign nationals who were provided the comfort and seclusion of homes in luxury compounds which were well equipped with amenities such as swimming pools, restaurants and their own leisure centres, reminiscent of ARAMCO American Camp’s lavish amenities. One of these compounds, ‘Oasis Residential Resorts’ - housing employees of oil-industry companies such as Royal Dutch/Shell, Total and Lukoil - had an ice-skating rink and grassy poolside beach.⁴⁸ It can be inferred that the aforementioned compounds had the highest concentration of Western residents, as it was exactly these locations which were the targets of al-Qaeda’s Khobar Massacre 2004.

43 *Al Rashid Mall*. (n.d.). Retrieved April 3, 2022, from <https://www.rashidmall.com/rashidmall/en/>

44 Out of 5, the parameter for ‘range of leisure activities available in the DMA’ scored 3.

45 *Who is APICORP - APICORP*. (n.d.). Retrieved April 9, 2022, from <https://www.apicorp.org/who-is-apicorp/>

46 *Services | Al-Rushaid*. (n.d.). Retrieved April 9, 2022, from <https://www.al-rushaid.com/services.html>

47 Bowcott, O. (2004). *They killed two security guards then shot at the school van*. <https://www.theguardian.com/world/2004/may/31/saudi-arabia.oil2>

48 Ibid.

The attackers were categorically picking out Western, non-Muslim citizens as their victims. It was part of the emergence of violent Islamic extremism and it was a reaction to, what was in their view, a colonial presence of the West in the Middle East, particularly in Iraq. This was not the first act of Saudi-versus-West insurgency in the DMA; in 1996, a truck bomb destroyed an 8-storey housing complex where U.S. Air Force personnel fighting in Iraq's no-fly zone were stationed. In both cases, the attacks were contained by the government with a rigour not dissimilar to that of the 1956 worker strikes. Of course, the difference between the 1950s and the 2000s was that the geographical limit of dissent was much larger in the latter case, with the threat of regional and global-scale repercussions for the DMA's petroleumscape.

The Western hegemony that had started the DMA's petroleumscape was now a threatened populace. It is very possible that these two attacks pushed the Western resident population to a minimum, although statistics are unavailable to confirm this. Nonetheless, it likely pushed them further away from the public sphere than ever before, concentrating them even more into the safety of walled compounds. In terms of international perception, it would have certainly led to fears over the security of Western residents, and of their liveability, in the region. Limited sources exist to infer how these events affected liveability for non-Western foreigners in the DMA.

5. Vision: Saudization

Since at least the early 2010s, the largest foreign national populations in the Kingdom have been from Bangladesh, India, Pakistan, Egypt, Sudan and the Philippines.⁴⁹ The online questionnaire suggests that residential addresses of the sampled group were concentrated around centres of historic development in both Dammam and Al-Khobar. There were few Western respondents to the survey so it is difficult to ascertain how their population distribution shifted in the aftermath of the terrorist attacks. Nonetheless, a 2009 ethnographic study on Danish employees of a Danish corporation based in Saudi Arabia found that they all lived in the same 'closed-expatriate compound' and shared their free time, resulting in a Danish national social group. It was found that this might have led to discriminatory behaviour by the Danish employees against other foreign national employees.⁵⁰ This study vaguely suggests that liveability for non-Danish foreigners was dependent on their relationship to the Danes on a racial hierarchy, much like how it was in 1950s ARAMCO with Western and non-Western employees. More manifestly though, it does suggest that, despite the threats to security posed after the terrorist attacks had a positive and negative effect. The positive effect was that security for Western residents was more prioritised than ever as they were housed in highly-guarded, walled compounds (though it is unclear whether this was a legislative mandate, it was likely a trend based on employment contracts to attract Western workers who would otherwise be nervous). The negative effect that it would have become even more difficult for them to integrate with Saudi locals.

The foreign national population of Saudi Arabia is set to decrease to as low as 20% by 2030.⁵¹ This is probably due to Saudi Nationalisation, or 'Saudization', coming to the fore in the early 2010s.⁵² It was converted to legislation in 2016: all organisations in Saudi Arabia had to ensure that at least 10% of their workforce consisted of Saudi national employees. This was legislation based on undercurrents of resentment among Saudis since the 1990s with regards to how stable foreign national residents were – particularly with their private-sector employment rates – and their unemployment. What this meant for foreign national workers was that they would either have to be made redundant *and* leave the country or remain and risk much lower job security than before. Both outcomes impeded liveability for foreign national populations in the DMA. However, to understand the effects on the petroleumscape, the broader framework of which Saudization is part of needs to be understood: the Vision 2030 initiative of the Saudi Government. A key aspect of the initiative is to bolster and prioritise home-grown talent, industry, goods and services, especially beyond the petrochemical industry.⁵³ Saudi Arabia aims to reduce its dependence on the petroleumscape and to prioritise the welfare and liveability of its inhabitants in a bid to attract diversified foreign investment.

49 *Bad Dreams: Exploitation and Abuse of Migrant Workers in Saudi Arabia: I. MIGRANT COMMUNITIES IN SAUDI ARABIA.* (n.d.). Retrieved March 16, 2022, from <https://www.hrw.org/reports/2004/saudi0704/4.htm>

50 Laurant, J., & Selmer, J. (2009). *Expatriate compound living: An ethnographic field study.* *International Journal of Human Resource Management*, 20(7), 1451–1467. <https://doi.org/10.1080/09585190902983215>

51 Alhowaish, A. K. (2015). Op. cit.

52 Al-Omran, A. (2007). Let's Put the 'Saudi' in Saudization. *Arab News*. <https://www.arabnews.com/node/302409>

53 *Overview - Vision 2030.* (n.d.). Vision 2030. Retrieved April 2, 2022, from <https://www.vision2030.gov.sa/v2030/overview/>



Figure 11: The main building of King Abdulaziz Centre for World Culture (Source: © VALDRIN XHEMAJ / EPA-EFE / REX / Shutterstock, n.d.)



Figure 12: Aerial view of the King Abdulaziz Centre for World Culture, which is the area bound by the ellipse in the centre. (Source: ESRI Satellite Map, 2022)

A notable monument in this effort is ARAMCO's King Abdulaziz Centre for World Culture - also known as 'Ithra', designed by Snøhetta, a world-famous Norwegian architecture firm (Figure 11 and L). The choice of a Norwegian firm could well have been deliberate, given Norway's history and knowledge of petroleumscape and cultural heritage arising from them. It is a seemingly ironic occurrence that the petroleumscape's main actor is pandering to the Vision 2030 aim of moving away from oil by introducing cultural revenues. However, the petroleumscape's influence on the culture depicted in Ithra is never lost. The main building's form was inspired by delicately balanced rocks through which drilling activities occur. The steel-pipe cladding is homage to the petroleumscape's oil pipeline arteries. An secondary building in the complex even hosts a 'Museum of Energy', showcasing the history of oil extraction as a crucial part of the DMA's cultural fabric. That said, the vertical organisation of the building's program reflects a transition from a oil-rich past with dedicated museums located in the basement, to a knowledge-based future economy with libraries located in the upper floors. It is an architectural gesture reflecting how liveability in the DMA will be guided. At present, it is also an architectural and cultural experience that improves liveability for the DMA's residents.

However, if accessibility is considered in the equation of liveability, Ithra's location is most jarring as it away from both high-density historic centres of urban activity and out-of-town shopping malls (see point 'M' in Figure 2), being inside ARAMCO-owned territory. It is also adjacent to a 6-lane highway and the imposingly walled, high-security ARAMCO Main Camp, which was formerly the American Camp. The distance between the complex and the populace along with the securitised boundaries nearby make the cultural venue out of reach from residents of the DMA. This has been reflected in the questionnaire results: nearly half of the respondents stated that they never visited a museum in their free time.

The Ministry of Municipality and Rural Affairs (MoMRA) and UNHabitat analysed and recommended strategies that would put the DMA on track to meet Vision 2030 goals. One of the recommended strategies was to foster 'The Inclusive City', which calls for a city celebrating multiculturalism and social cohesion through the creation of "a strong public space network, including streets, sidewalks, and cycling lanes, squares, waterfronts areas, gardens, and parks."⁵⁴ Going back to the questionnaire results, the majority of Indian and Pakistani respondents are concentrated in the denser, older urban areas; hardly any of them live in compounds in the newer parts of the city. Additionally, the presence of labour camps specifically for low-wage workers – the vast majority of whom are from South Asia – must not be ignored. It is more difficult to draw any conclusions about where the other nationalities are concentrated as there have not been sufficient responses from them. Nevertheless, mapping out the residences of the questionnaire respondents suggests that spatial divisions between nationality groups prevail (Figure 13). The consequence is that upper-class residents of low-density gated communities are able to have greater influence on planning decisions than lower-class foreign residents, who are already struggling with upward socioeconomic mobility.

ARAMCO-owned pipelines and unused land parcels also divide the DMA into many fragments. Figure 14 suggests that the Dhahran ARAMCO Camp is still very much an exclusive area as it was in the First Oil Boom. An oil pipeline leading to King Abdulaziz Sea Port forms the boundary of a low-density area between Dammam and AL-Khobar. This area is also arguably where most of DMA's compounds are, and by inference, where residents who are higher on the socioeconomic ladder live. It can be hypothesised that these residents are highly skilled workers who were less likely to be from the South Asian diaspora. Despite the sweeping inference, the physical divisions created by oil infrastructure and undeveloped land might be hindering the DMA's path to becoming an Inclusive City, and a liveable city of the future.

The UN Habitat report proposes several public realm projects to stitch the divided areas together and improve the social and spatial cohesion. One of the proposals is to create a new public transport network to connect the historic centres of Dammam and Dhahran. More interestingly, it proposes the creation of mixed-use zones and public spaces to promote social interaction, particularly in Al Khobar's urban core. Perhaps this entails a regeneration of historically active urban spaces such as King Khalid Street. The overarching strategy, however, is to consolidate the urban cores of Dammam and Al Khobar through densification of residential, commercial and leisure functions to create a new 'Waterfront City'. Future studies investigating the implementation of this strategy will indicate whether the Waterfront city will actually enable liveability for non-Saudi populations. However, a mass transit system is arguably much needed for low-income (foreign) residents who don't have a car or motorcycle of their own. Though it is not clear whether the public transit will be based on fossil fuels, it is nonetheless a departure from the petroleumscape's advocacy

54 UN Habitat. (2019). *Future Saudi Cities Programme City Profiles Series: Dammam* (H. Pienaar, S. Fundaro, & C. la Mantia, Eds.). Ministry of Municipal and Rural Affairs and United Nations Human Settlements Programme. www.momra.gov.sa

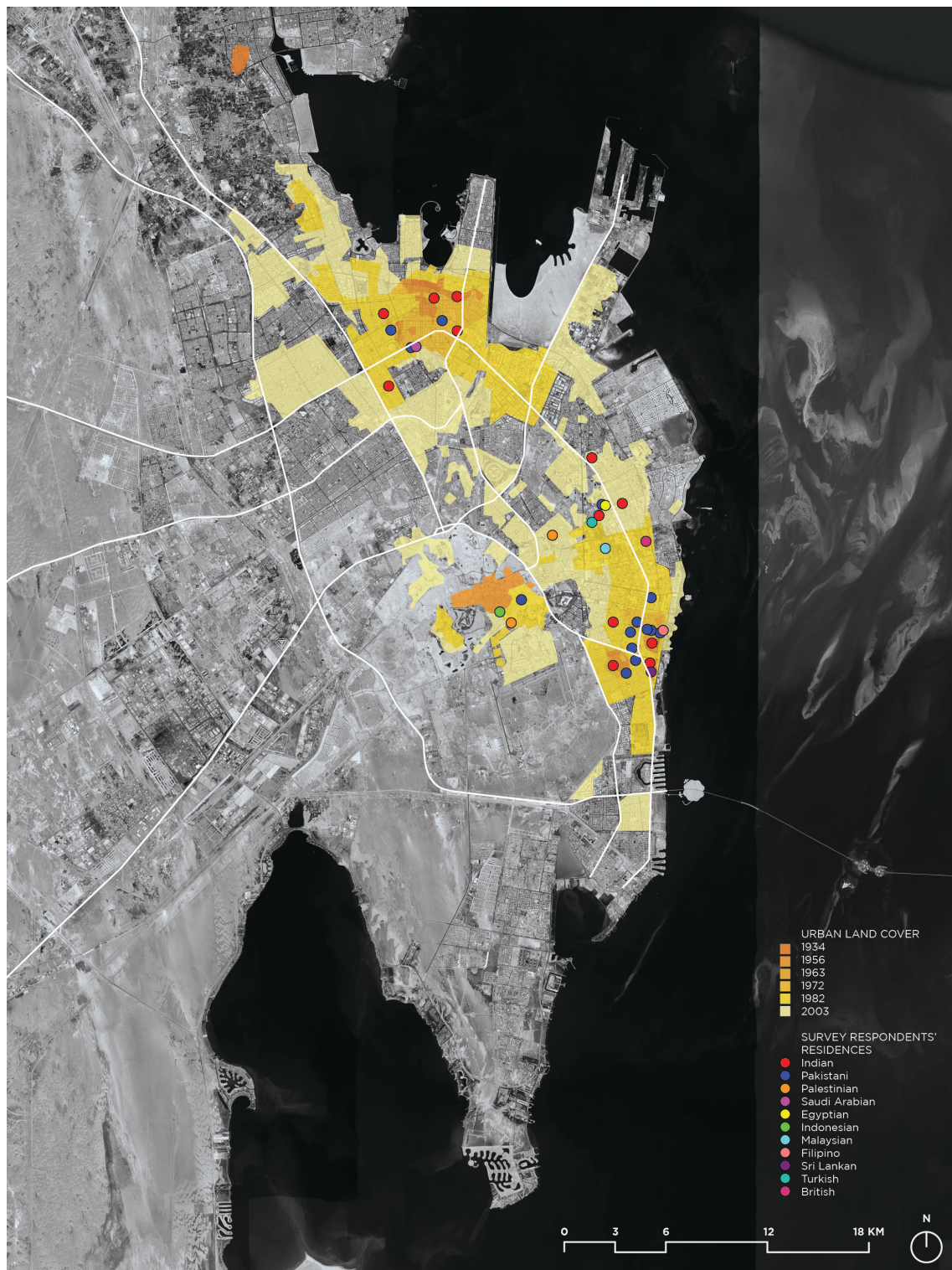


Figure 13: Satellite image of the Dammam Metropolitan Area: 1. Dammam, 2. Dhahran and 3. Khobar. (Source: Mapped by author, 2022.)

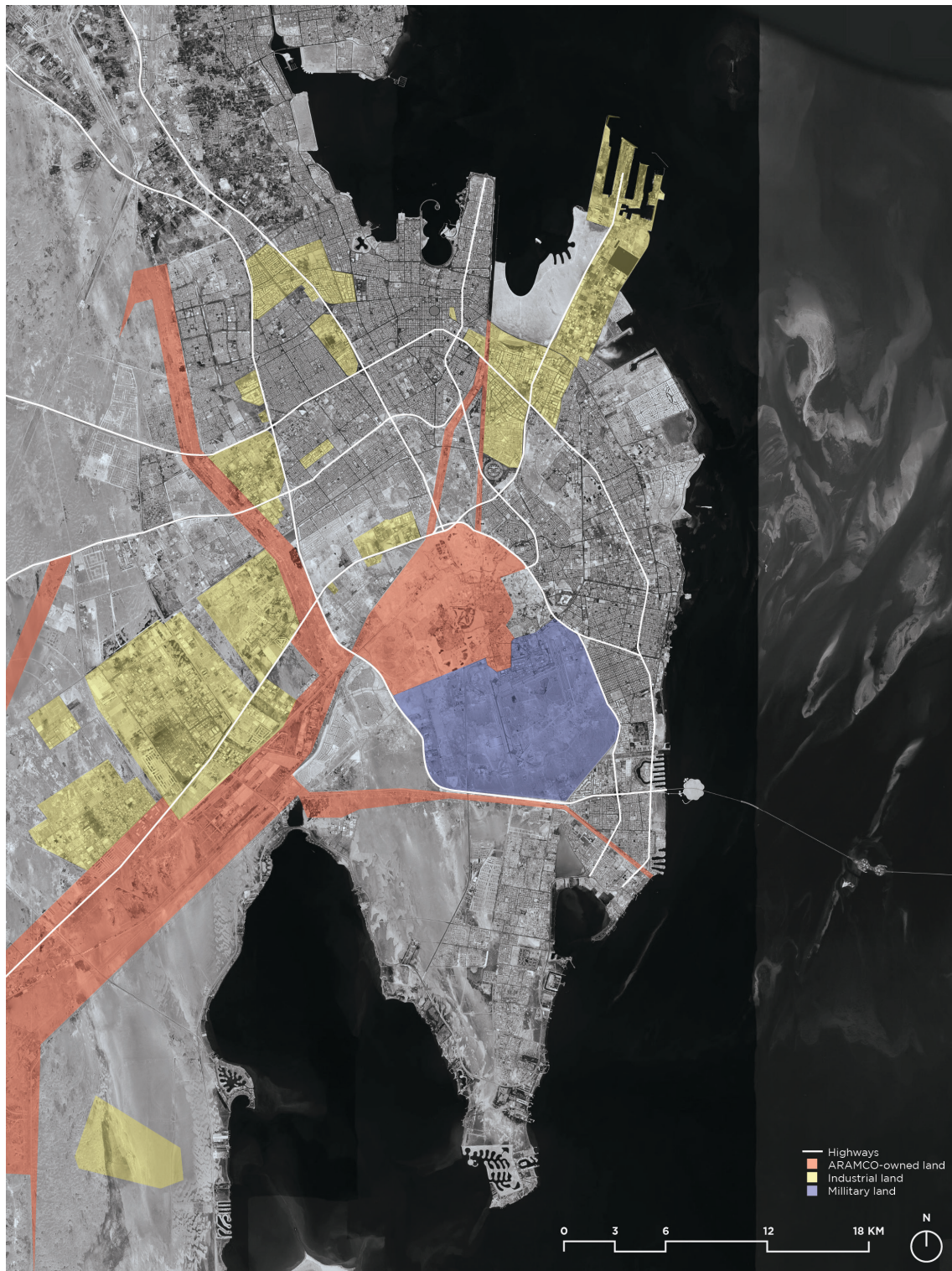


Figure 14: A simplified version of the DMA's petroleumscape. Thin, long parcels of land owned by ARAMCO are likely oil pipelines. (Source: Mapped by author, 2022.)

for car-based mobility and highways that criss-cross an already divided city.

Though such inferences can be made, it is curious to note that the report does not specifically mention that a sizeable population of the DMA is of foreign nationality. Thus, accurately ascertaining the extent to which various nationalities and diasporas have been considered in their proposals is difficult. What effect the proposals might have on their liveability, and on residual socio-spatial hierarchies of the 1950s, also remains to be explored.

6. Conclusions

Oil was the reason American workers came to the DMA in the 1930s. Oil – through its export revenue – was the reason foreigners were able to stay. But, as was the case with other oil towns such as Abadan in Iran and Ahmadi in Kuwait, oil was also what created and later exacerbated spatial marginalisation and segregation by nationality and race. Urban development around this single resource justified social and spatial proximities that took colonial mining towns in the USA and other oil towns in the region as precedents. White Americans set up a socio-spatial hierarchy where they had the right to the best liveability available, relegating people of colour – Saudi and third-country nationals alike – to settlements deliberately distanced from Western populations. Such racial divides are evident, albeit more subtly, even in today's population distribution and experiences of housing, employment, education and leisure in The DMA.

American influence extended well beyond the early urban masterplans of Dhahran and Al-Khobar. Their attitude towards urban development were constantly imported just as constantly as oil was exported, resulting in architectural projects such as American suburban compounds, out-of-town shopping malls and museum complex, as well as urban developments such as coastal land reclamation and a bridge to Bahrain. These catered more to a foreign, rather than a vernacular, population. But in the construction of these projects were 'unskilled' foreign workers whose liveability was much lower than everyone else, and continues to be so today, just as it was in the oil fields of the 1940s. Ethnic divisions have arisen not just because of the natural inclination of culturally-similar people to stick to their own, but because there was limited choice for those low on the socio-racial ladder as described by Robert Vitalis.

Whilst indeed, the rise of the petroleum industry and the petroleumscape improved liveability for foreign national populations in the DMA, it depended considerably on what nationality and ethnicity was in consideration. A lack of acknowledgement in the Vision 2030 framework for invisible racial divisions with regards to where different nationalities live, work and spend their leisure time is unsurprising as the population of foreign residents is set to decrease with Saudization policies. Nonetheless it will be difficult to ignore the fact that solutions suitable for the local Saudi population of the DMA may not apply as coherently to residents of Indian, Pakistani, Bangladeshi, Egyptian, Palestinian, Lebanese or Sudanese nationality. These foreign nationals' spatial distributions will likely be altered as the region weans itself off oil. If UN Habitat's 'Inclusive City' proposal for Vision 2030 is to be taken seriously, the spaces which they occupy and the manner in which they do so will have to be investigated through ethnographic and well as policy-based studies of the petroleumscape.

The historical upward trajectory of the DMA's petroleumscape has undoubtedly improved liveability for FN residents through the provision of housing, offices, schools and commercial districts funded by petrodollars. However, a generalisation of all FN groups cannot be made as their urban liveability has historically depended, and continues to depend, on their position on the racial and socioeconomic ladder. The differences between liveability for various foreign national groups and socioeconomic groups must not be generalised during the formulation and implementation of urban planning policies in the post-oil future.

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Figure 1: Mapped by author based on ESRI Satellite Map and Alhawaish, A. K. (2015). Eighty years of urban growth and socioeconomic trends in Dammam Metropolitan Area, Saudi Arabia. *Habitat International*, 50, 90–98. <https://doi.org/10.1016/j.habitatint.2015.08.019>

Figure 2: Mapped by author based on ESRI Satellite Map and author's experiential knowledge of the metropolitan area.

Figure 3: ARAMCO Handbook copy of Ken Slavin, n.d. as found on *Dear Folks' series of letters edited by Ken Slavin*. ARAMCO Expats. Retrieved March 15, 2022, <https://www.aramcoexpats.com/articles/dear-folks-chapter-14>

Figure 4: Fahmi Basrawi/Saudi Aramco, as found in McMurray, S. (2011). *Energy to the World: The Story of Saudi Aramco* (1st ed., Vol. 1). Aramco Services Company. <https://www.aramco.com/-/media/publications/books/energytotheworldvol1english.pdf>

Figure 5: Shuaiby, 1976 as found in Alshehri, A., & Almana, L. (2021). Khobar City Plan and the New Public Space in Saudi Arabia. *The Journal of Public Space*, Vol. 6 n. 1, 215–234. <https://doi.org/10.32891/jps.v6i1.1323>

Figure 6: Drawn by Melody Mosavat, based on an aerial photo by courtesy of J.P. Mandaville, as featured in Freitag, U., Fuccaro, N., Ghrawi, C., & Lafi, N. (2020). Structural and Physical Violence in Saudi Arabian Oil Towns, 1953–56. In *Urban Violence in the Middle East: Changing Cityscapes in the Transition from Empire to Nation State* (1st ed., p. 246). Berghahn Books.

Figure 7: Ad found in Alkhabbaz, M. H. (2019). Yamasaki's Dhahran Civil Air Terminal and the Shaping of Saudi Modernity. *Prometheus - Journal of the PhD Program in Architecture of Illinois Institute of Technology*. 1, 28.

Figure 8: Photograph attributed to ARAMCO, as found in Alshehri, A., & Almana, L. (2021). Khobar City Plan and the New Public Space in Saudi Arabia. *The Journal of Public Space*, Vol. 6 n. 1, 215–234. <https://doi.org/10.32891/jps.v6i1.1323>

Figure 9: Photograph attributed to ARAMCO, as found in Alshehri, A., & Almana, L. (2021). Khobar City Plan and the New Public Space in Saudi Arabia. *The Journal of Public Space*, Vol. 6 n. 1, 215–234. <https://doi.org/10.32891/jps.v6i1.1323>

Figure 10: Mapped by author based on ESRI Satellite Map and author's experiential knowledge of, and prior visits to, the two schools.

Figure 11: Copyrighted image by Valdrin Xhemai VALDRIN XHEMAJ / EPA-EFE / REX / Shutterstock

Figure 12: Aerial image taken from ESRI Satellite Map

Figure 13: Mapped by author based on ESRI Satellite Map; Alhawaish, A. K. (2015). Eighty years of urban growth and socioeconomic trends in Dammam Metropolitan Area, Saudi Arabia. *Habitat International*, 50, 90–98. <https://doi.org/10.1016/j.habitatint.2015.08.019>; and online questionnaire results

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