



## “Shaping Ahwaz' transnational oil modernity; at the crossroads of oil flows and international planning exchanges”

Author's Name: Rezvan Sarkhosh. \*

(\*PhD, Department of Architecture, chair of History and Urban Planning, TU Delft. Rose.Sarkhosh@tudelft.nl).

Through the lens of flows of petroleum, a key commodity of the 20<sup>th</sup> century, to revisit local urban histories, this paper contributes to the growing literature on transnational and cross-cultural urbanism. It argues that oil created a unique network of international stakeholders (British, German, and American), from various disciplines and professions (engineering, architecture and urban planning) who collaborated to build modern industrial cities adjacent to Iranian oil fields, much of which were found in previously uninhabited areas. Focussing on the development of the southern city of Ahwaz between 1908 and the start of the Iran-Iraq war in 1980, this paper explores how catering to the different facets of the oil industry (oil extraction, transformation, administration, infrastructure and retail), created a cosmopolitan built environment composed of a variety of architectural styles and urban planning approaches. The diverse actors who co-shaped Iran's oil cities also impacted people's lifestyles through new spatial arrangements. These international actors transformed and localized the global flows of ideas and created native processes of modernization. Albeit their good intentions, many of these actors failed to respond to the needs of the people on the ground and thereby contributed to creating social gaps among different strata of the society. Cosmopolitanism in architecture was thusly limited to styles and forms, rather than a truly just and democratic cosmopolitan society.

**Keywords:** transnational urban and architectural history, multicultural urban planning, cross-cultural exchanges of architectural experts, global flows of architectural ideas, global petroliumscape, ethics of urban cosmopolitanism, Ahwaz.

### Introduction

The promise of the oil's wealth brought flows of international powers, people, knowledge, technologies, and cultures with diverse motivations and skills to the Iranian oil fields from 1908, when the British explorer - William Knox d'Arcy – first explored oil in Southern Iran . Under the leadership of Iranian, British, Germans, and American officials, stakeholders, engineers and architects, multiple cities emerged or developed in the oil cluster of “Khuzestan”; detached but interconnected cities were created with connections to the capitals in national and international levels (Tehran, London, etc). The Oil Companies in charge of the extraction, transportation, refining and exportation of petroleum for the international market needed extensive urban infrastructures, set up elements of the global petroliumscape, as defined by urban historian Carola Hein.<sup>1</sup> Connected through oil flows, these cities were part of a global system; people employed in the oil industry, lived in imported architectural spaces and practiced foreign lifestyles. Architecture and urban planning became tools in the hands of foreign companies to both shape the land for extraction and reining of oil and to accommodate, control, supervise and socialize their staff. These colonial cities could be a good trial to experiment the modernity in Western urban practices and lifestyles examining in process of modernization of the city and the society.<sup>2</sup>

Among these new born or transformed cities, “Ahwaz”, combined with Karun--the only navigable river to the Persian Gulf in Iran--located in between of the oil fields (MIS) and oil refinery and port (Abadan), was part of



the Iranian oil industry since the early pioneer days.<sup>3</sup> International actors' intervention in Ahwaz reached far beyond the industrial infrastructures engaging all layers of the petroleumscape. Ahwaz had a profound relationship with global flows during its history of transformation, development and modernization which promoted the city to the modern capital of Iranian oil fields with a strong role as a mediator and negotiator for Iran in international contexts.

Focusing on the case study of Ahwaz, this paper will shed light on a lesser known aspect of interrelationship of architecture, urban planning and international flows. It combines the history of modern architecture in the developing world with geopolitical considerations. National and international actors in different political and economic periods in Iran, manifested different steps of modernity in Ahwaz through urban transformations. This can be seen in production of modern architectural and construction types (industrial, administrative, residential, ancillary), urban forms (infrastructures, neighbourhoods), lifestyles, engineering and etc. This paper explores consecutive transnational actors and their role in the creation of different periods of development in the city between 1908, the oil exploration in Iran, and 1980 when the Iran-Iraq war made an important outbreak in oil fields urban life<sup>4</sup>.

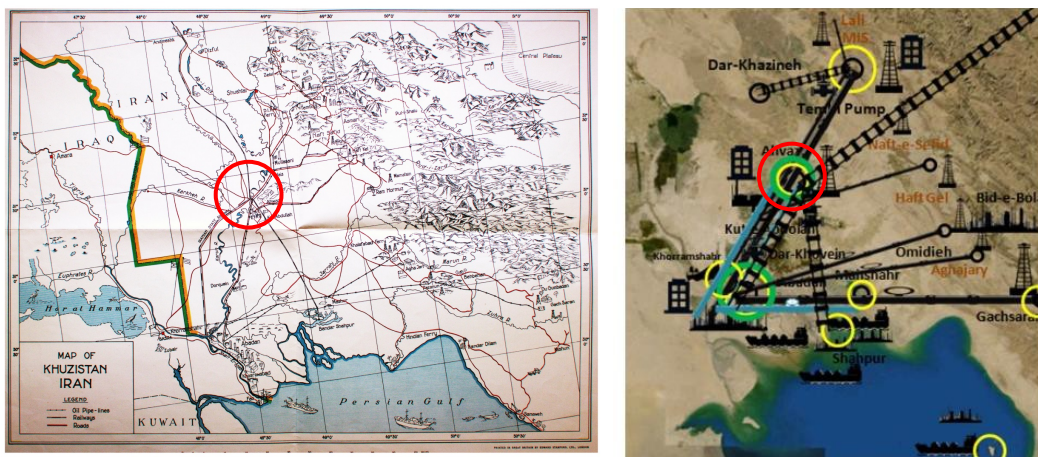


Figure 1, left: Map of Khuzestan oil fields, showing the important position of Ahwaz in the middle and connected to all the oil spaces. Source: BP Archive. Figure 2 right: maps of Khuzestan, 1970s, Source: The Author, 2017.

## Urban development of Ahwaz;

### First stage (1908-1926); Fast Building for Oil Industry

Responding to initial needs of the oil industry and its employees, the first urban form of Ahwaz reflected a fast decision making far from thinking for future social issues. Influenced by the previous experiences of United Kingdom in other colonial cities, Ahwaz was designed based on the job hierarchy. The city was classified into social classes and contained various types of housings for workers, employees and manager's in separated neighbourhoods or company towns.<sup>5</sup> The first and oldest buildings built by APOC in Ahwaz –except managers' houses- were merely simple and functional as row houses for the workers lined in narrow streets, almost in vernacular styles, construction types and materials. (“Kut-Abdollah” and “Khorramkushk”).<sup>6</sup>

### Second stage (1926-1941); Growth of Urban facilities and infrastructures

In 1926, with the ascent of the Pahlavi in Iran, Reza Shah who identified the geopolitical significance and resource wealth of oil made Ahwaz the capital of Khuzestan. This shows the reason for taking new steps in the development of the city's built environment. Turning the black gold income to the country, he made a new concession<sup>7</sup> with APOC in 1933 regarding more benefits for the Iranian government. Improving Iranian workers' life conditions, the Oil Company made an effort to break social gaps and created more urban facilities.<sup>8</sup> Subsequently, Iran's financial budget multiplied twenty two times from oil revenues. This new income played an important role in encouraging the Shah to invite foreign stakeholders to participate in the industrialization and modernization of the country. In order to decrease the power of Britain and Russia on national, political and economic levels, Reza Shah was particularly interested to have relations with Germany



and the United States.<sup>9</sup> Trans-Iranian railroad was a main project of national infrastructures which began by one American company<sup>10</sup> in the south and three German companies<sup>11</sup> in north of Iran.<sup>12</sup> This variation of actors resulted in two types of architectural styles in 95 railway station buildings. In the south, the American-built infrastructures were designed according to traditional and vernacular architecture of the middle east, while, in the North, Germans had a tendency to make modern forms devoid of any historic references.<sup>13</sup>

In 1929, the railway, reached Ahwaz by the Americans and became one of the main effective features in shaping the urban form of Ahwaz. It also determined the direction of its urban growth by passing the railway through the city.<sup>14</sup> The line functioned not only as a fast way to transport, but also as a symbol of modernization.<sup>15</sup> The American involvements in Ahwaz involved construction of new housings for staffs,<sup>16</sup> "Karun" railways station, engine depots, Wheel shop building, as well as new paved roads and bridges on Karun.<sup>17</sup> In 1933, an accident to the royal train on the inaugural day resulted in the transformation of contractors from the American and the German companies to a Swedish–Danish consortium,<sup>18</sup> which cooperated with construction companies from the Great Britain, Italy, Belgium and Czechoslovakia, named "KAMPSAX." This collaborative effort was concluded in 1938.<sup>19</sup> This transformation of the actors is the main reason behind the changing of architectural styles of railway's buildings of Ahwaz. Railway leaders' housings<sup>20</sup> and "Railways' club", belong to the time after opening of railways and probably are built by KAMPSAX since they are designed considerably more modern compared to the other buildings of railways.

In 1930's, the Oil Company competing with the other nationalities' interactions to the area, had realized the importance of advertising itself through architectural and urban projects in order to grow stronger roots in the oil fields. It developed a sizeable oil community in Ahwaz supplying its staffs for housing, along with the usual amenities such as stores and hospital, transport centres, ancillary buildings (educational, religious, entertainment and leisure), and infrastructures as fast main-line car service, airport, pump houses.<sup>21</sup> Finally apart from being a major traffic junction, Ahwaz also became the midway depot for the pipeline construction and a major distribution centre for oil products.<sup>22</sup> As mentioned before in the new contract of 1933, the demands for building urban facilities for the Iranian workers were particularly pressed the by Iranian government from the oil company. The architect who received this great responsibility was the British architect James Wilson, who had started his work with APOC since 1926, but in the 30s the volume of Wilson's works increased from single residential houses to massive constructions. In terms of architectural styles, he tried to use modern style while he was also impressed by vernacular architecture, materials and forms and conceptually used them in his works. With combination of vernacular elements to the extrovert type of buildings having open faces to the streets (instead of introvert traditional types), he created magnificent architectural facades in Ahwaz. In terms of large-scale urban planning issues, one of the main tasks that Wilson accomplished was transforming the structures of company towns. Before that the company towns had very basic, compact and functional patterns.<sup>23</sup> Wilson transformed them to more spacious ones by importing the concept of the "Garden City" of Ebenezer Howard." Howard's ideas were implemented in the Great Britain in late 30s and were concurrently introduced to other parts of the work where the Brits had economic and political control.<sup>24</sup> Green spaces, health, light and air were the main characters for planning new urban spaces in the company towns of Ahwaz combining with grid streets and easy access to every neighbourhood based on the need of control of urban spaces by the company.<sup>25</sup>

By 1939, Persia become the world's fourth largest oil-producing country and still had a strong tendency to collaborate with Germany to launch its modernization projects.<sup>26</sup> For British Government, which was eager to keep their influence in Persia as the dominant great power, the great fear was the access of Germany to the Iranian oilfields. Following the increasing German involvement in Iran as their oil-source pilot in the Middle East.<sup>27</sup> (at the time of the outbreak of World War II, about 1200 German workers were engaged in business in the country),<sup>28</sup> in 1941 the Anglo–Russian invaded Iran and eventually the facilities built by Germans as railway, bridges, etc. beside the Iranian oil were used by Britain to help the Soviet Union and caused their victory in World War II. At this time, the existence of railway bridge turned Ahwaz to the principal built-up area of the oil fields.<sup>29</sup> Finally the Soviet Union forced Reza Shah to eliminated all Germans from Iran<sup>30</sup> and also leave the power to his son, Mohammad-Reza Shah. After Germans, once again the British built spaces achieved the opportunity of being improved and developed in the oil fields.



### Third stage (1941-1951); Development of Ahwaz by AIOC as a Base for Oil Fields<sup>31</sup>

In 1947 the production rate was doubled that of 1939 and AIOC had recognized that M.I.S.<sup>32</sup> was not the most suitable location for fields management and headquarters organizations and started to transit the headquarter from M.I.S. to Ahwaz regarding its water connection to Abadan and also its railway connection to Khorramshahr and Shahpur port. Because of the demand of pressing development, stores, workshops, repair services for mechanical transport, construction and maintenance plants were expanded in Ahwaz.



Figure 3: The process of Purchasing Lands in Ahwaz By AIOC from Iranian government 1948-1949, (in these chorological maps, the red lands means which have already been bought and the green lands means which are about to be bought). Source: BP Archive. Archref: 68939.

At this time nationalism and democracy gained a lot of values in Iran. Iranian politics, against Brits, insisted on improvement for Iranian worker's living conditions who were suffering from low wages, poor houses and facilities while the best situations belonged to British employees<sup>33</sup> AIOC, in order to not losing its beneficial position in the oil fields, tried to improve the oil cities conditions but their actions were too late. The Iranian oil minister Mossaddegh, officially nationalized oil in 1951 and later the oil properties and infrastructures were also declared nationalized.<sup>34</sup>

### Fourth stage (1951-1959); Oil Nationalization

With the formation of the "National Iranian Oil Company; NIOC in 1951" an entirely new situation arose in Iran. NIOC had the tremendous responsibility of all the southern oil industry, providing for the fast-growing internal demands. NIOC employed more than fifty thousand professional staff and labourers. The difficulties for the country for the halting of its oil income between 1951 and 1953, resulting in the infrastructural decay and economic downturn of the all oil cities, including Ahwaz.<sup>35</sup>

In 1954 an agreement was signed between the Iranian Government and the NIOC as well as eight major foreign companies in the global Oil Consortium (five American Companies with a 40% interest; the British Petroleum Company limited with 40%; one Dutch Company with 14% and one French Company with 6%).<sup>36</sup> These numbers indicate why Americans became increasingly interested in Iran's oil fields, in parallel to their British counterparts. With the conclusion of the Oil Consortium, the country's income of oil increased nearly four times, and the idea of carrying out a development program for Ahwaz as the headquarter city gained importance. Urban transformations in Ahwaz began with the support of the Iranian oil managers. This was a national approach that continued alongside cooperation with foreign experts. Among development projects implemented in Ahwaz, plans in the various fields of housing, agriculture, communications, industries, social and public utilities, health and education had been most impressive.<sup>37</sup> Ownership of some lands that belonged to the oil company transformed for the workers to build houses for themselves.<sup>38</sup> In some neighbourhoods as Bagh-Moin and Amanieh in 50s a lot of magnificent residential villas had been built which reveal the development of culture and social taste for architecture in the city.

Because of the large part of British Petroleum in the Consortium of 1954, Ahwaz partly continued to be developed by the influence of the British actors but jointly with Iranian actors; the British architect James Wilson, continued his job in association with the prominent Iranian architect, Farmanfarmayan.<sup>39</sup>

Parallel to the Brits and the Iranians, through the geopolitical oil interests of the Americans in the Iranian oil fields, Ahwaz crossed the threshold of global modern lifestyles and made huge differences to the period of British power. At that time, the welfare in oil company cities was much more than any other big city in the



country even the capital. The introduction of American culture which believed in better life conditions for workers made labour work better rising their motivations. Becoming the main agent of modernization, American design firms got involved in the expansion of Iranian cities, which led to the export of American Architecture to Iran.<sup>40</sup> In this regard, there are some documents revealing that “Doxiadis”<sup>41</sup> who had developed a strong track record of work on planning and housing in Iran<sup>42</sup> had schematic work on Ahwaz. (He had first visited Iran in 1957, to work with the Khuzestan Development Service, a regional development agency which was set up to develop the oil-rich region of Khuzestan<sup>43</sup>).

### Fifth stage (1959-1980); Oil Exploration and Operation in Ahwaz

In January 1959 one of the largest oilfields in Iran was found on Ahwaz’s doorstep and from 1962 onwards, Ahwaz began to yield its great hoard of oil. The city soon became the major central producer of the oil fields and prospered as a result of this new found wealth. The “Iranian Oil Exploration and producing Company” (IOEPC) increased the scope and importance of its activities in Ahwaz by bringing to the town nearly all functions previously located elsewhere; it brought into public view activities which for too long had been hidden away on remote oil fields. Finally, Ahwaz became the only Fields’ Headquarters for transport, engineering, maintenance and construction.

In the 1960s, the oil community became integrated into a rapidly developing city and possessed diversified industries and facilities (as university, hospital, etc). It planned to make oil company employees as permanent residents.<sup>44</sup> To provide for this, the city had become the centre of “Home ownership scheme” by “Iranian Oil Participants Limited” established on a pilot basis from 1958. It was the “Welfare Concept” of the Western societies to help company’s men to own their home and to pay for it from their monthly earnings.<sup>45</sup> The company regarding social aspect of the city, aimed to have result in satisfied and dependent employees with real roots in the community. For expending on this scheme in 1966<sup>46</sup> the company provided financial<sup>47</sup> and technical requirements to design and construct a variety of houses on freehold lands. Local enterprise made over 90% of the required materials and local contractors provided the labours. It was planned to design various types of houses to try to avoid mass-housing appearance which lack the sense of space in the city. In this theme, characteristic designs to outfit private lands, or renovations of old buildings had also been undertaken.<sup>48</sup>



Figure 4-7 :Home ownership scheme by Iranian Oil Participants Limited, 1961, Source: BP Archive

Various inter-related industries were expanding still further and every industry started to expand its own zone in the city, containing industrial, official and residential facilities; in the north of the city, the lands were owned by the Oil Company, metal industry was located in the east; Army headquarters were in the west and Water and Electricity company was located in the south which is a good example with a specific design for company towns in combining the idea of the Garden city with a geometrical magnificent pattern in its urban planning.



Figure 10: Right: Water and electricity Company town in Ahwaz, source : Google earth. & Figure 11 & 12; middle and left: oil company mass housing projects, 1970s. Courtesy of the Iranian Oil Museum Archives.

The main Company Town was the “New Site” neighbourhood holding new headquarters of the “Iranian Oil Exploration and Producing Company”. The headquarter building was built as a representative tool to expose the power of the oil company, so it was designed in the most modern type of architecture of its time and pushed the process of modernization in architecture of the city. Moreover the whole neighbourhood continued its expansion by large modern residential and recreational areas, a new well-established emergency hospital, staff clinic, club, sports facilities, schools and cinemas to facilitate the modern urban design of the neighbourhood.



Figure 8: National Company of South oil fields in Ahwaz Source: Iranian Oil Museum Archives

In this period, Individual Iranian architects as “Kamran Diba” and “Farmanfarmayan” or “Nader Ardalan” tried to define Iranian modernity and re-read traditional concepts in a modern way.<sup>49</sup> They were inspired by the principles of organization and typology of traditional Iranian cities and the use of local material adjusted to the climate. This architectural and urban trend was based on localizing the process of modernization in Iranian cities. Thinking of climate and vernacular culture and trying to combine modern and traditional elements in low-cost housings (new towns) were signs of vernacular modernism shaped in the early 1950s and continued until the 1970s in Ahwaz. One good example in the city of Ahwaz is the expansion plan for Jondi-Shapur University in 1968<sup>50</sup> designed as a clear reference and an iconic modern embodiment of traditional Iranian architecture.<sup>51</sup>

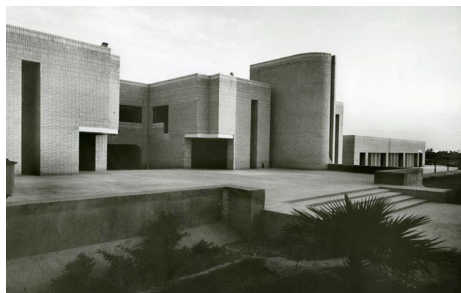


Figure 9: Jondi-Shapur University Ahwaz. (1968-1978)



In 1967 the first comprehensive plan for the city of Ahwaz was developed by the Iranian architect and urban planner, "Ali Adibi". However, because of finding oil in planned areas, his urban plan was not implemented at the end.<sup>52</sup> In 70s, transferring the role of oil exporting port from Abadan to Mahshahr and Shahupur for their larger capacities for arriving larger ships, Abadan lost its previous value and Ahwaz took the role of Abadan to be the most important mediator and dealer to the developed countries. Many high quality homes for managers and offices were built in the city containing 2000 residential houses in 1974 in the lands that belonged to the oil company after oil nationalization.<sup>53</sup> The fact of having no more valid comprehensive plan for the city expansion, responding to increasing population of company's employees, in a conflicted method of development to what explained above, unplanned suburbs grew and the city expanded in a disharmonic way. In order to deal with unplanned expansions of the city, the government supported planning of poor residential areas as "Chaharsad-dastgah" and "Kuy-sepidar" inspired by global modern mass housing trends which resulted in unsuccessful living areas in the city. Continuously low-cost housings for labours were built at the Ahwaz suburbs of "Zaitoun" and "Behrooz" in the following years.<sup>54</sup> All of these separated zones were contributed to various global exchanges which resulted a city bearing the scars of unplanned growth.

The developments of the city in 70s with new urban plans indicated a welcome break with the past; on the one hand, in 1975 Iran announced the creation of new towns in Ahwaz for which Skidmore, Owings & Merrill of Chicago were hired to conduct the planning;<sup>55</sup> and on the other hand, with financial support of the oil company and under the leadership of Iran's Prime minister of oil, Dr Eghbal,<sup>56</sup> once again Ali Adibi started to design a new comprehensive plan for the city between 1975-77. The role of urban plans in Ahwaz had grown with a gradual shift in emphasis from gardens for the private sphere to an increasingly public function. New factories located far away from residential areas and often surrounded by newly planted trees and shrubs. These urban planners had a significant role in making the city more ideal for living with socio-cultural developments. The local authorities were improving the appearance of the city, laying out new landscape projects as parks and gardens, rebuilding the river frontage.<sup>57</sup>

### Conclusion

In the centre of the Iranian oil cluster, the advent of diverse global alliances (British, German, American) were closely tied to Iran's political, economic, and cultural connections created a unique international network of stakeholders, officials, experts, engineers, architects and urban planners for urban and architectural transformation. The question of how providing to the different facets of the oil industry (oil extraction, transformation, administration, infrastructure and retail), had impacts on planning the city to convert it to a multicultural modern city in the border of various global flows, and their resultant cross-cultural exchanges is the main focus of this research. Since the discovery and the drilling of oil, the modern urban texture in Ahwaz is full of architectural and urban narratives which have been created by international actors and global flows. Transforming from a rural community to a modern city in less than a century caused a unique and complicated urban growth which is important for the global history of modern architecture and urban planning. The oil actors have co-shaped not only the built environment but also people's lifestyles through oil-related buildings, urban projects and their representations. Exploring the transnational urbanism of Ahwaz, this study revealed myriad cross-cultural exchanges between national and international actors. The arrival of the various actors transformed and localized the global flow of architectural knowledge and created native processes that are informative for the field.

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## Endnotes

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- <sup>2</sup> Ortigue, P. L. (2007). "Un empire dans l'Empire ? les villes de l'Anglo Iranian Oil Company et le modèle britannique de colonie pétrolière.." (An empire in the Empire? : Cities of the Anglo Iranian Oil Company and British Petroleum model colony)
- <sup>3</sup> Ahwaz, printed book by Iranian Oil Exploration and Producing Company, 1973.. Source : BP Archive. Archref:Arc65354.
- <sup>4</sup> With the start of war in 1980, people started to abandon the city while it was bombed and attacked by the Iraqis.
- <sup>5</sup> Company towns grew in oil spaces as residential complexes belonging to the oil companies, designed, invested, reserved and organized by them. The place of these towns were not dependent to the climate, economy or social issues but only concerns about the needs of the company.
- <sup>6</sup> Faateh, M: "Fifty Years of Iranian Oil", (1356).
- <sup>7</sup> In this new concession due to shah's tendencies for having relationships with Germany, the Anglo-Persian turned into the "Anglo- Iranian Oil Company (AIOC)".
- <sup>8</sup> Henniker, E. "Major Nationalisation: The Anglo-Iranian Oil Company, 1951, Britain vs. Iran" (2013).
- <sup>9</sup> Khatib-Shahidi, Rashid Armin. *German Foreign Policy Towards Iran before World War II : Political Relations, Economic Influence and the National Bank of Persia* [in English]. London: I.B. Tauris, 2013. p 41
- <sup>10</sup> (Ulen & Co.)
- <sup>11</sup> (Philip Holtzman, Julius Bergerand and Siemens Bahn)
- <sup>12</sup> Sadka, 'German Relations with Persia', p.81
- <sup>13</sup> *Rahahan-e Sarasari-ye Iran*, pp.100-101
- <sup>14</sup> Mojtahed Zade. R, & NamAvar Z. "DarJost-e-Juy-e Hovviate Shahri-e Ahwaz", 2016. P.177
- <sup>15</sup> Lemańczyk, S. (2013). "The Transiranian Railway – History, Context and Consequences." *Middle Eastern Studies* 49(2): 237-245.
- <sup>16</sup> ("Chehel-o-Hasht Family" residential complex)
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- <sup>20</sup> "Hasht-Bangleh"
- <sup>21</sup> Beizapur, M. "Sima'ie Shahr'e Abadan", Sakhteman No.27, (1987).
- <sup>22</sup> Ahwaz, printed book by Iranian Oil Exploration and Producing Company, 1973.. Source : BP Archive. Archref:Arc65354.
- <sup>23</sup> Which is visible in simple patterns of old urban spaces of Khorramkushk and Kut-Abdollah
- <sup>24</sup> A good sample is "new Site" neighbourhood
- <sup>25</sup> The Neglected Garden: "The Politics and Ecology of Agriculture in Iran Keith Stanley McLachlan", (1988)
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- <sup>30</sup> Henniker, Edward "Major Nationalisation: The Anglo-Iranian Oil Company, 1951, Britain vs. Iran" (2013)
- <sup>31</sup> The Anglo-Iranian oil company, Limited 1947
- <sup>32</sup> M.I.S, or "Masjed-Soleyman" was the first headquarter of Khuzestan oil Cluster
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- <sup>35</sup> "Working with the operating companies in IRAN", by Iranian Oil Participants Limited & Iranian Oil Exploration and Producing Company & Iranian Oil Refining Company, 1965.
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- <sup>40</sup> Jeffrey W. Cody, "Exporting American Architecture 1870-2000", ed. Dennis Hardy, Planning, History and Environment Series (2003).
- <sup>41</sup> Mr. Doxiadis, who gained international prominence as one of the architects of Greece's postwar reconstruction, was the head of Doxiadis Associates, an urban-planning concern with offices all over the globe, including Washington.
- <sup>42</sup> DIARY-DOX-NA 1, Doxiadis Diary 1957.View all notes
- <sup>43</sup> The limits of scientific planning: Doxiadis and the Tehran Action Plan Ali Madanipour  
The Khuzestan Development Service was modelled on the Tennessee Valley Authority (TVA) created by Franklin Roosevelt in 1933, as a model of government intervention for regional economic development for a river basin. See the *Time* magazine's article on Monday, 21 November 1960, for a description of the TVA and its influence on similar projects in other countries, including Khuzestan. <http://jcgi.pathfinder.com/time/magazine/article/0,9171,874224-2,00.html> (accessed July 1, 2008).
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- <sup>45</sup> Home ownership scheme by Iranian Oil Participants Limited, 1961, Source: BP Archive
- <sup>46</sup> Henniker, Edward "Major Nationalisation: The Anglo-Iranian Oil Company, 1951, Britain vs. Iran" (2013).
- <sup>47</sup> A total sum of 1,400,000 pounds was released by the Iranian Oil Operating companies,<sup>47</sup> Henniker, Edward "Major Nationalisation: The Anglo-Iranian Oil Company, 1951, Britain vs. Iran" (2013).
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<sup>50</sup> In the complex Diba also planned a residential neighbourhood for the staff of the university of "Jondi-shapur", which is also inspired by the vernacular Khuzestan architecture.

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<sup>55</sup> Engineering-New Record, 1975, 24 April, PP.13-17; House and Home, 1975, 48, October, p,9

<sup>56</sup> The Oil Prime minister of the time

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