Industry Influence in Shaping Regional Identity in Contemporary Khuzestan
Case Study: Comparative Study of Housing in Masjed Soleyman and Abadan

Jamal-E-Din Mahdi Nejad, Corresponding Author: Associate Professor in Department of Architecture, Shahid Rajaee Teacher Training University, (SRTTU), Iran, Email: mahdinejad@srttu.edu.ir
Ghazal Mosaferzadeh, Master of Architecture, Department of Architecture, Bushehr Branch, Islamic Azad university, Bushehr, Iran.
Ahmadreza Kaboli, Ph.D. Student in Architecture in Department of Architecture, Bushehr Branch, Islamic Azad university, Bushehr, Iran.

Abstract
This paper is a comparative study about the design of Abadan and Masjed Soleyman houses that are the first and most important oil company towns in Iran and their effect on urbanism in contemporary Khuzestan. The discovery of oil in the cities almost one hundred years by the Anglo-Iranian Oil Company, was an important chapter in the history of modern Iran. As a result of this experience, a specific pattern of imported housing was entered in the construction in Khuzestan which has followed a social upheaval. One of the objective of this study was to examine the housing patterns of contemporary urban planning in Khuzestan. The trend of social transformation as considered because it involves the challenges of oil industry and the construction of modern housing and its contrast with the traditional architecture of the region. The main question is whether the imported architecture shaped by the discovery of oil could bring housing utility and cause developments in the region that after a while we face them as the company towns in the contemporary world.

Keywords: Khuzestan contemporary architecture, oil industry, imported housing, Masjed Soleyman

Introduction
Modernity formed in the middle of the Qajar period, followed by modernism emanating from the West since its popularity in the first Pahlavi, have developed the traditional society of the country that the only constituent elements of its identity was the Iranian nation and the Islamic religion and with the arrival of science and technology, Western influences also became the third pillar of Iranian identity which is interpreted as identity crisis. In the field of architecture and urbanism, especially since the 60s, identity became the subject of day and exchange or confrontation with the West was the main concern for the architecture, however no clear answer was found so far to maintain or even define the Iranian-Islamic identity in practice. Critics who believed in confrontation with this phenomenon to preserve the identity, delimited the identity only in the form of national identity and within the geographical and political boundaries. The identity "as if it was known for people from any tribe and clan and from any city and village since the foundation or beginning of Iraj rule until today and have recognized themselves in it" (Ashraf, 2008: 9). While each of the different regions of the country had unique natural and human features and some otherwise faced with modernity. One of these areas was Khuzestan that has faced with modernity in parallel with what happened in Tehran. After the discovery of oil in 1907 in Masjed Soleyman and during the past century the province was a workshop for modernity. A completely traditional society that the bulk of it were nomads, have faced with the latest Western scientific, technical and constructional achievements due to the discovery of oil and presence of British people in the area and were placed in the course of
modernization - without modernity. The presence of these new residents with their culture and civilization created the settlements known as oil towns in Khuzestan that was completely different from the traditional cities based on Islamic such as neighboring towns. But by evolving over time and linking with regional characteristics, the alien architecture over time and among the people could create a particular identity and belonging. The use of these features can be combined with Islamic architecture of these areas and contribute to updating it. It seems that in today's contemporary world, the qualitative consideration of housing especially crystallization of identity characteristics of each region in its body have been empty while one of the most important factors for crisis in modern architecture, is understanding the importance of identity and place. (Shadar, 2005) The main qualitative need is the relation between housing and ethnic native and cultural properties of a region that the result of lack of attention to it would be the similarity of residential complexes throughout the country, particularly in the functional interior space without rigorous identity. The distinctions can be seen in the traditional architecture. Khuzestan is part of Iran ancient land with rich historical and cultural background. This land was considered in the early twentieth from a new perspective. A perspective that was born by an insight and a way of looking at the existence that considered nature as a source of hidden energy and tried so that all the new talent and energy give a new situation to Khuzestan which contains vast oil reserves and underlid developments in this area. Abadan is considered as one of the most important oil cities in Khuzestan and Iran. It was a big Island at the mouth of Arvand River in 1907 with a population of about 24 thousand people who were all from different Arabic tribes of Bani Ka'b and most of them were engaged in livestock or palm developments. The population was scattered in the island and in several villages and there was no urban population in Abadan. Oil company purchased or rented the lands of Abadan and Masjed Soleiman from Sheikh Mohammadre Khan and Bakhtiari Khans for the exploration, extraction, transport, refinement and export of oil. (Ehsani, 1999, 18) After the discovery of oil in 1907, Abadan became the center for an emerging geography and could change the perspective of Khuzestan and cause a development in modernity and urban lifestyle and social interaction which results in a particular pattern of Abadani identity. The consequence affected by Western culture could change the local society of the residents. An evident example of the company towns (neighborhoods) were Barim and Bavard. The urban pattern in association with the regional characteristics have positive tips in urbanism of different tribes that some of which also have no history of urban settlements and most were nomadic tribes. Establishing the company towns distinguished Abadan from other ancient cities of Iran and even the capital as the first experience of Iranian life in a western town. The Iraqi invasion in summer 1980 opened a new chapter in the contemporary history of Iran, especially the border town of Abadan. An important consequence of it was complete destruction of Khorramshahr and Abadan and forced dispersal of its population as immigrant and refugee throughout the country. But this historical violence could not change the identity of Abadan and residents of this city will never forget their home, neighborhood and region and attached city, a city that was known throughout the country by the industry in the path of development. This study tries to examine the deformation of Iranian residential architecture and consequently Iranian life style by a descriptive and analytical method and by determining the role of oil exploration and development of it and also be able to answer what the role of oil exploration on changes incurred on housing and modern lifestyle in Abadan is.

Methodology
The paradigm governing this paper is a quantitative method and its method is descriptive and analytical. In this approach, the direction is from theory to the case by deductive reasoning. So at first we will extract the conceptual model of house and its relation with the region then, the pattern will be tested about the residential architecture of the past century in Masjed Soleiman with residential architecture of Abadan. For this purpose, Oil Company houses will be compared in period between 1921 until before the revolution in Masjed Soleiman and Abadan housing that has been built around the first Pahlavi. The main research tool is the use of library documents.

Housing and region
Researchers examined housing from different cultural, philosophical and phenomenological, psychological and psychoanalytical aspects (Moore, 2000). In the meantime, the difference between the words “home and
“House” is debatable that has been defined in many forms. Home has different meanings in different cultures and in general is considered as a safe, private space and a place for social life (Ahmadi, 2005). But “there is an important distinction between the word home and house and it is that house is used as a physical structure and home as a personal, social, cultural or psychological meaning of a dwelling place” (Hauge & Kolstad, 2007: 274). In fact, home has a means beyond a dwelling, shelter and house and it is achieved by the interaction of various internal and humane treatment aspects with their settlement. Therefore to achieve a conceptual model for assessing housing, we need this comprehensive approach. Meesters (2009) considers the type of human interaction with the environment as a result of the relation between human, activity and environment (Figure 1). Using the same model, the concept of home can be derived from the relation between people, living and housing (Figure 2). In this model, the human being as an individual or family with different age, gender, education and income, housing is defined as a framework made of open and closed, public and private spaces, with different materials and housing is defined as a form of life, behavioral territories and family relations, employment and livelihood. Home concept also comes from the synergy of these three elements and each of the bilateral relations between them contain only part of the concept of home. The single relation between a man and housing leads to accommodation, man and living to culture and living and housing to civilization and the sum of human housing with different cultures in a civilized form can provide a holistic concept of home.

![Figure 1](source: Meesters, 2009)

![Figure 2](source: authors)

Although this concept is perfect in itself, but in conjunction with the area and location cannot have a holistic look. For this purpose, the original research approach that takes into account the regional characteristics, needs a model to show the relation between home and its location (Figure 3). The relation will be completed by each of the three factors, human, housing and residence. Accordingly the relation between human (families) with places will be established by race, ethnicity, religion and collective values and beliefs, link between living and area by neighbors, social and economic interaction and livelihood of the family, social norms and links between housing and the area by the climate and natural resources, etc. In this model, all aspects involved in the review and evaluation of housing ranging from physical, cultural, psychological, natural, economic factors etc., especially relation with the region are considered and will be used in this study as a conceptual model. The comparative study of new housing (Oil Company) and Abadan housing will be based on it. Therefore, in addition to physical features of housing such as typology of the relation between open and closed space, the use of nature and natural factors and type of materials used, will also examine the role of ethnicity (human) as well as lifestyle and employment (residence) and the relation among them.
Figure 3. Model of interaction between home and region
Source: authors

Tradition and modernity in Khuzestan
Since the rule of Nasser al-Din Shah, Khuzestan was gradually considered by Abadani people. At this time other than two cities of Shushtar and Dezful, consisted of a number of villages and nomadic people. But the two cities also have not been much developed. Mirza Taqi Khan Kashani in 1920 traveled to Khuzestan ordered by Nasser al-Din Shah. But with oil exploration in 1907 in the region of Masjed Soleiman, and its transfer to Abadan, a new chapter has emerged in the political, economic and social life of the country specially Khuzestan. Ironically this year is associated with the signing of The Constitution in 1905 that is the landmark of modernism in Iran and made modernity in Khuzestan equal to capital of Iran. In the late 1950s in addition to Oil Company, the Iranian government has highlighted its role with developmental plans. One of the most important action plans in the country, is Khuzestan development program that was formulated in the framework of the second development program (1955 to 1961). The program modeled the Tennessee Valley development project in America, creating a dam on the Dez River and irrigation and drainage networks and agro-industry companies and generally industrial agriculture was on the agenda. In the imposed war and its aftermath consequences Khuzestan also played a vital role. All of these cases in the past decades changed "Khuzestan to a workshop of modernization and development" (Ehsani, 1999, A: 4). Immediately, the Anglo-Persian Oil Company was established in 1909 and a list of most essential things after the discovery of oil was prepared which was as follows: "providing modern technical equipment, motor vehicles, hiring new staff, completing technical staff, preparing and operating the first electricity-generating plant, planning the first system of social lines, negotiating and contracting with Sheikh Mohammareh for the island of Abadan to establish refinery and building a proper road from Darkhazineh to Masjed Soleiman as well as choosing the right place in Masjed Soleiman for creating and building the first village to live in it "(BP Magazine, 1972: 771). The speed of the operation was to the extent that "by 1911, a pipeline with a length of 130 miles was built from wells in these hills [Masjed Soleiman] to the island of Abadan, in the Arvand River Bank" (Crinson, 2006: 96). But as you can see, in addition to the fact that it was the central issue, two major cases are prioritized and can be seen in parallel: human resources and their accommodation. Skilled manpower that must be imported from Great Britain. Even semi-skilled manpower were supplied from countries such as India and the share of indigenous people in the region was simple works. Of course, the arrival of these forces required a place to settle them. Therefore, from this time onwards, Masjed Soleiman as a mining center and Abadan as an oil refining center have emerged and evolved as new settlements in the area that was completely different with what was common not only in Khuzestan but also in the whole country i.e. traditional cities and based on agricultural and animal husbandry economy; modern cities with new social engineering and economic relations based on industrial economics. Thus, they were the founder of modern life in Iran.
Residential architecture in Abadan and Masjed Soleiman

Finally, after seven years of the Darcy contract (1901), Oil Exploration Operations in the Naftoun of Masjed Soleiman that at that time was known as part of Shushtar was fruited. At this time that was the last years of Qajar government, Shushtar like other parts of the country was at the height of turmoil and in other words "dirt, infection and damages have been reported much more than Dezful" (Kashani, 1920: 141). In addition, other factors such as broken dams and the sectarian conflict (Heidari and Nemati) were also involved in the decline of this city. At the same time the British freely and away from the events in capital interacted with Khans, Bakhtiari and Arab sheikhs and quickly expanded their technical and developmental actions which resulted in the establishment of two important areas of Masjed Soleiman and Abadan. In fact, as Shushtar were further declined and even lost its regional power, Masjed Soleiman was globally famous.

A town that was supposed to be built in Masjed Soleiman, was began with the construction of Dr. Yang house (Ghasemi, 2008). Although there is no comprehensive information about this period, but "with high oil production in the late [World] war I and facilities for it, such as power plants, pumping stations and water plants, engineering facilities, engineering refineries, etc. indicate that by 1920, a full-fledged company towon should be formed" (Athari, 191: 66). But it does not seem that the town has been so consistent. Khosrow Khan Bakhtiari in his memoirs about Masjed Soleiman in 1921 says: "British people built several mansions in Masjed Soleiman" (Bakhtiari, 1977: 63). Despite the lack of comprehensive information about Masjed Soleiman, we can use similar events in Abadan. The construction of the refinery was immediately began in the city and sticking to it, an area in the southwest corner was allotted for construction of cottages. This area was the core of formation of new residential areas in Abadan and the first villa was formed in about 1931. "The villa was a bungalow-style brick building with a roof of straw and mangrove; a ceiling with thin wooden beams close together that some mats (made of palm leaves) were thrown on them and puddled them" (Crimson, 2006: 96). Of course, "a few years later the building was replaced with bungalow No. 1, the first permanent building in Abadan" (Crimson, 2003: 54). The bungalow was built in large numbers in Masjed Soleiman. So, the first form of Western House called bungalow was founded in Iran and the first major changes happened in traditional housing; relation of open and close space of the housing has become a central building surrounded by a courtyard and green space with green walls and bathroom and kitchen were built among other spaces. Bungalow have covered only about one-third of earth's surface and the rest belonged to the green open space (Figure 6).
In the early years after the discovery of oil, the company was reluctant to build mass housing for their workers and no pressure was felt in this regard. At this point, the oil company with the entry of a new form of economy, i.e. industrial economy, attracted the region's indigenous people who were mostly Bakhtiari nomads and villagers, Arabs and people from other parts of Iran. At this time, the relation between Oil Company and local people was a job relation and the changes in their lives was in the same way that settlement of nomads and immigration were its first social phenomena. We can also refer to change in the time of ruling the society from natural and agricultural to industry and modern society according to the movement of the counter-clockwise (Ehsani, 2008 B: 20). After the cancellation of the Darcy contract in 1933, new obligations were made with respect to Iran's labor for the oil company that the issue of housing was one of them. Mass production of housing also resulted in the need for urban design issues and attention and attitudes to regional planning. In fact, from the time up to the nationalization of oil in 1351, residential architecture of Oil Company has evolved and the triple relation between people, housing and residence and the concept of modern home was formed with the arrival of Iranian employees into houses of Oil Company and their new life style. The need to produce more housing resulted in better use of the land. As a result, land plots were smaller than the primary period and pre-planned towns were formed. But "spatial regulation that has designed Abadan like a grid in natural and mountainous area failed to build a neat space in Masjed Soleiman" (Ehsani, 2008 b: 24). The relationship between open and closed space also remained the same. The mass building in the open space divided it in such a way that a large courtyard in front and a backyard behind the building were formed. Outdoor was also filled with green space suit to the climate like grass, bush and tropical trees and bushes. Since the beginning of the formation of residential architecture of Oil Company, design and attention to green space due to the hard climate of the region was considered a key element. Architectural designs of houses become more complete and more varied and mainly consisted of private spaces (2 or 3 bedrooms with sanitary facilities and warehouses), semi-private spaces (hall, dining room and kitchen) plus public space for the reception of guests each specifically separated by load-bearing walls and blades. Much of the building materials were chosen according to the region; for example, the dominant materials in Abadan were bricks and in Masjed Soleiman stone. The residential buildings of Oil Company had the distinction and dignity for their own body that was one element of its identity over time. New technologies of construction allowed builders to reduce the width of the load-bearing walls. For instance, when the RC has gradually found its place in modern architecture, it was used in the foundations of buildings in oil rich regions. The thin composite steel and concrete ceilings also imposed much less burden on the wall. Hygiene water, electricity and lighting, electrical ventilation etc., have created new houses in Masjed Soleiman that were entirely different from traditional houses in traditional neighboring cities. New residential architecture in Masjed Soleiman, had neither "a space for extensive and densely populated households; the dominant form of family in the area, nor a possibility to economic use of home for production" (Ehsani, 1999 b: 26). On the other hand "it has promoted the core family as the ideal unit and on the other hand with division of labor within the household based on gender and generation, dictated major changes "(ibid.). All these cases led to creation of a new lifestyle and economy in single-family
households. Years after the nationalization of oil can be considered an era for stabilization of architecture in oil regions, particularly in housing. With a significant reduction in foreign workers, Iranian workers were replaced with them and with the development of oil industries and ancillary Industries such as petro chemistry, the number of them and oil cities were added. Also oil non-industrial operations which has mainly consisted of housing was transferred to the Iranian engineers and consultants. With the increase in Iranian workers and allocating housing to them, a new type of housing for workers with less space and less open to close space were constructed in large scale. But still the same dignity and identity could be seen in the new housing.

**Imported housing in Abadan**

In fact, the period was the era of initial formation of oil company activities in Iran. It was begun since 1907, i.e. oil exploration and continued until 1933, cancellation and modification of Darcy Contract. Finally, after seven years of since the Darcy contract (1901), oil discovery operations have fruited in Masjed Soleiman. In terms of time, this period was consistent with one of the landmarks of the country i.e. efforts to restore constitutional contract and finally signing it in 1306. The drafting of the constitution, the establishment of the Parliament, coup of 1920, and most importantly transferring the reign from Qajar to the Pahlavi in 1925 have happened in the interval. After the nationalization of the oil industry in 1951, it was the peak of architectural and urban-planning programs for Anglo-Iranian Oil Company. Despite the reluctance of company to invest in housing projects, because of government pressure and Iranian workers, construction of housing becomes more prosperous in the course. Also from designing the single residential units for senior executives (bungalows), attention to the issues of urban design and regional planning approach opened its way to Iran. Therefore, at this time the professional designers entered Iran specially Abadan. After constructing refinery, an area close to it in the southwest corner was allotted for construction of cottages. The region was the initial core of the formation of new residential areas in Abadan and the first villa building was built around 1910 as close together with mats (made of palm leaves) thrown on them and puddled ceiling (Crinson, 2006: 96) So the first western-shaped house was founded in Iran called bungalow. Bungalow was a certain English – Hindi housing that has emerged at the beginning in the colony of India and came to England in the 1890s and then again at late the last nineteenth century was highly used for residence of English managers in colonies. Other two-story bungalows were also built in the area that were given to senior company executives of Oil Company. At first the buildings were simple and in the later buildings, given the extreme heat and sunshine in Abadan, wide colonnaded portico was added to the buildings. Even later the porch were extended around the bungalows that had no porch (Erwin Kavosh Parsian, 2009). Also row houses was formed in 1923. Houses that notably were placed in a checkered and sometimes radial network of wide streets and in some areas, especially Abadan were restricted to a relatively private alley behind the house but with all of these, public dissatisfaction of Iranian workers about the discrimination of the oil company still continued and for example one of the requests of staff of Oil Company in great strike of 1946 in Abadan was related to housing (Lahaei Zadeh, 2006, 538) which leads to new decisions by the oil company to provide housing for workers.

![Figure 7](image-url)  
*Figure 7. Different between corporate housing and Abadan local housing (author)*
• Considering climate and natural factors: many years of experience in dealing with acute Khuzestan Province in the traditional houses was so perfect that British newcomers with their imported architectural form could not quickly adapt to it. But gradually over time with changes in the shape of building (porch around the building, connecting more buildings to each other), the use of new technologies (thermal insulation, false ceilings) and the use of natural elements (climatic use of trees and green space) could achieve the desired and up-to-date results. In Shushtar, the optimal building orientation was carefully considered but in Masjed Soleiman, however, we can see attention to the building's climate partly, development of desired site plan for designers could create different directions.

• Architectural design of houses: Although in general form of oil company houses, privacy has no place, but in the house plans, separation of public and private spaces have been fully respected. All spaces are completely separated from each other by walls and overall its architectural design was very rigid and with no flexibility of traditional houses.

• Residential architecture of Masjed Soleiman and Abadan Oil Company was a combination of locality and imports and the use of latest construction technology that made it very modern. Building materials were supplied from its place and materials such as cement and iron were imported from Great Britain. However, the prevailing façade of buildings was consistent to the area.

Conclusions
Residential architecture of Oil Company in Abadan and Masjed Soleiman was a kind of imported British architecture that with its development and in accordance with some regional features could have a specific identity in this city and other oil cities that its outcome with region and their relationship are given in the Table. The Corporate housing influenced by two factors: 1. New technologies and 2. Climate and natural elements (local materials and green space) has lost its importing state and adapted to Khuzestan region that finally has affected human and settlement in this area. Residents of Abadan and Masjed Soleiman with characteristics associated with them always remind the optimality of social and urban life in the region. It seems that it can be considered a step towards identity in regional architecture. However, it has been unable in cases such as the small number of stories and the low relativity of open to close space, streets empty of meaning and social life. In today architecture we can have a special focus on the flaws in construction of Abadan. Outcomes of this research and its application to various areas of the country can have a special look at underlying region with certain human and natural characteristics. Something that may direct experts to more comprehensive studies about the whole country, is change in the focused look and focusing more on the role of regional characteristics including the people in any region, shaping their living space and avoiding some ineffective methods similar to architecture and urbanism in the country.
### Table 1. Advantages of Oil Company housing and its relation with its region

<table>
<thead>
<tr>
<th>Relation between housing and residential texture</th>
<th>Compared to street: high width and decreased sense of closeness in space</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relation between passing and houses with optimum width of entry of cars of only a short passage and lattice fences with Boxwood</td>
</tr>
<tr>
<td></td>
<td>Neighborhood appearance: Regular because the yard of every home is visible in the discipline of yard and regular morphology</td>
</tr>
<tr>
<td>Considering climate and natural factors</td>
<td>Added porch to urban housing and more linking the walls of building which has adapted to the climate over time by increasing population.</td>
</tr>
<tr>
<td></td>
<td>The use of new technologies (thermal insulation and false ceilings)</td>
</tr>
<tr>
<td></td>
<td>The use of natural elements</td>
</tr>
<tr>
<td>Relation between open and close spaces</td>
<td>Different ratios between indoor and outdoor</td>
</tr>
<tr>
<td></td>
<td>The hierarchy in the building, large courtyard, entrance - building mass – backyard</td>
</tr>
<tr>
<td>Courtyard (boundary between interior and exterior)</td>
<td>Great atmosphere decorated by the trees, grasses and bushes</td>
</tr>
<tr>
<td>Materials and manufacturing technology</td>
<td>A combination of materials and imported materials and the use of latest technology</td>
</tr>
<tr>
<td>Architectural design of houses</td>
<td>Respect for privacy and resolution of internal performance spaces though in the form of public and private spaces although there is no privacy between the neighborhood and the house</td>
</tr>
</tbody>
</table>

### References

Ahmad Ashraf, (2005), Modern Architecture in Khuzestan, email Interview.


Ardalan, Nader, (2010), Modern Architecture in Khuzestan, email Interview.


