Abstract

The contribution of productive and cultural landscapes in Iranian urbanism practices has a long standing tradition. Historically, the triad between living, ritual and productive landscapes structured the traditional urbanism and used as a guideline for any development and urban practice in Iranian contexts. This is vividly mirrored by random and organic patterns of the Iranian cities in one hand and entangled networks of urban and agricultural landscapes in territorial scale on the other hand. In the late twentieth century, The Urban knowledge and perspectives towards sustainable development and territorial building immensely altered by the new stereotypical European models mostly focused on the city centers. As a consequence of this unbalanced expansion, the entangled relation of urban and agricultural areas faded away and new ecological and socio-economical dilemmas emerged. This paper takes Isfahan and Yazd regions situated in central Iranian plateau as case studies and kicks off by illustrating the spatial configuration of the traditional city in order to identify the historic knowledge and techniques as driving forces behind its development in local and regional scale. Later, it will try to critically highlight the contemporary efforts which have tried to address/disregard the relation of agricultural and urban landscapes for developing strategies and guidelines for the future sustainable development of Iranian contexts both in the city and territorial scale.

Introduction

Iran is a land of incredible natural prosperity, whose extraordinary range of cultures and ecologies is further expressed in the varied agricultural practices featured throughout its varying territory. The Iranian landscape is dominated by rugged mountain ranges that separate various basins or plateau from one another. These mountain ranges are stretched along the Northern and Western borders, the Caspian Sea on the north and the Persian Gulf to the south resulting in diverse ecological conditions. From great plains to massive highland plateaus, from deserts to rain forest, from marshlands to salt lakes, and from mountain forests to alpine pastures on mountain ranges each feature has its own beat and rhythm. The wide-ranging adaption of human activity to the natural characteristics is reflected by a vast cultural spectrum, with no fewer than forty two distinct languages being spoken, belonging to four major linguistic groups. The relation between agricultural practices and natural features has not only shaped living environments but has also embraced the economical, cultural and social activities of the country throughout history. As echoed by Mohsen Habibi the first urban node founded in Iran was based on three elements of ideology, economy and the environment. "In the Mad territory each one of ‘Shahr Tappeh’ is a ‘Shahr-maabad’ a ‘Shahr-ghodrat’ which is located in a spot where all environmental forces meet each other." (Habibi 2000)
This as a knowledge/reference for urban practices and decisions was maintained, evolved and promoted generation after generation and led to remarkable achievements by them throughout history.

These accomplishments as historic references on one hand and the country’s archeological and natural wealth on the other, absorbed many researchers and scholars’ attention to explore and document Iranian urbanism as far back as the seventeenth century (Olearius, 1647; Kaempfer, 1727; Texier, 1852;...). Unfortunately, many of these accounts are based on superficial assumptions and biased misinterpretations, approximating Iranian contexts with other Middle Eastern environments labeled as Islamic urbanism. Although the impact of Islam as a religious/cultural practice has had an evident influence on the shaping of planning ideology, design knowledges and on the configuration of cities, but it undoubtedly cannot be considered the cornerstone of every development assigned to Iranian vernacular urbanism.

The first part of this writing is the outcome of an exploration of historic and contemporary studies in order to highlight the elements contributing to framing the current biases and perceptions of Persian/Iranian urbanism, interpreted both as a set of knowledges and practices.

Later it will employ landscape urbanism discourses as a lens to morphologically read across contexts in order to reveal the effective role of productive landscapes in the development and creation of Iranian cities and underscore the ingredients of knowledge creation and dissemination followed by planners and local professionals throughout time. Here the term ‘landscape’ is conceptualized beyond its contemplative narrowed labels (green space, natural elements). It entitles the definition of J.B Jackson for landscape which defines the spatial (infrastructural, ecological) aspect of human activity (cultural, religious, economical,...) on earth. This essay is a modest effort to reclaim landscape urbanism as a knowledge having deep roots in Iranian architecture and planning and as such, an activity which has been practiced over millennia. Reclaiming it will have an immense impact in dealing with contemporary (urban) issues.

The illusion of a “Unique West” and Islamic interpretations

“A town was a settlement in which [a Muslim’s] religious duties and his social ideals could be completely fulfilled.”

Von Grunebaum, 1955

The concept of the Islamic city and the religious interpretation for describing the Iranian city emerged from the formulations of orientalists, a group of researchers and scholars researching the languages and religions of the Middle East (W.Said, 1979; Bonine, 1979; Kamali, 1998; Rizvi & Isendstadt, 2008). In the early years of the 20th century, intellectuals both in Europe and the Middle East turned to the idea of the ‘East’ in search of alternative modes of living. This interest was filtered through notions of racial and cultural superiority and the Middle Eastern contexts became the subject of oriental interpretations. As echoed by Edward Said colonial discourse was intrinsic to European self-understanding: it is through their conquest and their knowledge of foreign peoples and territories (two experiences which usually were intimately linked), that Europeans could position themselves as modern, as civilized, as superior, as developed and progressive vis-à-vis local populations that were none of that (W.Said, 1979). On the other hand, Islam and Islamic groups with different worldviews and interpretations of Islam have always been part of a modernization discourse in Iran. The great illusion of a ‘unique west’ has dominated social and architecture-related discussions for a long time, misleading many researchers who were investigating the difference between the ‘West and the rest’, more particularly the gap between the
imagined 'unique west' and the imagined 'Muslim world' (Kamali, 1998,2001,2006). Moreover the research for oil intensified the idea of a 'cohesive Middle East' held together by the increasing industrial thirst for sources of fuel. The image of Arab states unified by oceans of oil lying unseen beneath their soil emerged in the nineteenth century with the advent of a British controlled Anglo-Persian oil company in Iran. (Rizvi & Isendstadt,2008)

Akin to the mentioned intentions and interpretations, the interpretation of Islam was one of an all-encompassing value system embracing both the social and physical morphology of settlements in the so-called 'Muslim world' including Iranian cities. In other words the city summarize as a by-product of Islamic faith, which could be understood only by understanding Islam. In their view, everyday practice of religion was considered as an urban activity governing the social and spatial configuration of the city. In his descriptive reading of Iranian urban history Mohsen Habibi's places religion as a subcategory of Ideology, running parallel to other cultural and social elements which has been practiced in Iran sixteen centuries before Islam, (Habibi,2000).This aspect can also be observed in early urbanistic practices in South and Southern Asia. Shannon and Manawadu in an investigation of the roots of urbanism in Sri Lanka reveal a remarkable relation of reflective (Religious), productive (agricultural) and technological (flood/drought control engineering) landscapes as the main driving force behind indigenous urbanism practices.

Orientalist points of view concerning Iranian cities characterize them main features of a typical 'traditional middle eastern Islamic city ' as an environment which is spatially structured by the four elements of the mosque, the royal palace, the Bazaaar and other institutions or a combination of these (Von Grunebaum, 1955;Planhol, 1959; Dettman, 1969; Anschilt, 1967, Ehlers & Floor, 1979;...). In this perspective, the relation between these elements has framed the structure of the traditional city and their variation defines different typologies for the settlements [fig.1].This also has become the basis and reference for further research about the more recent and contemporary transformation of the Iranian context. For instance Ehlers and Floor in their research about urban change in Iran based their assumption about pre 1920 Iranian cities in the following way:

“ … Characteristics [of a typical Iranian city] included the central position of the Friday mosque, The Bazaar, Public baths and other institutions, located mostly very center of the city. Surrounding these public structures were the residential areas, concentrically ethnic separation. Arranged, divided into quarters and often distinguished by ethnic separation. The winding narrow alleys often linked up with the bazaar on one hand and ended in cul-de-sacs on the other” (Ehlers & Floor,1979).

![Fig 1: Typical model of Islamic city associated to the Iranian cities Source: Eckart EHLLERS and Willem FLOOR, Urban Change in Iran, 1920-1941](image)

The feature of ‘winding alleys’ described by Ehler and Floor relates to the first and the most evident characteristic associated with Islamic cities (Von Grunebaum, 1955;Planhol, 1959; Scharlau 1960; ...). The typical Islamic (and Iranian city) is often
described as a maze of twisting and narrow pathways, a disordered array of dark streets and blind alleys or as a “labyrinth of twisting alleys and cul-de-sacs” (Ehlers and Floor, 1979). This has been associated with most Middle Eastern contexts and cities with a systematic pattern are identified as exceptions. Although this assumption partially applies to some contexts in Iran (for example the cities of Kerman, Semnan and Hamedan), it undoubtedly cannot be considered the principal driving force behind the development of Iranian environments. In his influential article titled “The Morphogenesis of Iranian Cities”, Michel Bonine affirms that in Iran and particularly in the central plateau this commonly accepted description of the Middle Eastern urban environment has been misinterpreted. In Yazd a consistently defined pattern is evident at a closer inspection, and the overall grid can be easily identified amongst the main perpendicular branches (Bonine, 1979). In fact several Iranian cities feature a geometric and orthogonal pattern rather than an irregular and organic pattern forming the urban structure, in turn integrated with the irrigation network and related agricultural activities. [Fig.2]

The other aspect deriving from the interpretation of Iranian cities as based on the Islamic model concerns settlement orientation. Donald Wilber postulated that two factors influenced the orientation of Iranian cities in medieval times, namely a major artery running between the palace and the Friday mosque, and the “necessity of turning the mosque so that the ‘qibla’ wall would be in the direction of Mecca.” Iranian mosques are rectangular with open courtyards and the ‘qibla’ wall must be to the south-west, in the direction of Mecca Streets often parallel the mosque and the grid system might have developed from an extension of streets around a mosque-oriented perpendicular to and toward the southwest. Even in cities founded in pre-Islamic times, when Mosques were later established, the same principle might apply to nearby, newly established quarters” (Wilber 1974). Bonine’s sophisticated studies about the orientation of Iranian cities reveal that traditional linear streets of these contexts have limited correspondence when compared with the direction to Mecca (Bonine, 1979). 

Fig 2: Yazd contemporary and historic pattern. [(Re) drawing Source: Michael E. Bonine, “THE MORPHOGENESIS OF IRANIAN CITIES”].

One of the other biased interpretations of traditional urbanism related to orientation is the articulation of settlements in rows of streets with respect to the climatic conditions of the context. As described by Shetalov7 Yazd, located in the central plateau has long linear streets because every house was aligned in one direction to maximize

6 ‘qibla’ technically refers only to the direction of Mecca. However, the term also is used for the wall of the mosque which has the mihrab. See “kibla,” The Encyclopaedia of Islam, 1st edition, Vols. 2 and 3
7 Doctor, N. Shetalov astute Russian, lived in Yazd in 1898-9 and wrote several notes about the city.
seasonal usage. Dwelling environments usually are composed of single-story structures implemented around an open courtyard and certain sections seasonally accommodate the inhabitants. Enclosed rooms are used in the winter while the open vault is used in the summer and the warm seasons [fig.3]. The underground basement shelters the family from the extreme temperature of summer afternoons. In order to gain maximum benefit from the energy deriving from solar exposure, the enclosed sections of the house are located on the Northern side while the ‘Iwan’ is found along the shaded south wall. The sequence articulated by the repetition of this typology dictated the linear orientation of the city’s pattern. Bonine argues that although the climatic influence on the internal structures of the Iranian houses has not been fully determined, climate cannot have been so crucial in creating geometric street plans. The observation of two different samples in the city of Yazd testifies the fact that the streets may determine residential patterns and not the reverse [fig.4]. In other words, the climatic considerations are used for infill fabric along a specific trajectory, but do not determine the direction of the main arteries within the urban configuration. However, this interpretation has deep roots in Iranian planning policy, still followed to regulate settlement construction.

Needless to say, the inextricable relation of the people with their living space and to the cultural and religious landscapes has had an immense impact in framing mindsets and influencing the planning and construction of urban environments but it definitely cannot be considered as the only indicator of urbanistic practices. Nevertheless, this paper is by no means an effort to disregard the contribution of religious factors to the configuration of the Iranian environment, but it rather hopes to underscore the other components of vernacular urbanism, which can clarify the specificity of Iranian contexts vis-à-vis the rigid idea of a ‘fully-fledged’ typical Muslim town. Following Habibi’s terminology and the notion of ‘productive landscape’ as employed by Shannon and Manawadu, the paper hopes to contextually illustrate the inherent dependency between indigenous agricultural activities, irrigation interventions and urbanization.

Landscape urbanism as an indigenous knowledge

The contribution of productive landscapes has had an immense influence on the creation and expansion of many urban environments both at the local and the territorial scale. In fact landscape urbanism as a discourse is not yet fifty years old but the practice of it as an indigenous knowledge has a long-standing tradition. As one of the pioneers in irrigation technology and water management, Iran has seen such practices occur many centuries well before the emergence of Islam. These

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8 Iwan is defined as a vaulted hall or space, walled on three sides, with one end entirely open.

9 The first engineering invention of water management and irrigation technology was “Qanats”. The precise dating of qanats is difficult, unless their construction was accompanied by documentation or, occasionally, by inscriptions. Most of the evidence we have for the age of qanats is circumstantial; a result of their association with the ceramics or ruins of ancient sites whose chronologies have been established through archeological investigation, or the qanat technology being introduced long ago by people whose temporal pattern of diffusion is...
interventions were mainly employed as survival tactics and adaptation to the harsh climatic rhythms and to consequently provide maximum use and optimal management of natural resources.

From the highly engineered ‘Qanats’ (aquifers) within the alluvial fans of the central plateau and on the foothills of the north western heights to the extensive river water management and water channels of Isfahan, each technique resulted in different spatial and cultural configuration of urban and rural environments.

In the most deserted central parts of Iran a coherent relation of urban and rural areas can be observed. For instance, if one is to look at Yazd at a regional scale, it is the invention of ‘Qanat’, which not only promised their survival but organized a complex interaction of cultural and economical flows across the region [fig5]. As referred by Spooner, “historical patterns of settlement on the plateau, as they are presently represented, would by and large not have been possible without ‘Qanats’.

Although dry farming, riverine, spring and even well irrigation may be important in some localities, ‘Qanat’ irrigation is with very few exceptions of paramount importance throughout the country.” (Spooner ,1974)

In Yazd, the irrigation system is significantly organizing the mobility and infrastructure networks of the cities’ patterns. The extensive underground ‘Qanat’ system has evidently structured the street and alley network with respect to the topography. Many of the aquifers flow to cultivated lands and orchards around the city or to villages at a greater distance and located downhill. The direction of these ‘Qanats’ within the basin usually follows the same orientation as the main arteries of the city, both intimately related with topography and tied to the logics of landscape. The street network is comprised of linear passages oriented toward or perpendicular to the main slope and perfectly aligned with the water channels.

known. Written records leave little doubt that ancient Iran (Persia) was the birthplace of the qanat. As early as the 7th century BC, the Assyrian king Sargon II reported that during a campaign in Persia he had found an underground system for tapping water. His son, King Sennacherib, applied the “secret” of using underground conduits in building an irrigation system around Nineveh.


10 ‘Qanats’ were aquifers constructed as a series of well-like vertical shafts, connected by gently sloping tunnels. They tapped into subterranean water in a manner that efficiently delivers large quantities of water to the surface without need for pumping.
Looking at one of the smaller towns located in the Yazd region as a part of this consistent landscape network, ‘Mehriz’ reveals a significant relationship between infrastructure, water channels, and walled fields; all are oriented in the same direction. The major streets have irrigation channels while smaller passageways provide entry to the walled plots. Wider streets are associated with the main channels and smaller lanes follow the secondary branches. Hence, a grid network of irrigation channels and streets exists to reach a quadrangular field system or else such plots are designed to conform to an orthogonal irrigation distribution. It appears, then, that the rectangular, irrigated walled fields are organizing street patterns perfectly. In spite of not being able to identify the exact rationale for the field system, the important fact is that channels and fields are orthogonal and they are oriented in the direction of greatest slope [fig.6].

The hierarchy of infrastructure in terms of length and width is carefully organized with respect to the water distribution policies. The main irrigation ditches and branch channels are associated with streets or alleyways because the ditch needed to be accessible to the person in charge of diverting water to channels and fields [Fig.7]. Particularly among walled fields and orchards the straight public water channels and passages are advantageous for keeping a watch on the channels and preventing any theft of water. The Yazd region is an extreme example of ‘Qanat’ development providing for large populations of high density in localities where settled agriculture would otherwise be scarcely feasible. This strongly stands against the smaller scope of religiously driven perspectives on the formation of Iranian cities; it also campaigns for extensive research at a regional scale, which allows one to comprehend the landscape network within its wider implications.
The engineering techniques for irrigation in Iran were not only used as means of survival, but were also employed for the development and expansion across territories. The 17th century intervention of the Safavid dynasty in Isfahan strongly testifies this argument. An ancient and picturesque city, rich in history, Isfahan has long been known for its splendid historical buildings and sites. Among the Iranian cities, Isfahan holds an extremely distinguished place, originating in its emergence during the Sassanid period before the birth of Islam. The urban development to the south of old city, was the most important planned city in Iran which led to its glory and maintained it for many centuries after. This triggered many Iranian and European architects, researchers and scholars to write about Isfahan when it has become a benchmark for Persian architecture and planning schools.

After picking Isfahan as his capital The King’ Shah Abbas I ‘and his first consultant’ Sheikh Bahayi’ designed a master plan for the city’s development. This plan followed a monumental scale from the south of the old city center and skillfully welded the new palatial and its series of gardens and bazaars with the ‘Zayandeh rood’ River. The orthogonal intersections of the ‘Charbagh ave’ and the river created ‘Charbagh’ (four gardens) operating at the scale of the city, and moreover producing a synthesis between Persian and Islamic concepts of paradise, Turkic nomadic traditions of ritual and social uses of gardens, and the principle of the royal capital city [Fig8]. From that point onwards in the history of Persia Isfahan has earned its most glorious appellations such as ‘Paradise’, ‘Half of the world’ and ‘Face of seven Spheres’ and such new image of the city was illustrated in many paintings. Undoubtedly the city’s new royal, religious and political identity stems from the strategic utilization of the river as a

11 Isfahan City located about 340 km south of Tehran and is the capital of Isfahan Province and Iran’s third largest city. The city has a population of almost 1.600.000 people. It is Situated in the central part of Iranian Plateau at the eastern foothills of Zagros mountains and lush plain of the Zayandeh (Birth giving river) River. Heading north with a slight deviation to the west it goes towards foothills of the Alborz mountain range and Tehran. The eastern boundary of the city almost touches the Great Kavir and Gav khooni marshlands several minor basins with infrequent desert stretches.

12 The first dynamic development of Isfahan started in sixth century B.C. in the southern neighborhood of Yahoudiah and in a village called Kushinan, As settlements began to develop around this new nucleus, the first real center of the town called Isfahan emerged at the juncture of the new and old settlements. [Fig17] The city of Isfahan has been in constant evolution for more than 2000 years till now. Each time a new nucleus was born in response to new demands and rose in the vicinity of the old center and gradually developed. Isfahan has experienced two major transformations till now. The first major change occurred in the late 16th century when the Safavie dynasty took control of Persia.
strong east-west axis, counter-balancing the imperial Northwest axis. The skillfully
designed circulation of flows from the Bazaar and the delicate dialogue between the
built infrastructures testifies the richness of landscape urbanism in shaping identity
and forming the spatial structures of the city.

“ The formation of Safavid dynasty followed by ‘Maktab Isfahan’ in urbanism can
be compared with the reinforcement of central Europe after the Renaissance and
the creation of Baroque in 18th century. When intellectuals and innovators are still
struggling to structure their medieval towns and building their ‘Ideal-City’, ‘Maktabe
Isfahan’ has built its ideal model and depicts a sharp and clear portrait of what exists
and what is appropriate.” (Habibi, 1996)

However, there is much to be found in numerous books and writings about this plan
with respect to Islam and its relation to traditional Iranian concepts of urbanism. A
closer inspection of such descriptions makes apparent the scarcity of documentation
about the ingenious integration of the city plan with the extensive irrigation system and
the river, a network rooted in a million years of practice and expertise in pre-Islamic
irrigation systems. Even in the few references from agricultural or geographic fields,
none of them place emphasis on the intense relation of the irrigation technology to the
configuration of the city structure. What is evident from the plans and areal pictures
is the skillful integration of the organic geometry dictated by the water channels and
lining the agricultural plots with the imperial capital city center. This network, known as
‘Bahaee Toomar’ (scroll) designed for water transfer traverses Isfahan and its suburbs
from Zayanderood onwards [Fig9]. These irrigation channels named ‘Madi‘ had major
impacts in water management and transfer to agricultural fields and to the gardens
of Isfahan. ‘Madis’ were a dendritic irrigation system that branched from the river
and supported the production of cultivated lands and royal gardens. The successful
integration of nature and the human environment propelled the expansion of Isfahan
at the regional and global levels and made the city the symbol of the rise of Safavid
Iran. In this respect Spooner’s words efficiently reflect such features: “The agriculture
on the plain of Isfahan was intensified to the degree of “involution” comparable to the
classic case of Java under the Dutch empire described by Geertz in order to support
this population and the imperial system.” (Spooner, 1974)

13 “Madi’ s were dendritic irrigations systems branched from the river to agricultural plots and royal
gardens. MADIs are essential in agricultural, Industrial and urban development in Isfahan. Based on the reports
from Isfahan Regional Organization of Water Resources (Isfahan Water Administration 1993), the MADIs provide
91% of agricultural, 4% of industrial and 5% of urban water requirements. there are seventy seven MADIs branched
from left side (north) of Zayanderood river while there are only seventy one MADIs branched from right side
(sough).[ Sattari et al., 2003].
Modernism and the downfall of Landscape Urbanism

The disappearance of landscape urbanism in Iran can be registered as early as the eighteenth century, more precisely when akin to the formation of the ‘Ghaja’r ’ dynasty in 1786 the country entered a new period of world history, a moment commenced with the French revolution in 1789. The evolution of imperialism placed the city as its center of influence and made the European city a model to be followed time and time again, regardless of context-specific features. The formation of the ‘Ghajar’ Dynasty would travel hand in hand with the dramatic transformations of the social, economical and cultural configuration of Europe, marking a new order and organization in the centennial urbanistic practices defined for the Iranian context through time (Habibi;2005). This is when the Ghajarian king will strive to establish his government based on production by a united social working system, failing to do so due to the direct and indirect influence of 19th century powers spearheading globalization. This trend continued seamlessly but started from the provision of large loans14 to Iran and receiving long term concessions in return15 (Blair Brysac,2007).

The search for oil in the second half of the nineteenth century reinforced Britain’s influence on the institutional structure of the Iranian government. For British companies cities never had a specific identity or unitary character, but were rather treated as an ubiquitous ‘native city’ within colonial imagination. On the other side, for Iranians oil seemed to define the country’s future: “It was the blood of the earth and the means to catapult people into the twentieth century”(M and R Farman farmaiyan ,1999) . Many planning decisions steered the development of cities situated in the proximity of oil wells (for example Abadan,Islam shahr, Isfahan,…) entailing the provision of housing foreboders and for British engineers and employers. These cities did not show any consideration for traditional urbanism and its embededness with irrigation systems and productive landscapes. The traditional water management was transformed into to the excavation and distribution of oil, fostering a completely different representation of the Iranian city. Although having a totally different environment, the new oil city model resembled the central plateau city in a sense that both of them established and developed in a deserted and infertile area. One prospered thanks to the ‘Qanats’ and irrigation channels, the other by oil wells, refineries and pipelines. Less than a century later oil cities appeared as a collection of urban forms gathered around oil refineries, an ever expanding industrial zone of tank farms, distillation units, electrical pylons and cracking plants (Crimson, 2003).

On the other hand, the integration of Iran in the global market and new industrial economy diminished the role of local production and market. This aspect, proceeding hand in hand with the newly defined land tenure policies, the substitution of agricultural production economy with the importation of raw materials and manufactured goods diminished the role of agriculture in the social and spatial configuration of the city. Therefore unlike the “Isfahan canon” which was fostered by an entangled relation of the urban and suburban environments, the contemporary Iranian city represents itself in contradiction with the village. This was reinforced by the introduction of the oil economy, sealing the demise of landscape urbanism in Iran.

By the late 19th century, Iran was looking more and more toward the West, and in 1873 ‘Nasserreddin Shah’ became the first Persian monarch to visit Europe. Although still a very traditional Iranian, major cities (Tehran,Isfahan,Tabriz) began to sport a ‘European veneer’in such new structures as a theatre that resembled Victoria and Albert Hall in London and the city’s first public clock tower, reminiscent of Big Ben(Ethlers and

14 Naser o-Din Shah, 1848 – 1896 contracted huge foreign loans to finance expensive personal trips to Europe. He was not able to prevent Britain and Russia from encroaching into regions of traditional Iranian influence. In 1856 Britain prevented Iran from reasserting control over Herat, which had been part of Iran in Safavid times but had been under non-Iranian rule since the mid-18th century.

15 In 1901 William Knox D’Arcy, a millionaire London socialite, negotiated an oil concession with the Shah Mozzafar al-Din Shah Qajar of Persia. He assumed exclusive rights to prospect for oil for 60 years in a vast tract of territory including most of Iran. In exchange the Shah received £20,000, an equal amount in shares of D’Arcy’s company, and a promise of 16% of future profits(Kinzer,2003)
Floor 1993:254). However, the strong contribution of tradition revived and defined by ‘Isfahan cannon’, represents a thoughtful integration of vernacular knowledge in designing the new cities and public buildings in Tehran as the new capital. (Habibi, 2000)

Iran remained thus a land in chaos, a playground for the Russian and British empires with the domination of the Pahlavi dynasty; the country was literally opened up to the West. In fact, for most of the twentieth century before the revolution, the history of Iran coincided with the story of two Pahlavi Shahs and their attempts, often in the face of foreign interference and domestic religious opposition, to turn Iran into a progressive modern state before its oil ran out. The advent of ‘Reza khan’ in Iran brought new modes of judicial and educational reforms and deregulations mostly borrowed by European models, in an effort to forge homogeneous and native identities. The modernization and unification was much embraced by the country leaders as it was imposed by European power and ideology (Eisenstaedt and Rizvi, 2008).

The new government established through a military coup, and alternating the traditional organization of living and production with the concept of “Nuance”, has placed city transformation as its first objective (Habibi, 1996). The city is realized as a manifesto of the disconnection with the ancient eras, a symbol of ‘progress’ and ‘development’. In respect to this idea different measures took place for the creation and development of cities. They included the policy of modernization of the urban system, approval of urban planning laws, construction of streets, squares and freeways, political, social and cultural changes, implementation of national development plans, the role of oil revenues in the national economy, the consequences of the land reforms, the deterioration of the agriculture sector, the industrialization of the country, the expansion of roads and railways, the establishment of development poles, land transactions and building constructions.

Industrialization as the government’s major development policy, offered new job opportunities for under-employed male and female laborers. The industrial growth centers such as Tehran, Isfahan and some new Caspian towns, offered employment to thousands of industrial workers. Consequently, the urban boundaries situated along either highways or railroads became, at the same time, the preferred locations for new industrial enterprises and work-shops [Fig10]. British industrialization policy, although focused on a few cities and sectors of industrial activity, had a profound influence on urban development. It created the rudiments of an industrial working class, which marks the beginning of the modern Perso-Islamic class structure and massive rural-urban migration.

Fig 10: Industrial concentration and the railway.

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16 In order to stabilize their situation on Iran industry and to control over the nationalism movements, British commissioned three military Generals and a team stabilize the situation and seek for a new figure that can apply their strategies in Iran [Baussani 2000:49]. The head of this team was general Edmond Iron side which with assistance of Reza khan arranged a military coup which led Qajar dynasty fall and with putting the Reza shah on power, Pahlavi reign established. This was the launch point that European colonizers could directly dictate their speculations on the hinterland.

17 Around 1925, approximately 2.47 million Iranians lived in cities, 9.3 million in rural areas. While by 1934 the total population had risen to 13.3 million, the percentages remained unchanged, indicating that there had been no significant net rural-urban migration.
Industrialization policies went hand in hand with several regulations such as the ‘open gates‘ policy, concerning the freedom of foreign investment in 1953, which guaranteed the downfall of production industry that relied mainly on agriculture and similarly provided a suitable platform for the shrinkage of the rural system. The chaos originated from the 1963 ‘White revolution‘ can be recognized as the last blow to the old age agricultural industry followed by massive rural-urban migration. Isfahan as the second largest city of Iran, known for its central location and abundance of water and natural resources, became the second largest industrial pole of the country. With the assistance of German architects a new industrial suburb was built in the south of the Zāyandarud. The expansion of the textile industry grew so successfully that Isfahan became known as the Manchester of Persia. By 1941 there were at least ten large textile mills employing some 11,000 workers, a sizeable proportion in a city of 210,000 inhabitants. Many wage earners worked in modern factories making paper, matches, cigarettes, and boots, a hosiery, an electric plant, and a grain silo (Floor, p. 59). The population of Isfahan which certainly had not exceeded 50,000 residents in the early 20th century, doubled up to 100,000 in the 1930s, 254,000 according to the census in 1956, then 661,000 in 1976 and 1,266,000 in 1996. The streets began to witness rush hours filled with bicycles thrice a day, shortly before and after the simultaneous sound of a dozen factory sirens announcing the change of shift—the fixed rhythm Isfahan followed for most of the twentieth century. (Borjian, 2007)

The ongoing migration trend toward cities concomitant with the injection of oil dollars into the internal market provoked many to invest on real estate in suburbs and at the edges of the industrial cities. The formation of small towns around metropolitan cities (especially Tehran) increased the land price. As a result an immense surface of agricultural areas was converted to residential quarters or flattened and bulldozed awaiting further development. Productive landscapes alternated with deserted quarters crossed by a few of main infrastructures and vacant plots framed the typical landscape of industrial city’s outskirts. Subsequently, through the application of the ‘freedom of land— use changes in the outskirts of cities in 1976 this trend has officially continued to date.

With the policy of road expansion, infrastructure did not function as a complementary spine to the old city structure but represented an individual dominating edge. In other words a shift occurred in the city from social, cultural and mental boundaries to economic, political and contemplative ones (Habibi, 1996). The implementation of road construction as a means of progress mirrored the first sign of the Haussmannian model cultivated by European theorists of 1920. Infrastructure as one of the main elements of the urban landscape presented a new artificial manifestation applicable to any context. The grid as an indicator of such approach was fully executed out of a sense of symmetry rather than towards any other specific purpose. Although impacts of these interventions were dramatic in larger urban nodes, they became much more apparent in smaller cities. In Yazd a major road cut through the historic center and agricultural plots in the immediate proximity of the city.

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18 The White Revolution was a far-reaching series of reforms in Iran launched in 1963 by the Shah Mohammad Reza Pahlavi. Muhammad Reza Shah’s reform program was built especially to strengthen those classes that supported the traditional system. The White Revolution consisted of 19 elements that were introduced over a period of 15 years, with the first 6 introduced in 1963 and put to a national referendum on January 26, 1963. Among them Land Reforms Program and Abolishing Feudalism, Nationalization of Forests and Pasturelands immensely influenced agricultural production system.
Isfahan, like any other Iranian city, has also been the subject of a major program of road building and physical reshaping in that period (1920, 1941, 1962, 1968). Followed by these radical initiations, two comprehensive plans for the city have changed Isfahan considerably (1940, 1968). After the first program of road building in Isfahan, a comprehensive plan was produced by French architect E.E. Beaudouin\(^{19}\), in collaboration with Organic Consultants, an Iranian architectural and planning firm [Fig. 11]). A rectangular grid of roads designed for cars has been superimposed on the city without slightest regard to the historic evolution and older patterns of growth. For someone unfamiliar with Isfahan, there is no way to understand anything about the character of the city before this master plan (Karimi & Motamed, 2004). With respect to the impact of this planning document numerous investigations had emphasized the historic fabric, heritage and the city structure, whereas the dramatic consequences of such radical decisions on agricultural and the ecological system of the city remain unsaid. The superimposition of the new grid on the organic pattern effectively threatened the organic structure of the city and represented an important perturbation for ecological rhythms. Recent research proves that about %35 of Isfahan MADIs have been destroyed, a result which leads to a significant reduction in agricultural water resources (Karimi & Delavar, 2006). This not only had an adverse effect on the urban economy - especially in the agricultural sector\(^{20}\) (Yavari, 1980) but it also has doubled the risk of Zayanderood River overflowing.

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\(^{19}\) E.E. Beaudouin: A French architect and planner who had studied Isfahan as a Roman Scholar and published a special issue of Urbanism (no. 10) on Isfahan

\(^{20}\) After implementation of the master plan damages to cultivated areas reported as around 42%. (Yavari, 1980)
Conclusion

The story of master planning in Isfahan has continued till now. The inability of the master plan to function as an effective development calls for its frequent revision. The most recent proposal was the plan prepared by Naghshe-Jahan-Pars Consultants in 1984, working therefore in a very different environment when compare to the years of the first modernist master plan. Although the latter suffered from a developmental approach, the issues addressed and the terms of reference set forth represented a big push for changing the perspectives of Iranian urbanism. The main objective of the new plan was to revitalize the historic organs of the city and to sustain and improve the ecological and biological processes of the environment. The project also tried to expand the irrigation system partially destroyed by the French master plan and turn the abandoned textile industries to residential use. Although the master plan was never implemented, with an optimistic viewpoint its implementation can be relaunched or at least can serve as a case in point to study, analyze and design with a different perspective [Fig 12].

The planning and design policies in Iran experienced major alternations and transformations after the Islamic revolution. The major objectives of the new towns after and as one of the strategies of urban development is to absorb the overflow population of large cities, to offer housing to low income groups, to prevent population growth and the atomic enlargement of cities, to decentralize population and industries, and to accommodate workers employed in the industrial sector close to the industrial poles. These tenets are mostly are based on radical planning models or clones of a western model (Micarelli, 2008). In present day planning, practices and designs, landscape is often not part of the scene and its role is narrowed down to its aesthetic and symbolic meaning and ‘productive capacities are agglomerations at an unprecedented speed and scale’. (Shannon, 2004). Planning, zoning, bulldozing, clearing, refining and eventually greening are the repetitive procedures applied to any context regardless of the needs of contemporary society. Highways, underpasses, flyovers and metro lines are running over the old and new city fabrics slicing the landscape leaving behind a series of meaningless leftovers greened by municipalities and maintained by a considerable amount of budget.

The dramatic failure21 of seventeen new developed towns in Iran (Ziari & Gharakhhlou, 2009) as an experience accompanied with serious water and natural sources shortage, environmental and ecological problems calls for a new organization of practice and knowledge. The perception that modernism is still capable of envisioning the future and providing a sustainable new city has encapsulated the fluid and intermittent nature of spatial and temporal structures of today’s country. While we are willingly celebrating our new modern interventions and proudly stand for it in the name of progress, many landscape urbanism scholars are trying to underscore its inflexibility and rigidity and to generate new impulses for the provision of more adaptive strategies capable of addressing the uncertain, complex and ephemeral issues of the city (Mostafavi; 2003; Hight, 2003; Shannon, 2004,…).

The multiplicity of recent approaches, researches and practices in landscape urbanism discourse has opened up a new horizon for many planners and architects to test the contemporary issues of the post modern context by relying on landscape urbanism. Many South Asian cities are trying to develop their landscape image in parallel with city development (Shannon, 2004). From abandoned railways and highways to highly polluted post industrial sites in United States, from the problematic expansion of Paris to the huge abandoned industrial fields of Germany and from the highly flooding vulnerable lands of Spain, to the highly fragmented territories of Italy each represent a successful experiment of landscape urbanism.

Beneath this renewed interest in landscape urbanism lies an implicit promise that ‘bringing back’ the planning and design practices of urbanism and into contact with landscape will open up new terrains of knowledge and possibilities in order to tackle

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21 the new town have generally failed to achieve the 10-year envisaged goals and have converted into housing warehouses. At present these 17 new towns has been able to attract only320548 persons while the three new towns of Ramin, Ramshahr, Tis, have not yet been successful to attract population.
the contemporary challenges of the Iranian cities.

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