

## **Desert Utopia: The Hidden Unity of Iranian Architecture Conceptualization behind the Making of a Documentary Film**

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### **NARRATIVE**

*Desert Utopia* will examine the history of architecture in three desert cities in Iran, exploring unique aspects of the built environment that enabled people to flourish in one of the world's harshest climates. Although the film will focus on the history of Iranian desert architecture spanning thousands of years, this project is nevertheless timely for today's American audiences. Due to concerns about global environmental change, sustainable building techniques have emerged as a topic of increasing interest over the past two decades. This interest encompasses themes such as the use of local building materials, creative ways to minimize water use (and water waste), and ways to reduce the amount of energy spent on heating and cooling. Furthermore, the geopolitics of the last two decades also have piqued Americans' curiosity about the Middle East, especially Iran, but for many people, their knowledge about this part of the world is spotty or even misinformed. *Desert Utopia* is therefore a film that comes at the right time: It will help satisfy Americans' curiosity about environmentally sound architecture while filling some of the gaps in their knowledge about Iranian culture and history. However, *Desert Utopia* is more than simply a film about sustainable architecture in Iranian history. It will draw on a broad humanities base, enriching the viewing experience with layers of meaning gleaned from the perspectives of ethnography, religious studies, classics, and archaeology as well as architecture, art, and history. Moreover, the superb humanities advisory team assembled for *Desert Utopia* possess stellar qualifications and a great deal of enthusiasm for the project.

Central Iran has limited water supplies, a dry desert climate, and large variations in temperature from day to night. Yet for many centuries, its vernacular architecture has harnessed local resources and ingenious technologies to provide functional and comfortable spaces for its people's everyday activities. For this reason, these ancient architectural techniques are highly relevant in today's world. This study of Iranian architecture will provide the American public with information about the history of one of the world's most ancient cultures through the engaging filters of art, design, mathematics, structural invention, philosophy, and human behavior. This context will provide an opportunity for audiences to learn about Iran in ways that most Americans do not typically have access to or opportunities to consider.

One of the challenges for any documentary on architecture is to engage national audiences with culturally significant stories, to build the film using elements that engage and enthrall the average viewer. In this vein, *Desert Utopia* will explore the following elements.

### **Historical Narratives**

Each building has a vivid story associated with it, whether the life of the man who commissioned it or the narrative of the building itself over time. These character-driven stories of kings and conquest, of civilizations rising and falling, inform the buildings themselves and will provide important building blocks in the program's dramatic structure and momentum.

## Life Today

Buildings are not only historical relics; they are also vital to the human life surrounding them. Wherever we explore historical architecture, will also include footage of modern people living and working nearby, in the deserts and urban environments in which the structures still thrive. The social and geographic context of each place today will help bring to life its contemporary relevance.

## Ethnography

Timeless ethnographic footage—camels in the deep-sand deserts Southern Iran, children herding goats in a mud-walled oasis village, women drawing water at a well—will help set a tone and allow the audience to move backward in time when the narrative requires it.

## PROGRAM SYNOPSIS:

*Desert Utopia* focuses on a unique culture that, over centuries, developed distinctive architectural forms of great beauty and utility that were able to confront the harsh challenges of the desert environment of Iran. The vast area of Iran includes a number of desert areas, including the Dasht-e Kavir desert, with some 30,000 square miles of territory lying in the north-central portion of the country within the middle of the Iranian plateau, and the Dasht-e Lut desert, whose 20,000 square miles of territory is one of the driest places on Earth. The desert areas also include the Kavir National Park, with an area of some 1,500 square miles that lies at the western end of the Dasht-e Kavir and the Maranjab deserts. *Desert Utopia*'s footage will be shot on location at the southern edge of the Iranian high plateau in three cities: Yazd, Kerman, and Kashan. These three sites have different characteristics, and each one will play a distinct and important role in the film. Collectively, these dry and semi-dry desert areas amount to approximately 80 percent of Iran's total landscape.

*Desert Utopia* will show how architecture contributed to the long-term survival of people living in one of the world's most punitive climates. Relevant to modern environmental concerns, this film will illustrate the architectural forms of a culture of desert-living people in Iran who were among the earliest groups to create a sustainable living condition. But the film will also consider and illustrate the unique aesthetic aspects that arose from the diverse influences on this architecture's development. Thus, while the film will investigate the physical features of this distinctive architecture, it will also explore the relationship of the human spirit to desert architecture.

The intent of this film is to explore Iranian traditional architecture visually and intellectually in a manner that illustrates how its interior and exterior aspects are rooted in the dualities of its forms and functions. Exploring this specific vernacular architecture in Iran will both inform our understanding of sustainability and contribute to our knowledge about local and global issues in architecture and urban living, which in turn are pertinent to human sustainability, multi-culturalism, geo-political forces, and architectural meaning. Given the mounting evidence for and public awareness of climatic change, this film comes at a fortuitous moment.

*Desert Utopia* will focus its visual attention particularly on the dualistic aspects of the physical and spiritual characteristics of desert architecture by contrasting the meaning of the structural features and their relationships to the concept of space. By focusing on the history of desert architecture, the project team will carry out an in-depth study that encourages the American public to engage with leading scholars of Iranian architecture (including scholars of history and culture) in a way that reaches far beyond commonly held stereotypes, misinformation, and accidental or intentional prevarications. The goal is to raise awareness and create conversations about Iran that do not typically take place among American viewers.

This project's collaborative nature will be crucial to its success. During both the script development and the production phase, the film will receive continual intellectual and academic input from a professional media team and a group of well-known humanities advisors, including scholars, architects, professional cinematographers, computer graphic designers, and highly skilled technical assistants from both the United States and Iran. Robert Gardner, an award-winning and internationally prominent director of documentary films, has been selected to direct this project. With a background that includes work in Iran, he has a unique combination of experience and skills that will be of utmost importance for this documentary's success. He has produced and directed numerous films exploring the subjects of Middle Eastern history, art, and culture, including the three-hour PBS series *Empire of Faith* (partially filmed in Iranian desert) for PBS, as well as the *Mirror of the Invisible World* (2012), a 90-minute PBS documentary filmed in nine countries and narrated by Academy Award winning actress Susan Sarandon. This film examines art and architecture across the Middle East and features many of the sites in Iran.

The project's development is also supported by Prof. Khosrow Bozorgi's extensive prior work, which includes research undertaken in Iran in 2014. During this research trip, he visited each of the film locations and studied the desert landscape architecture, producing more than 250 gigabytes of video clips and thousands of still images. Bozorgi has also conducted many preliminary interviews and collected numerous essential Iranian books and maps.

The *Desert Utopia* team has been assembled with an eye toward providing a unique and well-informed gaze into the long and spectacular history of the region's most significant architecture. In this way, the project will provide an experience that is both accessible and educational for the American public. Viewers of this film will gain an appreciation for the history and culture of the Iranian built environment that evolved across the centuries. In addition, the film will raise awareness regarding Iranian culture and the creative choices that addressed crucial survival concerns in Iran's extreme-weather environments. Through this humanities-based study, audiences will gain an understanding of Iranian desert architecture of a time when the innovative talent of the Iranian people reached a creative zenith.

One important message of *Desert Utopia* will be that Iranian culture, throughout its long and ancient history, has manifested itself in a variety of ways. These include the differing lifestyles of its many ethnic groups; the richly shared experiences in language and literature; and a wide range of environmentally appropriate approaches towards ancient architecture. All of these features have continuously provided the context for the evolving expressions of culture within ancient cities. Over at least the past thousand years, the Iranian architectural tradition has accrued a rich legacy of valid responses to the perennial dictates of man and nature. These environmentally adaptive and sustainable principles are the legacy of sound and balanced building designs in desert architecture. The genius of such principles is that they are based upon the human scale, the body's 'golden mean' proportions, and highlighting the vernacular use of appropriate construction materials will help viewers understand the profound reflections of the archetypal meanings of spiritual transcendence and cosmic unity inherent in desert architecture.

The court garden, or "paradise garden," is one of the noblest manifestations of Iranian cultural beliefs regarding the meaning of form and space. Under the inspiration of mysticism, a contained garden is the peak of Iranian creativity and is what most coherently reveals the harmony of nature and love of life. The court garden is a sacred "indoor-outdoor" realm that Iranians cultivate in a mystical way. Culturally and spiritually, the relationship of indoor space and outdoor space recalls the spiritual teachings of Zoroaster and the Zoroastrian practice of creating lush gardens enclosed with seven rings of walls to keep out demons. The word "paradise," in fact, comes from the Old Iranian word for exceptional gardens, "pairi-daeza," which in later years was shortened to "parideiza" and then to "paridiz."

A walk through an Iranian desert city continuously implies the unity and plurality in the relationship between interior spaces and connective exterior court gardens. The architectural dialogue between indoor and outdoor spaces represents the unique character of desert cities and amplifies the brilliance of the desert cultures that evolved and flourished in inhospitable, barren regions. In such an environment, all houses had one objective: to counter the harsh climate in a way that could be easily sustained for protection from both summer heat and winter cold. In the organization of desert cities, this consideration meant respecting and learning from several millennia of the region's previous history, especially the contributions of a civilization such as Sumer and from previous religions, such as Zoroastrianism.

By the fifteenth through eighteenth centuries A.D., the answer to how an urban house should meet the environmental challenge was most powerfully resolved in the three cities we have chosen to film: Yazd, Kerman, and Kashan. Their urban housing solutions for survival and comfort interfaced with the essential need for basic protection in a hostile environment, and in many cases the people accomplished that with the most local of building materials: earth or mud made into solid walls whose mass gave great thermal protection. Courtyards within these walls added the further benefits of shade, turned the drying desert wind into a cooling breeze through the use of the wind catcher, encouraged exposed pools and channels, and offered the green fragrance of growing plants. Efforts were made to control the relationship between indoors and outdoors with very close links between them through the simple utilization of windows, shutters, shade curtains, and large doors. Over the centuries, desert cities in Iran also developed other unique architectural elements related to sustainable living: in addition to enclosed courtyards, desert architecture also features *ivan*, or entryways enclosed on three sides; slightly sunken gardens (which were easier to water than raised ones); and wind catchers. These forms worked in tandem to provide a connection to nature, and they have a clear application in the present for people living in other harsh desert environments.

Through study of three major sites of indigenous architecture, *Desert Utopia* will explore and promote awareness of these long-term and sustainable solutions found centuries ago in Persian cities, showing how older, even ancient, building knowledge might interface with modern building techniques. Their potential may prove of great use in other parts of the world.

Analyzing the essence of design in the three selected historical sites requires a clear knowledge of traditional Iranian residential architecture as well as knowledge of the construction techniques that builders and craftsmen historically employed. Of necessity, a study of geography and landscape ecology will be essential to this film, particularly because of their association with the cultural groups that developed within their confines. A close examination of this type of construction leads to revelations about the cultural and ecological forces that in turn stimulate understanding of recurring features of sustainable and environmentally appropriate “movement-systems” (discussed below) that are to be found in Iranian desert cities. These movement-systems and the notion of a paradise garden are two of the essential concepts that will be explored in *Desert Utopia*.

It is important to note that this project builds upon prior research in the field of Iranian architecture, particularly during the past fifty years. Previous studies, mostly carried out by westerners, have surveyed Iranian architecture from various viewpoints and from the disciplinary perspectives of metrology, iconography, semiotics, morphology, technology, and archaeology. This body of knowledge provides a foundation of support for current research, but modern scholars have pointed out certain insufficiencies in previous studies, primarily a lack of fieldwork. Because it will be filmed on location in central Iran, *Desert Utopia* will help address this issue. Moreover, despite increasingly specialized modern studies, some fundamental questions remain unanswered regarding the architectural characteristics of this remote and little-visited part of the world. Therefore, one of *Desert Utopia*'s driving purposes will be to consider, and begin to answer, questions about characteristics of Iranian architecture that to date lack full explanations.

#### **HUMANITIES CONTENT:**

To identify the greater humanities context and answer questions posed by the theme of this project, *Desert Utopia* will do more than simply explore the physical appearance of vernacular architecture in the desert landscape of Iran. The film will also illustrate the unique aesthetic aspects apparent in the diversity of influences that led to the development of desert architecture's distinctive features. Although the film will investigate the physical features of this distinctive architecture, it will also explore the relationship of the human spirit to desert architecture by directing particular attention to the dualistic aspects of desert architecture's physical and spiritual characteristics and by contrasting the meaning of the structural features and their relationships to the concept of space.

Certainly, the physical aspects of desert architecture have a striking impact as they relate to the hidden interior features of urban structures. In fact, modern scholarship has shown that the architecture of desert cities illustrates important spiritual communication between buildings and people. The solid exteriors conceal the interior features in a way that suggests the inhabitants' connections to the life-giving refreshment of nature – air, wind, water, shade, and greenery – in these structures' interiors. By exploring the “indoor-outdoor” features of this architecture, *Desert Utopia* will illustrate the sustainability connection between nature and inhabitants.

Several prominent architectural features make sustainability possible in the desert. The first is the courtyard, or paradise garden. After entering a house, one immediately sees the connection between man and nature in the home's central courtyard, which offers the most obvious spiritual and physical connection between a house and nature. It is the courtyard that provides inhabitants with a comfortable experience of the sky, air, shade, and the cool microenvironments associated with specific areas of the home. An integral component of Iran's traditional desert architecture, the courtyard has a history that can be traced back to early human civilization and the earliest knowledge about built environments in ancient Egyptian and Mesopotamian architecture. In Iranian architecture, the courtyard was used in the ancient cities of Khafaje and Khorsabad, some of the earliest known urban settlements in human history. To understand the genius of the concept of a courtyard, it is necessary to study these contained yet open spaces within the context of the greater urban fabric. Among other features, courtyards had the ability to express the cultural development of the groups that settled within cities. The members of these groups came to recognize the importance of architectural features that could help bind family members to each other and also invite communication with those outside the family. As such, courtyards supported family traditions and a cultural belief in privacy, and provided protection from the outside world. Courtyards were also important to counteract the effects of compactness in residential design. Typically, three sides of a house adjoined the walls of neighboring dwellings.

This arrangement allowed optimal use of land in densely populated areas, but it also deprived the inner spaces of light and ventilation, a problem ameliorated by the inner courtyard.

The courtyard also functioned as an effective architectural space for maintaining environmental balance. The traditional sustainable solution for a building situated in a harsh climate depended on air circulation through convective principles, chiefly through cooperation between a courtyard and a wind catcher. Likewise, social bonds were built through circulation and communication among the members of a family household and among the families that lived within a city. In other words, a wind catcher in essence “communicates” with the environmental needs of household members by allowing hot air to rise and escape the house through its courtyard. In addition to aiding the evacuation of hot air, a courtyard also provides a pressure difference that induces an inward draft of cool air through lower levels of the home. As a contained garden space, the courtyard also allows light to penetrate to the inner rooms, which is physically and psychologically beneficial for the inhabitants. The courtyard creates a sense of balance by hierarchically distributing light through different spaces of the house, thus removing dependence on artificial lighting during the daytime. The courtyard is but one of the architectural features of a home upon which families depended, but it was unmistakably important due to its connection to the broader aspects of urban culture. In addition to their environmental control benefits, courtyards are also associated with the spiritual and metaphysical aspects of ancient Middle Eastern urban architecture, as seen in the sanctified and sacred functions attached to places of worship within a home as well as to the importance of a kitchen and dining.

*Desert Utopia* will show that the desert architecture of Iran is neither entirely an expression of harmony and unity, nor entirely one of opposition and plurality. Rather, desert architecture simultaneously articulates both currents. The compactness of urban spaces is one example of this: passageways, courtyards, and community buildings are well protected against undesirable winds, dust storms, and sun radiation by an infrastructure so dense that the massing of the houses within a city obscures the boundaries between them. Yet from this unique urban density and closeness arises an answer to how the cities historically addressed sustainability. The streetscape was characterized by narrow passageways surrounded by high walls, very often covered by roofs and arches, which cast beneficial shade on the surrounding houses and helped control the prevailing winds.

As this film visualizes the unity of desert utopia, the camera will explore the sustainable dimensions of urban form as seen in Yazd, Kerman, Kashan, and several other cities that exhibit the best of courtyard architecture. *Desert Utopia* will focus especially on architectural features related to the historic relationship between a well-integrated interior space and the exterior landscape. The connective power between interior space and exterior landscape reaches far beyond the architecture of a house to the interior spiritual spaces of individuals who share similar spiritual associations with the inhabitants of other nearby or distant cities of similar cultural makeup. The members of the various urban populations discovered that their sustainability was maintained not only by their common architecture but by their common spiritual interests, despite the fact that they lived in a huge territory.

In search of unity in Iranian desert architecture, it is necessary to understand that the unity of a city’s urban fabric features the dominant use of earth construction materials, which are primarily clay and mud brick. The use of clay and mud bricks, as it turns out, has a very long history in Iran and the Mesopotamian areas. Over several millennia, they were important for the survival of cultures that benefited from the unique characteristics of clay and mud bricks in building their homes, cities, and monumental structures. *Desert Utopia’s* three film sites clearly show unity in the use of construction materials, particularly in the coordinated relationship between the roofscapes and the surfaces of the roofs, a coordination as active as any of the organic landscapes at the ground level. The relationship between roofscapes and the ground level landscapes animates the fabric of the city, just as the roofscapes animate the horizon with domes, balustrades, wind towers, and steps.

In *Desert Utopia*, the notion of unity will be examined and explored through a visual understanding of the traditional planning of desert cities. The film will analyze the vernacular urban form of such cities based on the hierarchical elements that represent the total infrastructure of the cities. In Iranian desert cities, the rational and classical principles of unity do not find expression within the realm of Euclidian geometry. Instead, they exemplify fractal geometry, although individual buildings are static and follow a rational and symmetrical geometry. In the majority of desert cities, the bazaar, which is the main commercial center, is connected to public and residential buildings via a winding and undulating path. The presence of the geometrical rhythm in such urban forms effectively creates urban unity. The unique sustainable architectural character of Iranian desert cities provides a time-space synthesis represented by movement-systems. Three movement-systems are of primary importance because of their relationship to the “pulse” of the city.

The first movement-system relates to the city-bazaar, followed by the movement-system that relates to residential pathways; last is a consideration of the impact of historical monumental buildings on past urban complexes. *Desert Utopia* will show that the three distinctive film sites and their movement-systems reveal a complex unity that creates harmonic order. *Desert Utopia* will also show the architectural influence of several other sites on Iranian desert architecture. One such influence is *Seljuq* architecture, an architectural form that took its shape following similar stylistic particularities that developed in Iran, Turkey, and Syria. Second, Timurid architecture also made important contributions through forms that it derived from the domains of central Iran and Central Asia. Third, the contributions of Safavid architecture are reflected in the cities of Isfahan, Qum, and other cities.

Traditional planning of urban desert architecture typically took place in an urban setting in which the unique features of desert culture developed. Cities generally included a madrasa (a religious teaching institute), caravanserai (a large urban square), mosques, a mint, shops, cisterns, and baths, all of which contributed to the strength of a city as an organic whole. The technique for illustrating this organic whole in the film calls for the camera lens to “walk” through that the cities of Yazd, Kerman, and Kashan. The walk will take the viewer along an ancient thoroughfare that combines symmetry and rhythm. In this wave-like motion, the viewer moves between the indoor and outdoor aspects of desert architecture, which reveal the ‘soul’ of desert architecture in the unity that creates a total urban fabric. The architectural rhythm in such organic urban settings thus finds expression through time, space, and motion. In the course of the film, comments on the urban settings will particularly address the film’s important mission to educate viewers in how to comprehend the intellectual aspect of architectural space as utilized in past urban architecture. Analyzing the essence of historical design in these urban settings, *Desert Utopia* will provide information to illuminate and create intellectual understanding of the concept of unity that is derived from the dialogue between the space of an inside room and the space of an outdoor court.

We noted above the importance of interior and exterior spaces and their significance to the development of the courtyard. As desert culture developed and the number of desert cities increased, numerous new architectural forms arose whose features illustrated the dialogue between indoor and outdoor spaces. These forms include the iwan (an entryway enclosed on three sides), courtyards, and wind catchers that allow for a passive cooling system. Because the most important “motion” is the wind, the solidly constructed multi-storied wind catchers play a most important role in sustainability. Situated toward the exterior areas of a structure, wind catchers may rise to heights of three stories, which allows them to receive the wind from any direction and transfer the flow of wind from the exterior to the interior and lower reaches of a basement, creating a mini-environment within the basement of a house. On the exterior, the solar heat has a degenerative and wasting effect on inhabitants, yet within the coolness of the basement environment, the features of sustainability allow for comfortable living during even the hottest days.

Yet the effects of the wind catcher are not alone in supporting the contributions of sustainability. As the wind catcher directs the motion of the wind to the basement areas of a house, the entranceways and passages direct visitors through the high-walled alleys and passageways whose tall architecture, frequently covered, lead toward interior areas of the house that are designed for ease of living. After residents or visitors enter a home through its iwan, one of the most important features that they encounter is the interior courtyard, which receives them with its shade, its opening to the sky and wind, its fountains with refreshing water, and the varied vegetation that grows within its garden. Working in concert, these features offer amenable and invigorating rejuvenation.

Unfortunately, wind catchers have suffered from abandonment in modern architecture, despite their long-proven viability and the advantages they offer to modern sustainability efforts. Modern cultures would do well to consider how earlier cultures adapted to threats from the natural environment. Wind catchers have strong relevance to how private spaces in individual houses relate to past features of desert architecture. When the wind catcher receives closer consideration, as a viable part of sustainable architecture, its practicality as a feature of sustainability becomes evident in its firm relationship to the movement-systems that were critical parts of desert architecture. It becomes equally obvious that their sustainability features could easily move through the hierarchy of spaces expressed in the movement from areas of public amenities to spaces of semi-public neighborhoods, and to private spaces.

Despite numerous and significant architectural transformations during the thousands of years of Iranian history, similarities between past and modern architecture can still be found, especially in the sustainable features of contemporary architecture. The courtyard, with its garden and a surrounding set of rooms, and perhaps an interior arched portico, is one example of an architectural feature showing continuity between past and present. This is perhaps best illustrated by one of the earliest examples of a courtyard, from the fourth millennium BC: the courtyard houses at ancient Uruk in the lower Mesopotamian area.

Here, the Uruk culture developed a new style of house with a courtyard with characteristics that survived for millennia. The courtyard house at Uruk appears to have had immediate success especially because the high walls of the courtyard were able to create a cooling effect by creating convection currents of the wind that struck the courtyard walls. Although there is no clear evidence showing whether the courtyard walls of the early Uruk house utilized an arch, we know that arches were employed in construction by the time Iran's desert architecture arose. The term for this architectural feature is 'quarto-arch,' which defines this type of architectural feature as a perfected four-sided courtyard. The 'quarto-arch' thus becomes a 'generator' of both intellectual and visual awareness in architecture.

The Iranian development of the paradise garden as a place to enjoy the peaceful aspects of life, as expressed in cultivated trees and flowers, and water features such as pools and fountains, led over time to the development of Renaissance European gardens and laid the foundations for the field of landscape architecture. Both the planning and the finishing of interior spaces of the paradise garden become so highly developed that they served as a standard of comfort and artisanship in the West. For ancient reminders of this, we may turn to the courtyards found in the houses of ancient Pompeii. Common to the architecture in almost all of Pompeii's houses is the central courtyard, which has many of the attributes seen in traditional Iranian courtyards.

In addition to influencing Europe, design achievements in desert architecture also strongly influenced other Middle Eastern homelands. The impact of climate is an especially important factor in the diversity of desert architecture and is clearly conspicuous in the development of residential architecture, but important developments also occurred in the creation of non-residential architectural features that arose around the eighth century BC and began a path of development relevant to the inhabitants' Islamic faith.

In Iranian desert architecture, particular attention was given to the interior spaces of a house, where most of life was lived and which turned out to be spaces that could "reach" far beyond the house to the community at large. Large open spaces within a city were important, certainly, particularly for communal celebrations. However, because of the harsh climate, resistance to the forces of nature meant building highly compact cities, with one house constructed adjacent to the next. This strong connectivity contributed to the development of similar house forms that resisted nature's vicissitudes. In addition, to ensure shade, alleyways in the city were generally narrow, high-walled, and totally or partially covered. Most importantly, the construction of the houses always involved attention to the direction of the sun and the direction of prevailing winds.

House construction shows an awareness of the connection between the outside (nature) and the inside (the interior of the homes). On the exterior, the walls of the house were generally windowless, although the entrance of a larger house might have a larger porch or iwan. Because houses commonly had enclosed courtyards, they had four façades that faced the courtyard area, which also normally featured a sunken garden. The rooms around the courtyard served important functions. Rooms where the residents spent most of their time were typically located on the sides of the courtyard away from the forces of direct sunlight, where they enjoyed the cooler effects provided by the enclosed courtyard, the sunken garden with its water for plants, and the micro-climate in the rooms cooled by the wind catcher. Various parts of a house might have both open and semi-open spaces that provided connections between inside and outside. Architectural features had the potential to affect residents' spiritual experiences. The bottom level often connected the house's interior to the outside through the wind catcher, and in some houses, the wind catcher extended to a qanat, an underground water channel connected with a higher water source, such as a spring. This arrangement provided a cool ventilation system for the basement, to which other rooms of a house might have limited access. Other features contributing to a comfortable environment include a colonnade (ravagh), a vestibule (hasti), and a corridor (dalan). These indoor-outdoor connections are the very essence of desert architecture's impact on the survivability, longevity, and continuing involvement of desert cities' cultures.

Yazd, one of the three film sites, is known as the "city of wind catchers," but it is also famous for its system of underground water channels, called qanats. The province of Yazd is in the center of Iran, and the city of Yazd is in the center of the province, with deserts on three sides. High mountain chains to Yazd's east and west catch snow, which melts and is carried to the city via the qanats. Qanats exist in other countries, and their origin may not even be Iran, but the world's greatest concentration of sustainable water tunnels is in the area around Yazd. This area receives only two to five inches of rain per year, so a desert house, not to mention a city, must plan for its water supply before all else. Underground tunnels tap the snow that percolates from mountains many kilometers away, bringing cold and pure water to a desert city like Yazd. The qanats also made possible man-made oases for growing the fruits and vegetables for which the region is famous.

The availability of water is important for the survival of any culture, and the use of qanats in desert cities was crucial for their inhabitants. More than 20,000 qanats were laid out by men with great skills in reading the landscape for water, but they were dug and maintained with simple tools. The channels are distinguished by the characteristic air holes along their length, which consist of dirt and pebbles piled like spools to prevent objects or animals from falling into them. These circular holes vented the hidden tunnels and allowed access to repair them if there was a cave-in. In a city like Yazd, the oldest houses follow the paths of the qanats, and in some, a brick stair leads down to the clear rushing water and lovely sound of its qanat. Lower channels carried off gray water for use in irrigation. The Yazdis also discovered how to drop gray water from one qanat down to a lower one to drive the grinding stones of flourmills. Even today, Yazd is fragrant with bread shops at ground level in close proximity to old mill entrances once powered by qanats.

In Yazd, wind catchers often worked in conjunction with qanats to cool incoming air by letting it blow over a pool of qanat water. The wind catching towers' interiors are divided into four or six vertical shafts so that they can catch breezes from all directions. When the wind dies down, the wind catcher's tower acts as a chimney in venting hot air. After the system is constructed, these functions all are completely passive. The gentle air circulation of the wind and the humidity drawn from the pool increase inhabitants' thermal comfort. Opening and closing doors and moving around the building according to the times of day is the only energy required.

Like Yazd, the other film locations for *Desert Utopia* have been carefully selected to portray the most characteristic cities in the Iranian desert, including the Ganj Ali Khan Complex in Kerman. Throughout Kerman are examples of numerous houses from the nineteenth century that possess many features adopted from sustainability architecture of earlier times. These homes include the Mehkian House, the Mashruteh House, the Golshan House, and the Rasoolian House. Many more such houses were built in Kerman between 100 and 300 years ago and are still inhabited or utilized for public needs.

Kerman is the remotest of the chain of cities cutting through the central plateau. In the east, the Kavir Desert separates it from what was once Baluchistan, now modern Afghanistan and Pakistan. Historically, the city owed its modest prosperity to the Timurid and Safavid eras, when trade with India was prominent (1587-1629). The city consists of bazaars, baths, mosques, other public and private buildings, courtyards large and small, and paths. Kerman experiences one of the most extreme climates in Iran: in July, it can reach 120 degrees Fahrenheit, while the winter temperature can drop to below freezing. The climate naturally influenced the way the Ganj-Ali Khan Complex was planned and built. *Desert Utopia* will undertake a close examination of the cultural and ecological forces that stimulated these sustainable and environmentally appropriate simultaneous movement-systems in Ganj-Ali Khan Complex.

The city of Kashan features the common architectural characteristics found in all desert cities. Its pre-1920s indigenous architecture and urban design exhibit a harmonious relationship with the natural and arid environment through the orientation of its alleyways in a manner to direct favorable winds through the city. Built along one of the very early commercial trade routes, this city also features alleyways with high walls that provide shade. In addition, Kashan was able to conserve water by means of subterranean structures while also transporting water through underground aqueducts to public water tanks and cisterns. These circulation networks, with their covered alleyways inside and outside the town's bazaar, afforded residents ease of passage during the summer heat and winter cold. As with other desert cities, Kashan used mud and baked bricks in the construction of arches, vaults, and domes in all buildings. At the same time, Kashan was organized into urban divisions, which created residential quarters serviced by public facilities such as water cisterns, public laundries, baths, mosques, schools, neighborhood bazaars, and alleyways. Thus, over time, there was a natural growth of the city, which allowed for a harmonious continuity using indigenous principles of urban planning.

Certainly, in making a documentary film, it is significantly important to use an engaging and noted narrator. As part of the plan for this film, we will consult with the actress and human rights activist Susan Sarandon, with whom Robert Gardner has worked in the past. Such a narrator would give, of course, create instant international visibility for the film.

At the forefront of this project is the compelling appeal of the dramatic and visually powerful locations where the film will be shot. With the majestic backdrop of Iranian locations in the deserts and cities of Iran, this film will also employ narration and expert comments that will draw viewers into the environments used for the making of this film.



From beginning to end, the project will reveal the beauty and spiritual human roots of the sustainability of Iranian desert architecture. Although the shooting of this documentary begins in advance with a well-developed script, the dynamic and innovative approach of filming will allow room for spontaneity and creativity. The cinematography can be revised when necessary so that an unexpected and serendipitous moment may be captured while filming on location. The creative approach in this documentary will work to establish the best effective framing and angle of a shot while a filming event is taking place. The audiovisual style employed in this documentary will be based on narration, on-camera interviews, and animation (CGI, digital reconstruction of the ruined sites). The CGI in this documentary will help the audience engage intellectually and conceptually with the non-existing human aspect of past architecture. Our creative approach has emphasis on

- **Visual Elements**

In the Iranian desert built environment, buildings are meant to be seen from the shifting position of people as they move through them, and our 30-foot crane and Steadicam will move the camera through architectural forms, providing an almost virtual tour for the viewer, as the camera lens travels through space, around and through buildings the way a visitor might travel.

- **Film Narrator**

While viewing architecture in this documentary, it is very important to provide a vivid story associated with it, whether the life of the man who commissioned it or the narrative of the structure itself over time.

The intent is to create a charismatic narrative voice to set representational, organizational, and discursive cues that dramatically enhance the viewer's experience of Iranian desert architecture. The examples of host narrator that we are considering to select are among the movie actors like Morgan Freeman, James Earl Jones, Kiefer Sutherland, Peter Cullen, Keith David, Peter Coyote, Laurence Fishburne, and Susan Sarandon.

- **Life Today**

Buildings are not only historical relics; they are also vital to the human life surrounding them. This documentary focuses on the social and geographic context of each place in Iranian desert in order to maintain their contemporary relevance.

- **Living Arts**

In order to bring the desert architecture and works of art alive, we will intersperse footage of indigenous craftspeople—weavers, stone cutters, metal workers, and tile makers—to broaden viewers' understanding of the processes by which buildings and works of art were originally made.

- **Objects**

Many of the great examples of Iranian art are three-dimensional artifacts, such as ceramic bowls, ivory boxes, and golden vessels housed in museums and private collections. They will be presented on moving platforms so that the image is never static.

- **Poetry and Sacred Text**

Throughout the program, poetry and sacred texts will be seen and heard in the context of the thematic structure. Calligraphy and poetry were and continue to be important elements in Iranian culture and they appear carved into the facades of buildings, engraved into metal objects, and glazed onto decorative tile—in addition to filling countless books.

- **Production Format**

The program will be produced in the highest production quality, shot with Digital Cinema 35mm, 8k Red Weapon. This format allows for the greatest flexibility in CGI integration and the very highest quality in the reproduction of colors and image detail.

- **Graphics**

CGI animation is also an important feature in making this film because of its ability to recreate the impressive features of ruined or faded architecture. CGI maps and graphics will help locate viewers in otherwise unfamiliar locations, and three-dimensional graphics will reveal the complete structures of buildings that are no longer standing and enable the internal complexity of architecture and construction to be revealed to the audience.

- **Interviews**

Interviews with experts, scholars, and local craftsmen and people will provide a continual, in-depth guide to the objects and places we see in the program.

- **Music**

This documentary is aimed to attract the interest of general American public audiences. Music is an important part of any film, but with this documentary, the music becomes all the more important because it reflects the humanistic cultural issues. The inspirational sound track for *Desert Utopia* will be based on folkloric Iranian music.

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Example of Images

Ganjali Khan Complex  
City of Kerman  
Photographed by  
Khosrow Bozorgi



Ganjali Khan Complex  
City of Kerman  
Photographed by  
Khosrow Bozorgi



Ganjali Khan Bath  
City of Kerman  
Photographed by  
Khosrow Bozorgi



Lut Desert  
Central Iran  
Photographed by  
Khosrow Bozorgi



Lut Desert  
Central Iran  
Photographed by  
Khosrow Bozorgi



Agha Mosque  
City of Kashan  
Photographed by  
Khosrow Bozorgi



City of Yazd  
Photographed by  
Khosrow Bozorgi



City of Yazd  
Photographed by  
Khosrow Bozorgi



Wind catcher  
Photographed by  
Khosrow Bozorgi



Wind catcher  
Photographed by  
Khosrow Bozorgi

