Contemporary development in many Arab-Islamic cities, such as Cairo, Riyadh, Damascus, Baghdad and Tunis, presents a profound paradox and offers interesting insights into both the role of tradition in shaping settlements and the appropriateness of various mechanisms for transforming and assimilating foreign influences. On the one hand there is almost uniformly a deeply felt social need to continually re-affirm traditional values, cultural, and even national identities. On the other, there has been a wholesale commitment, even infatuation, with modern Western technology associated with participating in the geo-political economic order and in reckoning with the very real problems of rapid growth in urban population, largely occasioned by this participation. So far, public policy and private entrepreneurial investment has been weighted heavily in favor of new development, resulting, in most cases, in a transformation of the urban and architectural expression of the city towards norms that are largely devoid of traditional architectural values and conventions. Quite apart from the erosion of traditional building practices per se, the resulting commodification of habitat can often be alienating, particularly for those who are unaccustomed to the new conventions, or who are disenfranchised from the process of settlement itself.

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Islamic Culture and Traditional Settlement

Besim S. Hakim

The case of Arab-Islamic culture is a useful basis for examining the phenomenon of tradition and the built environment on a number of counts. First, in Islam, belief, religion and governance cannot be separated and therefore the degree of correspondence between government, the law and more fundamental tenets of religion is direct. Second, in this amalgam, Islamic societies explicitly emphasized the role of individual responsibility in urban living as an act of faith according to the principles of Islam. Third, the ethical and moral systems of Islam share more similarities than differences with Judaism and Christianity and therefore, in the traditional concern for settlement, provide a potential basis for generalizations, at least of some processes of cultural transformation.

Values, Conventions and Environmental Tradition

In this context, values can usefully be defined as accumulated norms, ethical codes and guidelines for behavior which a society inherits from its predecessors and reinterprets to accommodate present exigencies. Generally, values are continuously reinforced and maintained by the predominant religion or ideological system. The specific instructions and codes are inculcated and applied through various mechanisms, or institutional practices, whose characteristics are moulded by the system’s religious or secular foundations. These mechanisms, or practices, in turn, form the tangible conventions, or models, by which certain actions are condoned, or proscribed, and not others and by which special status is conferred on particular forms of expression. Collectively, they manifest a tradition by a social process of habitual use ensuing from a parsimonious reckoning with need and aspiration.

Traditional Building Practice

From a detailed exploration of the nature of building decisions at the neighborhood scale in a typical traditional setting in one of the old urban centers in North Africa, such as in Tunis, Kairouan, Fez or Marrakech, one can see why building design decisions by a home owner would have impacts on some or most neighbors (figs. 1, 2 and 3). These impacts, the inherent interdependence between neighbors, and the resulting potential for conflict, were among the concerns of the Mu' amalat branch of the Fiqh, which is the Arabic term for jurisprudence, or the science of religious law in Islam. It deals with two spheres of activity: Ibadat, which addresses matters related to ritual observances, and Mu'amalat, which addresses concerns and conflicts arising from the interactions and relationships among people (e.g., family law, laws of inheritance, of property, of contracts, criminal law, conflicts due to building activity and/or decisions, etc.). In essence, Fiqh is the science of law based on religion and is concerned with all aspects of public and private life and business. The guiding source of the Fiqh is the Qur'an (the holy book of Islam considered by Muslims to be the revealed words of God to the Prophet Mohammad), and the Sunnah (traditions, sayings and deeds) of the Prophet. A limited analogy can be made between the manner in which Quranic verses and sayings of the Prophet were used in Islamic jurisprudence, and the use of community values and goals in contemporary North American urban planning practice.
The Fiqh had developed a comprehensive body of literature covering all its branches by the year 900 A.D., 268 years after the death of the Prophet Mohammad. (One such branch dealt with harm or damages generated by building activity and related problems.) This body of literature evolved within the framework of the major schools of law of Sunni and Shi‘ism, the two main branches of Islam. The author’s research was confined to the Sunni-Maliki school of law, whose followers live in the Maghrib region of the Islamic world, namely Tunisia, Algeria, Morocco and, prior to 1492, Al-Andalus (Muslim Spain). Other Maliki followers live in Central Africa, Upper Egypt, the Sudan and West Africa.

The manuscripts, that were researched, date back of the mid-14th century (Fig. 4) and embody the teachings of Imam Malik, the founder of the Maliki school and his students. Malik (712-795 A.D.) spent most of his life in Medina; thus, his experience was deeply rooted in the Sunnah of the Prophet and the experience and knowledge generated in that city. Adequate evidence is available to show that the guidelines in the Maliki Fiqh manuscripts were continuously recycled and used, with very minor alterations, up to the early years of this century. What reinforced and spread the guidelines was the extensive travels of Islamic jurisprudence scholars between various regions. In addition, within the Maghrib region there was considerable interchange of knowledge between Tunisia, Al-Andalus and Morocco. Thus, “Moorish” cities in Spain were part of the Maghribi system of cities and were identical in most respects. There were, however, some local differences in the use of building materials and architectural ornamentation.

Numerous guidelines from the above-mentioned manuscripts, which affected the conduct of building activity, can be extracted. Master masons and some accomplished builders in a community were relatively versed in these guidelines, but the local judge was usually the most knowledgeable person in the community, due to his responsibility for enforcement in cases which were brought to his attention. As mentioned earlier, these guidelines were rooted in Islamic values and ethics, and one can find in the above-mentioned manuscripts adequate support and justification by jurisprudence experts in the form of specific injunctions from the Qur’an and the Sunnah. Some important examples are:

1. THE AVOIDANCE OF HARMING OTHERS: WHETHER THE ACT OF INFRINGEMENT CREATING HARM IS PROFITABLE OR NOT.
2. THE CONCEPT OF INTERDEPENDENCE AMONG PEOPLE AND AVOIDING SELFISH BEHAVIOR, i.e., the respect of one’s rights and the rights of others equally, balancing out conflicting requirements equitably. This principle affects the use of common party walls, the disposition of rain water, etc.
3. THE RESPECT OF PRIVACY.
4. THE RIGHT OF PRECEDENCE OR EARLIER USAGE.
5. THE RESPECT OF THE RIGHTS OF NEIGHBORS, ESPECIALLY EXERCISING THE OPTION OF PRE-EMPTION, such as the right of buying adjacent property offered for sale.
7. THE ENCOURAGEMENT OF INDIVIDUALS TO BEHAVE IN A RESPONSIBLE MANNER, PARTICULARLY IN MATTERS AFFECTING THE WELFARE OF THE COMMUNITY, i.e., nurturing the sense of responsibility to the community. Examples are: maintaining the exterior walls in good structural condition, keeping clean the side of the street adjacent to the exterior walls, etc.

The selected sample guidelines constituted the invisible and powerful framework for determining correct and acceptable decisions in building activities. Their impact was always evident in situations which utilized various organizational systems. However, for our purposes, the system most predominant in traditional towns of North Africa, as evident in Figures 1-3, will be used as a basis for examples.

For the sake of elaboration, a typical situation in a traditional residential neighborhood, where a person wanted to build on a vacant lot, or to reuse a site upon which a dilapidated house stood, might be imagined. If the intention was to build a structure for the same use, then he could proceed with no objections. However, if the plan was, for instance, to build a public bath or bakery, then he would more than likely be faced with objections from the neighbors. The reasons commonly cited in the Fiqh literature are that such new public uses would create harm by generating additional pedestrian traffic on the streets, causing the people in the neighborhood to have to readjust, and by producing large quantities of smoke.
It might now be assumed that the owner of the site, after exploring other uses, decided to build a house. He then hired a local builder to construct it, and the two of them would communicate with each other about the design requirements by using the local design language. This language, though similar to that described in Christopher Alexander’s *A Pattern Language*, is much simpler, for it developed primarily as a communication device for identifying locally used traditional elements. It encompassed various aspects of building design and construction, such as ornamental features, construction details, and building spaces/configurations. These elements represented centuries of recycled evolutionary use and tended to have distinct regional features and flavor. The associated vocabulary was usually regional, even though some of the architectural elements were used interregionally. Figure 5 represents examples at the dwelling scale in the Tunis region.

Having determined the usage on the site, and utilizing the design language for communicating space planning requirements, the builder and owner then had to examine the likely impacts of their requirements and decisions on surrounding buildings. For example, if a window existed in a neighbor’s wall, then its location had to be respected due to the principle of the rights of original or earlier usage. The layout of a new house had to take this fact into account, so as to avoid creating a direct visual corridor on the private domain, in effect blocking potential overlooking problems. Furthermore, a neighbor’s wall could be used for inserting beams instead of building an additional adjacent wall for support. Rain and waste water drainage had to follow certain rules and guidelines based on Islamic values, which viewed rainwater as a gift from God to be utilized and shared, whereas waste water is considered a harmful substance to be discharged appropriately. Thus, the interdependence of rainwater evacuation from the roofs of adjacent houses and from the roof of the house being constructed had to be carefully considered.

**Summary**

In summary, the following are some of the lessons and issues which emerge.

1. The nature of the *Figh* guidelines and their application depend on intent and/or performance, not on any prescriptive standards. Examples of typical situations as documented in the *Figh* literature were communicated in the form of “performance criteria”. Example: Doorways of opposite residences located on a narrow street had to be adequately set back from each other to prevent visual penetration into the *Skifa* (entrance lobby) of each residence. No exact dimension is ever specified, and the solution had to be determined on a case-by-case basis. As long as the solution achieved the intent, it would have been acceptable to all parties concerned.

The impact of this technique on the built environment was drastically different as compared with that resulting from a mechanism based on numerical standards such as those commonly used today. The results are clearly evident by comparing traditional residential neighborhoods with their contemporary counterparts. Three-dimensional diversity and identity are abundant in the former, whereas sterility and monotony characterize the latter.

2. Assuming a similar organizational system is used in two different cultures, how will it evolve to embody the values and characteristics of each of those cultures? The case of Islamic urbanism is extremely illuminating in this regard. The system of buildings with courtyards, and access by through-streets and cul-de-sacs, is pre-Islamic and was also used in other cultures around the Mediterranean area. Yet this system, as it evolved over the centuries in the Islamic world, had its unique character and feeling and displayed particular attributes which a person could easily discern upon visiting a traditional town in Afghanistan or Morocco, separated by 4000 miles. These attributes are the result of Islamic values externalized in the land use and in the three-dimensional qualities of the built environment. The transfer of those values to built form was made possible by the process briefly discussed here.

Contemporary urbanism, rooted in the layout of streets to accommodate the car, the pervasiveness of materials and technologies and their spread around the globe, must be harnessed and molded by regional and cultural variables. Given the context of the West, can urbanism/architecture emerge with distinct features or characteristics which can be described as American, Canadian, French, Swedish, etc.? Or will we have to settle for one Western solution? How should other cultures deal with this problem, given the realities of contemporary technology, the spread of Western educational models for the environmental design professions, and the dominance of the media by Western solutions and ideas? These are a few issues which require urgent attention and study.
Contemporary Developments in Saudi Arabia

Peter G. Rowe

Contemporary development in Saudi Arabia often highlights the predicament of transferring needed building practices from one culture to another, otherwise strong, traditional context. Here, the perceived need for dramatic technological advancement is relatively clear. It is required in order for the Kingdom to capitalize on its resources. However, the result of using this technology in the development of communities can sometimes be alienating and often breaks substantially with established tradition. More generally, Saudi Arabia is also interesting in that embrace of outside practices, with their inherent conventions, is taking place simultaneously with a consolidation, or, at the very least, a continuing reaffirmation of the host tradition.

Urban development in Saudi Arabia has been, and continues to be, very rapid. Between 1960 and 1970 the national increase in population averaged 1.9 percent per annum, with population growth in urban centers averaging between 8 and 11 percent per annum. The high influx into urban areas has already taxed many traditional centers and the emergent building industry. Fully 90 percent of all housing for the Damman Metropolitan Area, in the eastern province, is less than 20 years old, and 36 percent has been constructed during the last 5 years. Unfortunately, significant portions of the new housing has been built with little incorporation of traditional conventions.

Examples of New Housing and Urban Development

New housing and urban development in Saudi Arabia has taken on many forms, including: high-rise buildings, independent building complexes, differentiated land uses, high and midrise apartments, public housing projects of various forms, villas and even some “shack” settlements. The layout of contemporary urban settlements is invariably regular, incorporating a grid pattern of streets with a vehicular orientation. Land coverage is typically less than traditional counterparts and housing densities are often less. On the whole, open space seems to be more abundant, but far less well differentiated. In short, the pervasive models and conventions are distinctly Western.

The villa form of housing is both popular and occupies a prominent role in the “Second Development Plan” of the physical independence, or detachment, of these units departs from the

Examples of traditional housing Design Elements (a), and (b) their associated vocabulary, from the Tunis region. (First published in Sib Boar Saix, Tunisia: A Study in Structure and Form, edited by Besim Hafem and published by Nova Scotia Technical College, Halifax, Canada, in August, 1978.)
usual conventions of traditional building and is reinforced by the subdivision of land into regular plots, with building taking place more or less at random within a grid layout. It is also reinforced by building regulations, with height and setback restrictions that effectively deny formation of connected forms of housing. Consequently, advantages of shading and compact building for climate control can be lost, and the “streetscape,” in spite of traditional treatment of doorways and other openings, may lose in both vitality and visual interest. The building legislation is no doubt well-intentioned to improve physical standards with respect to light, air, fire protection, open space, etc. However, as already described, provision of adequate light and air is not an inherent problem with traditional building. Fire is certainly a hazard, but protection could be obtained by incorporating “fire walls” between units. The need for additional open space is difficult to understand, particularly in the undifferentiated form in which it is often provided. The density of typical “villa developments” is in the order of 15 to 17 dwelling units per hectare, or about half the density of traditional settlements. With garden walls and building set-backs from the street, developments tend to discourage any despecialization over time, of the residential land use: a change that often does much to improve the retail convenience and amenity of a neighborhood. The dominance of the roadway system, rationalized from the outset to carry vehicular traffic, practically reverses the relations among “buildings” and “streets” that shape morphological development of communities. Here, it is not the automobile as such, but its deliberate and untempered use that undermines the tradition.

However, it is with certain forms of public housing, for example the “Crash Housing” in Damman, Al Khobar and elsewhere, that more blatant departures from traditional practice seem to have occurred. Here, Western-style multi-story tower blocks were constructed with a site coverage of only about 13 to 15 percent (Figs. 6 and 7). In fact, the overall density of development, at 44 dwelling units per hectare, is not significantly greater than for traditional forms. The open space between the buildings, far from creating an opportunity for outdoor activity as it might in another cultural context, is inhospitable, alien and finally becomes a “no-man’s land.” Questions regarding appropriate orientation and use of building forms for climate control were ignored almost entirely and the functional dependence upon sophisticated technologies far outstrips present capacities for adequate service and maintenance.

Although in this instance the towers are comparatively isolated, highrise developments in other urban areas do infringe upon the privacy of surrounding neighborhoods. The Western conventions that are followed in the internal organization, or layout, of many high-rise apartments frequently have to be altered to accommodate Arab-Muslim social custom. Often these alterations are only barely satisfactory, awkward, or wasteful.

In the case of the “Crash Housing” in Damman, Al Khobar and elsewhere only a small portion of the overall housing supply is involved (about 6,000 units or 1 percent). However, the low-income tenants, originally envisaged for these buildings, make the problem with such a drastic departure from tradition all the more poignant. By and large, this group is completely unaccustomed to living above the ground. They are used to privacy provided through traditional conventions, and they typically have large families that prove difficult to accommodate in standardized room arrangements. Further, the mass housing image, so separated from traditional patterns of settlement, segregates one income class from another in a social context that would otherwise make less of such a distinction, and the environment ultimately becomes alienating.

**Apparent Rejection of Tradition**

In Saudi Arabia the apparent rejection of established conventions, in a culture that also shows a strong adherence to tradition, is perhaps surprising. Several authors have speculated that rejection is precipitated by the way in which the host tradition is undervalued. They argue, that with superimposition of modern technology, old practices and therefore old building forms, are seen to be “sub-standard.” Alternatively, new building conventions passed on by way of new technologies, are perceived as being “super-standard.” In either case, a rejection of tradition seems to be a consequence. Thus, a questionable side-effect of a concern with tradition is its valuation against other opportunities in “all or nothing” terms, rather than by selective consideration of how these opportunities might be tempered according to established conventions.
One might also regard the rejection of traditional practices in favor of modern technical approaches as a form of colonialism. In other more contentious situations such a claim might be justifiable. However, in the realm of the close-held social and business dealings, characteristic of the Saudis, colonialism in a strict sense is not applicable. A more compelling argument can be made for adherence by the Saudis to an international technocracy, one in which problems are defined in what appear to be universal terms and for which solutions are largely a matter of capital and technique. This is further reinforced by current curricula in education that are modeled after U.S. and European counterparts and through the practical necessity of the wholesale training of graduate students, overseas, in Western centers of learning.

A plausible alternative explanation for extensive rejection of traditional practices may also be proffered in the light of the sheer difficulty of relating these practices and institutional processes to the practical exigencies and procedure of large-scale modern building. A disparity of development conditions seem to have occurred in which tradition has been rendered either irrelevant or where ready opportunities for adoption, transformation and assimilation of modern building technology are few and far between. Typically, decisions about the configuration of large-scale developments are made by a very small group on behalf of many, or in the absence of an easily identifiable indigenous user group. This effectively rules out the "moral suasion," negotiation and arbitration that takes place with incremental and collective participation under a system of inherited norms, or habitual ways of doing things, described earlier in this article.

In addition to their transcendental social qualities, traditions are usually highly pragmatic in their rule structure, incorporating what might be called "common sense views" of public health, safety and welfare set within the ecology and available resources of the time. For example, the careful recitation and use of water as a common property resource, described earlier, and the equally careful consideration given to the passive modification of climate in the building environment, can be seen as practical means of survival as much as they are the dictates of a particular culture qua ideology. When perceived, if not real, terms of survival become shifted by the opportunities presented by new resources and modern technology, prior norms become open to question and undergo revision and even rejection. New norms replace the old, defined largely in terms of new technological objectives and aspirations.

The morphology of traditional settlements, described earlier, anticipated, accommodated and was shaped by a rather particular process of urban development. Typically the rate of growth and change was comparatively slow, spanning generations, and the physical pattern was incremental, additive, irregular in form and largely similar in building type. Functions, although highly mixed, reflected interdependencies among activities that were relatively small in magnitude and simple enough in structure to be intelligible, or comprehensible, to most inhabitants. Recently, both the magnitude and structural order of urban development has increased dramatically, diffusing the primacy of traditional practices. The resulting physical patterns of development are no longer incremental and irregular, but rationalized to the exigencies of the new technological order.

Reconciliation with Traditional Norms

Saudi Arabia and other parts of the Islamic world are by no means unique with regard to this lack of conciliation between established tradition and the elements of new development. Rather, they are timely examples, and ones in which the issues are relatively clear. Nor is this necessarily a phenomenon confined to so-called "lesser developed countries." Fundamentally similar problems have been experienced and are being experienced in highly developed areas such as North America. Arguably such paradoxes might be quickly dismissed were it not for the unfortunate discomforting side-effects to some and alienation for others.

In redressing the situation, one approach is to absorb an enlightened understanding of tradition into professional practice. This has usually been attempted through episodes involving confrontation, accompanied by an educational overlay intended to sensitize practitioners to the issues at hand. The problem with this approach is that it invariably becomes confined to the treatment of symptoms and only results in architectural renderings that are superficially acceptable in ones in which certain traditional organizational patterns and iconography are incorporated. However, there is really no structural change in the fundamental conception of settlement. In fact, the operational idea of tradition becomes fixed, or ahistoric, with little room left for real progress. Furthermore, elites still make the decisions and the recipients of their efforts often still suffer from the remoteness of surrendering the process of habitation, ultimately becoming doomed to tacit acceptance or alienation.

An alternative form of remedy that attempts to redress the "root cause" of the problem involves the use of participatory processes, in which attempts are made to devolve the process of habitation to the inhabitants. Nevertheless, in many participatory planning efforts, little rearrangement of institutional structures and roles is achieved, particularly on a more comprehensive scale where the effects can be more longlasting. Implicitly, the guidance that might be expected to come from tradition is regarded as being weak or suspect, requiring reinforcement and intervention. In any case, as discussed earlier, the type of development being considered here, with its highly centralized often more remote decision-making processes and the absence of a "community to work with, makes participatory forms of intervention extremely difficult to conduct effectively.

Perhaps a more fruitful avenue of rapprochement might be found by reexamining the fundamental mechanisms at work in the tradition itself. Here, in the older Islamic settlements, essentially juridical processes can be seen at work in shaping the rule structure for the social contracts involved in city building. Therefore, a more radical reinterpretation of the institutional practices used to provide habitation, such as concepts of tenure, building and use regulations might be undertaken; a reinterpretation that does not tacitly accept Western models but explicitly attempts to incorporate traditional values and relevant architectural conventions.
Notes

1. Due to the nature of the morphological/organizational system of Arab-Islamic cities in North Africa, the most illuminating examples for study of the phenomenon of value transfer to building decisions and thus built form can be found in the building cluster scale of a neighborhood.

2. During the first three centuries of Islam, a number of schools of thought and approaches to law were being formulated. The survivors to this day are grouped under the Sunni branch of Islam with four schools, namely, Hanafi, Maliki, Shafi'i and Hanbali. Followers of Sunni Islam constitute the majority in the Muslim world, although in Iran, parts of Iraq, and some communities in Syria and Lebanon the people are followers of Shi'ism and have their own school of law. The important thing to note for the purpose of this paper is that there were minor differences due to interpretations of the various schools of law, as regards how to deal with problems related to building activity. Thus, what is discussed for the Maliki school in North Africa would be very similar to what is recommended for the Shi'i school.

3. The Prophet passed his last ten years in Medina, a town 275 miles north of Mecca in Arabia. The experiences and life style during that decade under his guidance are considered by most Muslims as providing a basis for a model Islamic community.

4. According to Tilis Bülbüklü's The Fossor of his book Moorish Culture in Spain, Burchardt, T., 1972. Moorish Culture in Spain. London: George Allen and Unwin Ltd. Instead of using the term, "Moorish culture," it was most accurate to refer to "Arabic culture in Spain since its language was predominantly Arabic, or even "Islamic culture," since it actually belonged to the Islamic world. The word "Moorish" derives from the Spanish word, moors, that is "Moors" or "Mauretanians." "Moorish" culture in the literal sense does not exist any more than do "Gothic" culture. Yet the word "Moorish" has become synonymous with "Arab-Islamic." The Moors were simply Maghrebis, inhabitants of the Maghreb, the western part of the Islamic world, that extends from Spain to Tunisia, and represents a homogeneous cultural entity. (p. 7)

5. This principle originates from the famous Prophet's saying: "Do not harm others or yourself, and others should not harm you or themselves."

6. Ranwater is considered a gift from God and is to be shared, according to the Prophet's saying: "Muslims are partners in three things: water, pasture and fire." One of his decrees regarding the equitable use of rainwater is that the flow of scarce water be measured to the ancles by the user of the higher ground, then sent to the lower ground.

7. The following verse from the Qur'an is one of the important sources for regulating the respect of privacy: "Say to the believers that they should lower their gaze and guard their modesty, that will make for greater purity for them, and God is well acquainted with all that they do." 24:30

8. The following saying of the Prophet is one of the sources for this principle: "A neighbor has pre-emption rights over his neighbor's property. If they share common access and the neighbor is absent, then the other should wait for his return." This stipulation gave the option for people to have some measure of social control in their immediate neighborhood.

9. The ultimate source for this principle is from the Qur'an: "You are the best nation ever brought forth to men, bidding to honor, and forbidding dishonor, and believing in God. ... 3:10

10. Although the following saying relates to a specific act and source of public nuisance, its principle applies generally: "If a man is walking in a street and finds a branch of thorns and removes it, then God will thank him and forgive him." 119:11

11. Saeed Al-Hathloul has shown the impact of some of these guidelines evident in three house types which evolved in Medina, Arabia. His contribution forms part of this author's forthcoming edited work entitled Islamic Urbanism: Structure and Form.

12. This is in accordance with the first guideline cited in the text, and is very similar to the situation today in many American cities.

When a property owner wants to construct a facility with a use different from those allowed in the established zone, adequate public notification must be given, and the neighbors have the right to object to the posted use. They also have the recourse of appeal to a number of levels of authority in a municipal system.

13. The values of the typical owner and his building in the situation being described encourage them to rely heavily on tradition, and if they desire to innovate, they will do it within that framework. If the design language was not adequate to communicate an idea, one of the parties will show he or she another local example to clarify what is intended or required.

14. Ownership pattern as a sequence of events created rights of earlier ownership or usage, in effect granting certain privileges by "older" and established facts.

15. This is based on the concept of interdependence, example 2 of the guidelines in the text. The specific saying of the Prophet which sanctioned this practice is literally translated as follows: "A neighbor is not above his neighbor from inserting wooden beams in his wall."

16. The example presented in this paper is simplified to provide an idea of the working of the process. Many more examples and details are available in the author's forthcoming book, Arabic-Islamic Cities: Building and Planning Principles, forthcoming.

References


