

*Farokh Afshar*

### The Development Workshop<sup>1</sup>

The two most common types of contributions that are made to advance the state of architecture in Muslim countries are the academic (manifested through a scholarly written work on some aspect of architecture) and the professional (manifested through a building or planning project). There is a third type of contribution which is much less frequently made, but which can be at least as important. This type of contribution integrates educational and practical objectives. It does so by using the design and construction process as a research and training tool. Two projects that utilize this third type of contribution will be discussed here, but first we would like to outline the premises upon which these projects are based.

First, there is an urgent need for practical examples of appropriate architecture in Muslim countries. The foundations on which an architectural revival can be based are being rapidly eroded—either directly, by the bulldozing of our traditional built environment, or indirectly, by the inappropriate and misleading examples presented by much contemporary construction. The urgency makes it legitimate, even necessary, to integrate research and training with practice. Second, concern for the revival of an architecture appropriate for Muslim countries must be accompanied with a concern for the material and cultural well-being of the majority of the people (that is, the lower income groups of those countries).

A third premise is that such people can be a primary source of inspiration and information, and can even be the major vehicle for the realization of an appropriate architecture. They incorporate Muslim traditions with a strength and authenticity that many of us among the elite do not. Fourth, placing the emphasis on the majority of people implies a corresponding emphasis on their built environment. Thus, the architecture of the older historical centres of Muslim cities, the informal settlements of our urban areas and the rural settlements should gain in recognized importance. The majority of

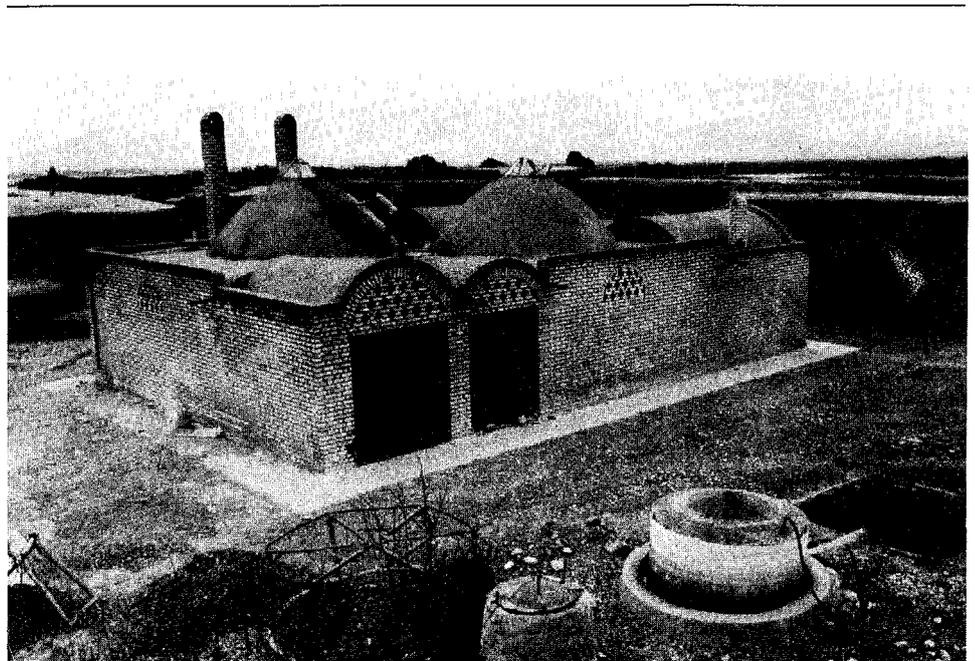
Muslims live in these areas; our building traditions are often most clearly manifested in them, yet they are often the most neglected and are in the worst environmental conditions.

That the builders, craftsmen and artisans who work in these settlements are of particular importance is our fifth premise. Our building traditions are kept alive in their system of work and their skills. In an immediate and practical way they are doing the most to keep these traditions vital and to house the majority of Muslims. As our sixth and final premise, we maintain that the elite can play the role of catalyst in the revival of an architecture appropriate for Muslim countries. We can aid in stimulating creativity within the people, and in transforming the lessons of their traditional built environment into practical building and planning concepts appropriate to contemporary needs. To play this role, we must learn from and work closely with the people.

I shall now discuss the two projects which serve as practical examples of the premises just cited. The first project is the implementation of a village public bath (*hāmmām*). The second is a workshop in indigenous building methods. Both projects were part of a comprehensive programme of rural development, the Selseleh Integrated Development Programme. These projects were implemented in Iran during the period 1975–78.<sup>2</sup>

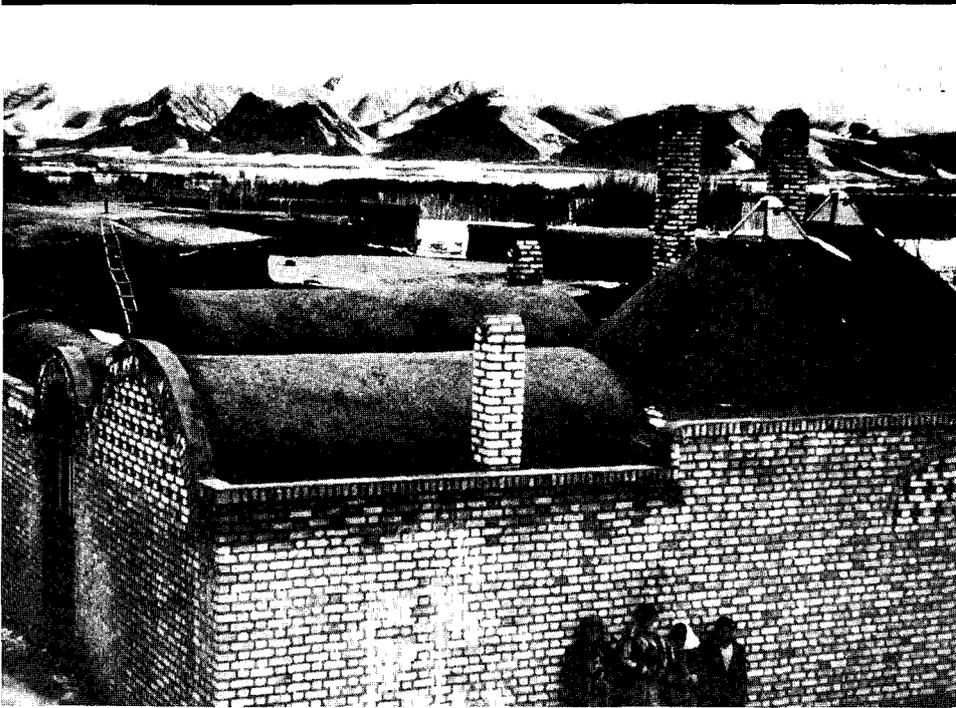
### The *Hāmmām* Project

The *hāmmām* has played an important role in the villages and towns of Iran for centuries, both as a social and practical health-promoting facility. People gather in the *hāmmām* to bathe, massage, shave, receive medical attention (customarily provided by the village barber) and simply to chat at leisure.



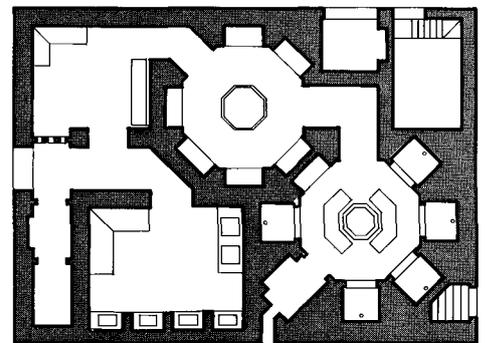
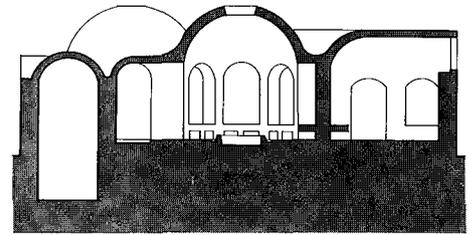
*Selseleh region, Iran: hāmmām constructed by SIDP. In the foreground is a bio-gas experimental unit*

*Photo: F. Afshar/The Development Workshop*



Selseleh region, Iran hammām constructed by SIDP

Photo F Afshar/The Development Workshop



Plan and section of hammām built in Selseleh region, Iran, by SIDP

After the Development Workshop

Most of the traditional *hāmmāms* in the Selseleh region had fallen into disrepair. Their use had been prohibited because bathing in the communal pool (*khazeene*) was declared unhygienic by the government. The substitute—standard government-designed *hāmmāms*—consisted of a narrow corridor leading into a row of shower cubicles. This arrangement ignored traditional designs and in particular limited the socializing function of the *hāmmām*. The need for steel and concrete in construction required the importation of both materials and builders from outside the region.

The *hāmmāms* constructed by the Selseleh Programme were based on research into traditional *hāmmām* design and discussions with users and builders. The design integrated the shower cubicles required by law with the traditional “in-the-round” seating and bathing arrangements. The new *hāmmāms* consist of a series of chambers with bent connections which

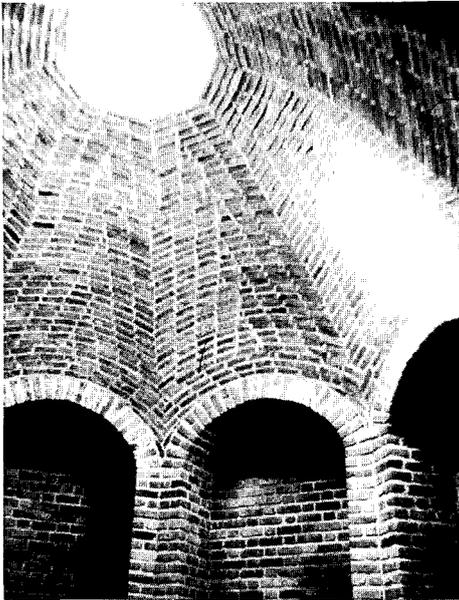
lead from reception room through changing room to bath room. Such indirect connections increase both privacy and thermal insulation between rooms. Furthermore, the arrangement of rooms also reflects the traditional bathing procedure. A separate room was also provided in which women could wash clothes and utensils and bathe babies. Such a room is not found in either traditional or government-built *hāmmāms*.

The construction method was brick vault and dome roofing, with a lime mortar. Such a technology obviated the need to depend on imported materials. The construction process was also useful for training local builders in that technology. This acquisition of skills was facilitated by the existence of a regional tradition of vault construction. Furthermore, the technology lent itself to on-the-job training and quick assimilation. Apprentice and master would work on either end of the same arch, vault or dome in quite close con-

tact. A geometrical construction system was followed, such that the positioning of each brick was indicated by that of the brick preceding it. The tools for calculation, primarily rod, string and plumb-line, require empirical judgment and are familiar to most local builders.

The village donated both the land and the unskilled labour. The traditional system of cooperative effort, such as that used in harvesting, was followed in the division of labour. Under that system the village was divided into six sections of extended families, with each responsible for providing a certain number of workers at prescribed times during the construction.

From the experience of constructing the first *hāmmām* and from further discussions with the villagers and builders, the design of *hāmmāms* subsequently constructed in other villages was slightly modified. Only



Selseleh region, Iran View of dome interior in changing room (rakhkan) of SIDP hammam  
Photo F Afshar/The Development Workshop

vaults were used, because they are simpler to construct than domes, and the *hāmmāms* were partially sunk underground, as is traditional, to improve thermal insulation. With each *hāmmām* built, more local builders were trained and the construction programme was thus progressively accelerated.

The project was completed at half the cost of the equivalent government-constructed *hāmmāms*. The cost included the additional women's wash facility as well as the estimated value of the voluntary labour. These savings were accrued despite the fact that village participation and the builders' training caused inevitable construction delays.

In summary, the *hāmmām* construction programme developed a design that respected both the form and practice of traditional *hāmmāms*, demonstrated the continued relevance of traditional technology; established a procedure for on-the-job training of local builders; stimu-

lated the participation of the rural community in the process of defining and implementing an important community facility; and acted as a vehicle for close interaction between professional architects, builders and local users.

#### Workshop in Indigenous Building Methods

The local builders in villages and small towns are traditionally responsible for most of the construction, both public and private. These builders are a valuable source of experience on indigenous building methods, as well as an appropriate channel for the introduction of improved building techniques.

In February and March of 1977, a two-month workshop was conducted by the Building Section of the SIDP. It was held in the city of Yazd, in central Iran, for two reasons. Yazd possessed fine examples of traditional construction which would be educational for the Selseleh builders to see, and winter conditions in Selseleh at that time made outdoor construction practice difficult. The participants in the workshop were the SIDP architects, the master masons and the builder-trainees from Selseleh. The workshop followed a year of on-the-job training of the builders in such projects as the *hāmmām* described above. Aims and methods pursued in the preceding year were developed in a more intensive and organized manner than had been possible during active building construction. The workshop had two aims: to improve indigenous building methods through a pooling of knowledge and participation of the village builders, and to train the builders in practical and organization skills. They would thereby be equipped to meet most rural shelter needs without depending on imported building materials, city contractors, architects and engineers.

The process of learning through discussion, practice and experimentation were all utilized in the workshop. For example, a discussion on building methods, design and drawing principles was introduced by



Yazd, Iran SIDP workshop in indigenous building methods  
Photo F Afshar/The Development Workshop

asking each participant to draw his own house and discuss its advantages and disadvantages. From these discussions, typical village housing and detailed building problems were identified, and drawing skills were developed. Each aspect of building construction, from different soil types and foundations to walls and roofs, were discussed in turn. Each potential building solution was tested in a practice yard set aside for that purpose. At the same time, experiments were carried out on local materials like timber, stone and mud-brick. Soils were tested using simple sedimentation techniques that could be mastered by any local builders. Stabilizers for mud-brick and renders for improving earth walls against weathering were developed for local soil types. The most widely applicable vault and dome types were isolated, and the builders learned how to construct them. Identification of techniques employing local resources to improve traditional buildings' resistance to earthquakes also formed an important part of the training.



Yazd, Iran. SIDP workshop in indigenous building methods: architectural drawing class

Photo F Afshar/The Development Workshop

Resource persons were also brought to the workshop: a local stonemason conducted a two-week session on stone technology, and a very well-informed Yazd resident gave an illustrated talk on the historical buildings of the area. In the evenings, literacy classes were conducted for the largely illiterate village builders. By directly relating the literacy programme to the builders' work (e.g., reading building plans and keeping their own building records), a keen interest in becoming literate was developed.

The workshop developed an educational methodology which even barely literate builders could use to educate themselves and improve indigenous methods. This methodology was based on problem identification and problem solving via a sharing of knowledge through discussion, practice and experimentation. It proved successful during the workshop, but the results were even more clearly demonstrated in the following building season: the number of builders who could assume independent responsibility for projects increased significantly. The builders also took on new apprentices, applying the same training procedures from which they had benefited. Just over a year after the architects left the project, the builders independently organized another workshop to educate a new generation of trainees. This evidence that a methodology for development had been internalized by the village builders was of great significance, far more so than any specific knowledge or particular innovations in building techniques. Such internalization was imperative if innovations were to become an ongoing and grass roots phenomenon.

In conclusion, one can say that the field of Muslim architecture has been the object and recipient of much scholarship. There has also been a great deal of conventional construction by architects in Muslim countries. Now we also need to develop a third avenue in our search for architecture in the spirit of Islam. This avenue would seek to integrate the scholar's thought and the architect's expertise with the aspirations and potential of the people in the Muslim world.



Yazd, Iran SIDP workshop in indigenous building methods. local builders engaged in vault construction practice

Photo. F Afshar/The Development Workshop

## Notes

<sup>1</sup> This presentation is largely drawn from work jointly undertaken with other members of The Development Workshop: A Cain, M R Daraie and J. Norton. The Development Workshop is a research and development, architectural and planning group

<sup>2</sup> The Selseleh Integrated Development Program (SIDP) implements projects in agriculture and animal husbandry, rural industries, health, education and building in the rural region of Lorestan, Iran. It was initiated in 1974. The Development Workshop, of which this writer is a co-founder, was responsible for the Building Section of the SIDP between 1975-78. For further details on SIDP and the activities of the Building Section, see Daraie, Cain, Afshar, Norton, "The Selseleh Integrated Development Project," *Proceedings of the International Conference on Rural Development* (Bangkok: Asian Institute of Technology, 1977)

## Discussion

### Nasr

I really congratulate Bertaud, who made a marvelous presentation on Yemen, which goes to prove that Islamic art is not something dead and in the past. As I pointed out, the experience of Turkey or Iran does not have to be generalized for the whole of the Islamic world. There is a great deal to learn from the point that in Islamic architecture, one lives in harmony with nature. One of the criteria of Islamic architecture is that a city should not be in aggressive disequilibrium with its environment. And I think Yemeni cities and towns present a perfect example of that. Sultan's wonderful presentation proves exactly what I said yesterday about the narrowing of religion. Very few people paid attention to what I really said. It was those very *'ulamā* in Fatimid Egypt, in the Mamluk period or the Seljuk period, who allowed the city to be built.

In Kuwait, there is no Islamic architecture. Everything has been destroyed. The only thing that remains there, in Islam, is precisely those points that I mentioned yesterday. These are very important but do not embrace those other aspects of Islamic tradition from which an architect would draw for his sustenance. One must try to apply to the criteria of Islamic

architecture, not only the limiting aspects of the *Shari'a*, but the other aspects that emerge from the way of looking at materials, equilibrium, space and light. That, in fact, is the very point that practically all of the *'ulamā* today refuse to see. The identical principles, found in Yemeni cities, have been applied to produce cities of great beauty there.

### Grabar

I really do not think I quite agree with you. I am not sure that the *'ulamā* had more or less power or importance in previous centuries. I do not think one knows that. And I fear romanticizing the past until I have the documents to prove it.

### Nasr

Let me give you a concrete example. When the city of Isfahan was built, when the Maidan-ı Shah was built, one of the major figures involved was the Sheikh ul-Islam of Isfahan, Sheikh Badr al-Din Amoli, who was at once a great architect, landscape designer and one of the leading *'ulamā*.

### Grabar

I am sure that it happened, but we are talking about some forty thousand cities over a period of one thousand years. One needs a great deal more information. But I do not feel that I have enough information to be able to make a coherent picture of what was urban architecture in the old Muslim world. I can see elements here and there. Something that was true of Isfahan's seventeenth century was not necessarily true of Cairo's eleventh. I am terribly afraid of romanticizing a certain kind of past. The Yemeni buildings trouble me. It seems to me that they reflect a very unique and remarkable sense of design

and historical, economic and geographic factors that are typical of or peculiar to Yemen. I don't think the Yemeni model is applicable to Cairo or Istanbul. What is the evidence that would allow us to draw conclusions or prescriptions of any kind? I am afraid of using one or two examples and extending their applicability too widely.

### Ardalan

The work from Yemen is essentially rural architecture, the vernacular architecture of the people, that is. In the terms of classification it is a good physically adaptive, ecologically adaptive architecture.

Wherever you travel, whether to the Wahuakee Indians of Arizona or through the villages of Iran, or of Egypt or of any rural vernacular, you find good common sense construction which is very beautiful. Rudofsky documented it excellently in the building projects he presented in *Architecture Without Architects*. I think, however, that to say there is actually no Islamic element in it is too premature. There is obviously the factor observable here that you have 1400 or more years in which these people have grown within a cultural attitude.

Orientation to the south or to Mecca is a very important aspect. I think that orientation to important religious places or places of the saints or the *pirs* in many towns and many villages, especially in Iran, are very evident. So, although I think your word of caution is good, I do not think that in any way it eliminates the fact that this is good adaptive architecture. This is really architecture of what we call natural order, and then there are elements of Islam within these cities, within these villages, which are very powerfully evident.