Documentation of the Tarimi palaces 2002-03: Qasr al-'Ishshah

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Introduction

From December 28, 2002 through January 15, 2003, a team of American conservators and employees of the Yemeni government's General Organization of Antiquities and Museums (GOAM) surveyed Qasr al-'Ishshah as part of a documentation training program for the mud brick palaces of Tarim in the Hadhramaut Valley. Co-directors of this effort are Pamela Jerome (Adjunct Associate Professor, Columbia University Graduate School of Architecture, Planning and Preservation; Senior Associate, Wank Adams Slavin Associates, LLP) and Dr. Selma Al-Radi (Research Fellow, New York University Institute of Fine Arts; Co-Director of the 'Amiriya Restoration project, Rada', Yemen). James Conlon (Staff Associate for Archaeology and Historic Preservation, Columbia University Media Center for Art History, Archaeology and Historic Preservation), Gina Crevello (independent conservator) and Lamia Khaldi (PhD candidate, Cambridge University) were also participants. Abdallah al-Saqqaf, Abd al-Karim al-Barakani and Salah Sultan al-Husaini, employees of GOAM, worked closely with the group training in our methodology.

Jerome began documenting the traditional construction and repair technology of the Hadhramaut region in 1997. These efforts produced a technical paper (Jerome, Chiari and Borelli 1999) and a documentary video for a broader audience (Borelli and Jerome 1999). From this work it became clear that rapid change in the Hadhramaut Valley threatens to overwhelm the mud brick architecture and overall built environment of its historic cities. The Tarimi palaces, a collection of approximately thirty mansions constructed between the 1870s and 1930s, were identified as particularly vulnerable. In 1998, Jerome, Al-Radi and Borelli listed Tarim on the World Monuments Fund (WMF) 100 Most Endangered Sites list, where it has remained through the current cycle. The Samuel H. Kress Foundation of New York City supported a feasibility study in

2000 (Jerome and Al-Radi 2001). This research resulted in a preliminary assessment of the significance of the Tarimi palaces, their condition and issues of ownership. Some of the structures were also reviewed for adaptive reuse potential. The study proposed a documentation training program along with a restoration pilot project for Qasr al-'Ishshah and al-Munaysurah, two of the palaces. The work this season represents the initial stage of this project.

The rationale of the documentation process

To paraphrase the Burra Charter (Marquis-Kyle and Walker 1994), the intention of conservation philosophy and practice is to maintain, and in particular cases recover, the significance of a place for future generations. Conservation work respects the existing physical fabric of the object of preservation as a guiding principle: the inextricable connection between materiality and significance is of primary importance. To this end our discipline engages historical, anthropological, technological and scientific inquiry as well as the fields of graphic and architectural design. Conservation reports in turn reflect the primacy of the fabric as expressed from these intellectual perspectives. These documents often glean over the role of activities of great importance to any project, but not traditionally associated with the history and practice of conservation: community organizing, educational practices, public policy and fund raising, cultural performances and even 'unauthentic' contemporary construction practices are at times bypassed, while technological innovation is valorized.

The traditional documentation techniques of our discipline then do not necessarily a more accurate expression of knowledge, but prioritize and redistribute knowledge to new sites of power and status. Mitchell's work on Egypt, which includes an extensive study of the role of heritage preservation and managed change in architectural practice, has made valuable contributions to our understanding of this process in history (2002). It would be unfair to say that professionals within our discipline are not taking part in this line of discussion as well. Polish conservation architects have challenged traditional interpretations of

authenticity in their "retroversion" of the historic city of Elblag, focusing on authenticity of character and spirit rather than that of material fabric (Johnson 2000: 63). The Burra Charter, even with its interest in maintaining the specificity of historic fabric, addresses the need to engage a broad range of social practices as inseparable from significance, and does well in negotiating these interests (Marquis-Kyle and Walker 1994). Perhaps most explicit is the Nara Document on Authenticity, which attaches authenticity to unique cultural practices as well as original fabric: "It is not possible to base judgments of value and authenticity on fixed criteria. On the contrary, the respect due to all cultures requires that cultural heritage must be considered and judged within the cultural contexts to which it belongs" [1996: article 11]. In an interview with Neville Agnew and Erica Avrami of the Getty Conservation Institute, Hugo Houben, John Hurd, and Tony Crosby, three specialists in earthen architecture conservation, emphasized the need to balance "fundamental scientific studies, pragmatic testing and development of methods for conserving historic archaeological sites and structures, and…preserving traditional folk knowledge that could inform current conservation practice." (Agnew and Avrami 2001: 15).

In defining the significance of heritage places, conservators are now more open to include cultural practices in their totality and engage collective memory as well as the materiality of the structure. The discipline is also more open to both the interpretations and aspirations of community stakeholders placing them on equal ground with academic research. Neither line of thought relies solely on the safeguarding of built fabric or fixed interpretive categories, but instead allows heritage spaces to bring varied social practices, change over time, and local forms of knowledge into perspective. The use of the very term conservation is intended to signal a more broad interest in maintaining continuity with the past through managed change rather than the preservation of specific materials (Matero 2000: 7).

There is little question that a large-scale program in Tarim will need to reorganize traditional forms of knowledge and cultural practices as a part of a dialogue with contemporary conservation thought and practice; however, we would articulate the role of "folk knowledge" as an active participant in this conversation rather than the passive object of conservation practice. To this end, we have tried to open a dialogue with a diverse group of people interested in the architectural heritage of Tarim as the first step in formulating a plan for the conservation of the historic core of the city. We see heritage conservation as neither a partnership with a continuous, dynamic tradition of earthen architecture, nor the application of technical expertise towards the preservation of built fabrics, but a third program resulting from the interaction of both within the Tarimi context. While this report is a record of the technical documentation and condition assessment of Qasr al-'Ishshah for the 2002-03 season, it also presents the opening stages of this dialogue.

Historical introduction and a discussion of both the significance and challenges to the earthen architecture of the Hadhramaut

For most of its history, Yemen has been integrally linked to Southeast Asia, East Africa, the Iranian Plateau and the Mediterranean Basin through trade and pilgrimage. Geographically and socially varied, one may trace Yemen's diversity through the cultural interactions and hybrid architectural fabrics of various regions. Foreign styles and ornamental features have entered Yemen as typological and aesthetic changes. At the same time, traditional construction techniques are flexible enough to incorporate these new developments. In this way Yemeni architectural history represents a dialogue between cultures both within and outside of the modern nation. The South Asian-inspired painted plaster of the 'Amiriya Madrassa is a good example (Al-Radi 1997), as is the hybrid architectural fabric of Tarim, the theological, juridical, and academic center of the Hadhramaut Valley. During the late 19th and early 20th centuries, merchant families in the Hadhramaut Valley and its tributaries grew rich from the Indian Ocean trade and their investments abroad. The al-Kaf family was considered to

be among the most influential of these merchants. Many members of the family were respected religious scholars. At the same time, they were among the first Westernizing elite of the region and contributed to public works projects in the name of modernization. Their status was thus based on a complex relationship between traditional society, modernity, and international trade (Damluji 1992). Their palaces remain as a testament to both their affluence and the complex identity of the modernizing elite of the colonial period.

The palaces and public buildings constructed under the patronage of the al-Kafs and other prosperous families were executed in the stylistic idioms they encountered in British India and Southeast Asia. A member of the local community interviewed by Al-Radi, said that Muhamed Hassan al-Kaf sketched many of the buildings he came upon when abroad. These drawings served as some of the design models for the Tarimi palaces, although none of his sketches have been recovered to date. Architectural pattern books from urban centers such as Cairo may have also influenced the al-Kaf designs. As a consequence, the palaces include examples of Mughal, British Colonial, Art Nouveau, Deco, Rococo, Neo-Classical, and Modernist styles unparalleled in Yemen. While these foreign decorative styles have been incorporated into the Tarimi architectural idiom of the late 19th and early 20th centuries, traditional Hadhrami construction techniques based on the thousand-year-old traditions of unfired mud brick and lime plasters served as the primary methods for executing these buildings.

In his report to UNESCO in 1980, Stefano Bianca listed common challenges facing the architectural heritage of the Islamic world. Over twenty years later, many of the problems Bianca enumerated are still the source of deterioration in historic urban fabrics. Tarim and the other cities and towns of the Hadhramaut do not face the same scale of demographic pressures as many other historic cities in the region, but Bianca's comments on social disintegration and the new standards in education are relevant to the Yemeni case. Especially pertinent are his comments on the privileges associated to new styles of urbanism and

architecture and the impact of economic transitions that have accompanied transnational labor movements. The latter have drawn Yemenis out of their country to work at higher paying jobs in the more affluent nations of the Persian Gulf, as well as the United States. This shift and the consequent effects on urbanization and the production of 'vernacular' architecture were well underway throughout the 1980s (Serageldin 1982).

Following the Gulf War and unification of the North and South (1992), Yemeni nationals returning from employment abroad injected still more capital into the region. Their return sparked a construction boom, while also changing people's expectations of building styles and construction processes: many preferred to build in the materials and idiom of the contemporary architecture of the Gulf States and were no longer willing to wait for the longer period it takes to build with mud brick and lime plaster. As a result, many clients demand construction in reinforced concrete in a postmodern idiom. Professional contractors (*muqawal*) have also taken on many of the roles once reserved to the master mason (*usta* or *mu'allim*) (F. Veranda 1996: 154). In 1992-93, Sana'a University graduated its first class of architects. Both professions often valorize new technologies, materials and styles, and are now an integral part of the conservation, construction and planning process (F. Veranda 1996: 156). To paraphrase Said Yislam Ba-Sweitin, a master mason from Shibam, people now have different tastes, expectations and lifestyles. As a result, younger generations are not learning traditional building and maintenance techniques (Borelli and Jerome 1999). The problem then not only lies in preserving significant structures in their urban context, but also in articulating the value of traditional craftsmen as the city changes with regional integration into a global social and economic milieu.

Documentation, condition assessment and dialogue
The combination of cultural-historical, aesthetic and scientific significance of the Tarimi palaces in itself calls for a sustainable conservation program. Over the last thirty years, the al-Kaf family palaces have been neglected—in some cases,

partitioned for multiuse occupancy, in others, completely abandoned—falling into a state of disrepair. As a result, many are now in danger of imminent collapse and a full documentation and conservation program is needed for the historic core of Tarim. At this point in time much of the historic core of the city is either incompletely documented or simply undocumented.

With the support of a US State Department's Bureau of Educational and Cultural Affairs-funded fellowship from the American Institute for Yemeni Studies and the Columbia University Media Center for Art History, Archaeology and Historic Preservation, we chose Qasr al-'Ishshah **(fig. 1)**, the largest and most significant of the al-Kaf palace complexes, to open a larger documentation program of the Tarimi palaces and the significant urban fabric of the city. The documentation materials of this field season will support an adaptive reuse program for Qasr al-'Ishshah as well as the development of a suite of web-based pedagogical resources. The team conducted a full documentation of the 'Ishshah complex, including the completion of plans, elevations, and measured drawings; conventional, digital and QuickTime Virtual Reality photography of the more than three hundred rooms and the exterior of the complex; and condition assessments. In addition to documentation, samples of the 'Ishshah's mud brick and plaster construction materials were taken for further analysis in the United States. (We are still waiting for the results of these tests at the time of publication.) The team also took Universal Transverse Mercator (UTM) points of twenty-eight additional al-Kaf and other merchant families' palaces for future condition assessments and the development of a Geographic Information System **(see appendix A)**.

A. Qasr al-'Ishshah complex: introduction and condition assessment
The household complex of 'Umar bin Shaikh al-Kaf, Qasr al-'Ishshah is one of the original al-Kaf family houses in Tarim. Shaikh al-Kaf built the house on the fortune he made in South Asian trade and from a hotel investment in Singapore. 'Ishshah derives from the Arabic root *'-sh-sh* meaning to nest, take root, or

establish. Members of the al-Kaf family and other individuals in the community said that the name refers to the original house that, to paraphrase, was like a bird's nest in a thick palm grove. This first building, known as Dar Dawil, was constructed during the 1890s **(fig. 2)**. Today the complex sits within an urban environment amongst other al-Kaf palaces and other affluent Tarimi merchant families. Qasr al-'Ishshah is a collection of several buildings constructed over a period forty years. The main southern building alone includes several additions.

Dar Dawil is located in the northeast corner of the site **(fig. 3)**. This house has a ground floor kitchen, a ramp (*manzaha*) which passed over the kitchen to permit a camel to draw water from a deep well, and store rooms below the living quarters. A north and east gate define the entrance to the site. Eventually Dar Dawil was altered, presumably as the household grew. Two additional windows were added to the three original on the upper story, while an extension was added to the south, including a pigeonaire. Dar Dawil turned from a rectangular plan into a T-shape dividing the palm grove into two courtyards.

The eastern gate house dates to approximately the same period and functioned as a school for the family's children. The ground and first floor of the northwest kitchen wing, to the west of the north gate, are from this period. Two garages connected Dar Dawil to the eastern gate house. Umar bin Shaikh eventually married four wives and as the family grew, so did the size of the complex. The main building, was built at the southern end of the site in the 1920s. Soon thereafter the upper stories of the northwest kitchen wing were constructed and another wing added onto the southwest corner. It is unclear when the southeast gate was built, but we are certain that the southeast and final wing was erected in the 1930s. Local community members contributed this information while the different styles of stucco decoration and historic photographs support the existence of multiple construction sequences.

From 1970 to 1991, Qasr al-'Ishshah was expropriated by the government of the People's Democratic Republic of Yemen (South Yemen) and divided up as multi-family housing. The house has now been returned to the al-Kaf family and legal ownership rights are shared amongst many of Shaikh al-Kaf's descendents. In 1997, the Historical Society for the Preservation of Tarim rented half of the house in order to present the building to the public as a house museum, the only one of its kind in the Hadhramaut. Three years later the Society rented the rest of the house, but has been unable to present it to the public due to its poor state of preservation.

On both its exterior elevations as well as most interior surfaces, Qasr al-'Ishshah exhibits some of the finest examples of lime plaster decoration (*malas*) in the city (Jerome, 2000). The decorative program of the exterior south façade finds its antecedents in Mughal royal architecture, as well as the colonial forms of the Near East, South Asia and Southeast Asia. Interior stucco decoration differs from room to room, including Art Nouveau, Rococo, Neo-Classical and combinations of the three (Beamish 1985; Damluji 1992; Myntii 1999; Scharabi 1989). The ornamentation often incorporates pilasters along the walls framing openings **(fig. 4)**, built-in cabinetry with skilled wood carvings **(fig. 5)**, elaborate column capitals **(fig. 6)**, decorated ceilings **(fig. 7)**, niches and kerosene lamp holders **(fig. 8)**, as well as complex color schemes.

Since the initial feasibility study of 2001, a larger portion of the central section of the west elevation has collapsed **(fig. 9)**. The collapse not only took down the load-bearing walls of the façade, but also a large extent of the interior rooms on the west side of the building. Karami Faraj al-Tumur, a Tarimi master mason (*usta)*, conducted a survey of the damage estimating the cost of repair at 1 million YR. 'Umar Abdalaziz Hallaj, an architect working with German Technical Aid (*Deutsche Gesellschaft für Technische Zusammenarbeit*, GTZ) on the Shibam Development Project, confirmed al-Tumur's estimate. Without repair, the structural integrity of the remainder of the west elevation is at risk. The collapse

has in turn caused extensive structural cracking as the floors in adjacent rooms settle. In many cases plaster finishes and detailing in these rooms have also been damaged due to the movement of the building.

In addition to the damage on the west façade, the roof and floors of the northwest kitchen wings have collapse through three stories **(fig. 10)**. A significant portion of Dar Dawil also collapsed approximately three years ago **(fig. 11)**. We ascertained that the northwest section of this same structure collapsed several years prior as well. Non-structural material failure is taking place in sections of the complex not in the immediate vicinity of these aforementioned collapses. The plaster of the ceiling in room 110, a finely decorated bath, has already fallen. Several other rooms face similar dangers. As a preliminary measure, additional funding has been secured from the Yemen Social Fund for Development **(see below, section B)** to rebuild and restore the collapsed western façade and interiors. These funds will also be used to put a temporary coat of lime on the roof of the main southern building to prevent further deterioration.

Many other elevations and roofs show severe damage, and both interior and exterior surfaces in the entire building complex demonstrate extensive deterioration in the mud brick and plaster fabric. For example, the roof of the gate house is also in extremely poor condition. Plaster finish has been lost in many areas or separated from the mud brick substrate. In addition to the deterioration in al-'Ishshah's mud brick and plaster, there is some termite damage. A significant number of the wooden elements, windows and doors are damaged beyond repair. The extensive loss of the Art Nouveau stained glass windows in room 110 is one such example, although others may be found throughout the complex **(fig. 12)**.

The scale of deterioration and the nature of earthen construction indicate that irreversible structural damage is imminent. Lime plaster is the sacrificial coating, functioning as both protection and decoration, and if not maintained, the load-

bearing mud brick substrate will be at an even greater risk. As a consequence of the relationship between the protective plastering, mud brick and the seasonal rains, construction requires regular maintenance. When neglected, damage occurs exponentially.

B. Dialogue, planning and outreach

It was also our objective to establish working relationships with both governmental and nongovernmental organizations in Yemen, as well as with stakeholders in the local community following the model of projects that begin by assembling a broad group of participants (Daher 1996). The object is to facilitate the planning and implementation of national heritage status for this building, and in turn, a full group of historic buildings and sites in Tarim. Several organizations have helped our project in the past, showing particular attention to the conservation of Tarim and Qasr al-'Ishshah, and their support continued through this season. The Historical Society for the Preservation of Tarim currently operates part of the house as a museum, however, due to large-scale collapse and a lack of funding and expertise, they have been unable to present the entire house to the public. The Society also publishes information on the cultural heritage of Tarim and raises funds for their projects. They have been amongst our most active partners.

In addition to the Society, the General Organization of Antiquities and Museums (GOAM), a governmental ministry, has played a substantial role in our efforts. They sponsored our work by providing permits and employees to work on the project. Local GOAM employees from the Seyoun Museum were especially supportive, providing both a high level of expertise and knowledge of local architectural history, materials, and building professionals. The museum also made storage space available to us during the off season. In exchange for their

support, we helped train several GOAM employees in our methods of condition assessment and documentation.

The local government also showed interest in our efforts this season. In an arrangement initiated by the head of the Seyoun Museum, Abd al-Rahman al-Saqqaf, we had the opportunity to meet with Deputy Governor Abd al-Rahman Muhamed al-'Ulfi to discuss our ideas and the general need for a more active governmental role in the conservation of national heritage. Deputy Governor al-'Ulfi, himself an engineer by training, was supportive of our project and set up a meeting between our group and other organizations working in the area, but to date there has been little movement towards official governmental recognition of Tarim as a protected national heritage site.

We also spoke extensively with al-Kaf family members still living in Tarim, all of whom have partial ownership rights over the house. These discussions fell into the categories of ethnographic and historical interviews, and logistical consultation and evaluation. Our discussions shed light onto the site history, folklore and building sequence of al-'Ishshah as discussed above. They also clarified which relatives legally own the house and the extent of their claims. These conversations laid out potential conflicts in the conservation process that we had not anticipated: our discussion with Deputy Governor al-'Ulfi was reported on local radio, and while we considered his response to our proposal to be extremely positive, the al-Kafs we spoke with found it threatening. They expressed fears over the renewed potential of governmental seizure of their property that may accompany listing the house as a national heritage monument. During the 1970s and 1980s, the Qasr al-'Ishshah was expropriated by the government of South Yemen, and the structure received little maintenance. As a consequence, much of the damage in the building stems from this period. On top of this, the al-Kafs were never compensated for these actions and the family members we spoke with do not feel responsible for many of the repair expenses.

Meeting with these family members was in turn essential in addressing the al-Kaf's concerns over these financial burdens as well as their new fears that came out of our discussions with the government. The al-Kafs helped us develop a strategy for securing these houses through purchase or long term lease. They also introduced us to several Tarimi master masons as all of our previous relationships were with individuals from Shibam and other cities in the Hadhramaut Valley. Our frank discussions with the al-Kafs were facilitated by the Historical Society and by the end of the field season, the three of us had agreed to an open working environment with full sharing of all materials produced by current and future research. We also decided on the common objective of conserving and reusing as many of the households as possible, by no means a given between family members and our project before this year's work.

During the 2002-03 field season, we also conducted many informal meetings with German Technical Aid (GTZ). These discussions should not go unmentioned. GTZ has been working on a similar restoration and adaptive reuse program focusing on historic houses in Shibam, a World Heritage Site, as a part of a larger development project in the city. While we have no formal partnership with GTZ, this dialogue was essential in finding local sources of materials and expertise, evaluating cost estimates, and for airing general concerns related to the project.

After the end of the field season, Al-Radi presented our work to the Yemen Social Fund for Development, a nongovernmental organization supported by the World Bank, and the General Organization for the Preservation of Historic Cities of Yemen (GOPHCY), in order to garner additional support for the project. As a result of this meeting, the Social Fund has given 1 million YR for the consolidation of the western façade of al-'Ishshah. Discussions with the Social Fund over a partnership in a full-scale conservation project continue, but its funding of the emergency stabilization of Qasr al-'Ishshah has already proved to be an essential contribution to the project. Without this repair, further collapse

was imminent. Dr. Al-Radi also brought several government officials to informally review the site and the long-term implications of historic district designation for Tarim.

We had little success in opening dialogue with architectural or structural engineering departments at the regional universities in Yemen. The faculty and, in many cases, the facilities themselves simply do not exist in the Hadhramaut, and we were too focused on completing the immediate field work to explore similar possibilities in the University of Sana'a or Mukallah. Educational development in Yemen itself is essential to the success of this and other conservation projects. Al-Radi's work in Rada'a has already demonstrated the social and economic value of informal educational programs (Al-Radi 1997). Architectural and engineering curricula in Yemen generally teach students to build with reinforced concrete skeletons and concrete block or brick infill, along with exterior cladding of stone in some regional contexts. The use of traditional mud brick technology, the most appropriate construction material for this specific geographical region, is often disregarded, while historic preservation and adaptive reuse are perceived as costly and unnecessary. Our earlier study of traditional construction methods demonstrated the efficacy of mud brick construction when adapted to contemporary lifestyles and conveniences. We also found several examples of successful and sympathetic upgrading of historic buildings (Jerome, Chiari and Borelli 1999). Both points have failed to effect the training of local architects or engineers (Jerome 2002: 29). To address this problem, our project plans to organize an adaptive reuse workshop under the auspices of Deputy Governor al-'Ulfi for students as well as architects, engineers and other professionals. This dialogue may lead to approaches that incorporate local knowledge with our own experiences and expectations, in turn producing a hybrid conservation strategy appropriate to the unique conditions in Tarim.

C. Media resources

Based on the successful use of video as a documentation and community outreach tool (Borelli and Jerome 1999; Borelli 2001), we anticipate that media will serve a vital role in our efforts. Visual perception is not a passive recording of information, but an active element of conceptualization that exercises selective, abstract and creative acts of intellectual formation (Arnheim 1969). In Yemen it has also proved to be a vital tool in opening dialogue between diverse groups of stakeholders. As the work of Shehayeb and Abdel-Hafiz in the Tablita Market of Cairo and Borelli and Jerome in the Hadhramaut have demonstrated, multi-media presentation and visual models function as an integral tool by which non-designers may express their ideas (Shehayeb and Abdel-Hafiz, 2001; Borelli and Jerome 1999). Another significant model for this approach is the idea of participatory design as expressed by the Presence Project supported by the European Commission's Intelligent Information Interfaces group (Netherlands Design Institute 1997). John Thackara, chair of the Presence Steering Group, has expressed participatory design as follows:

> We're beginning to understand what it means to design with people rather than for people. I know it sounds like a minor semantic distinction, but it's had a major impact on all of our expedition's members: rather than setting off on a project with a preconceived idea about what we're going to do, now we're all committed to working with real people in the real world and starting there, rather than starting with technology and imposing it on a given situation (1997: 9).

There is no way to put aside one's preconceptions when entering a project, nor as a group of professionals should we erase our opinions and expectations. But participatory design places our professional assumptions into lived situations from the inception of the project. It is our objective to engage the potential of this process within the social context of Yemeni society while also introducing a relevant, cost effective set of computer aided design, geographic information systems, and visualization resources to our Yemeni partners. The intention is not to replace local professionals and their vital knowledge—an act that would go against the very principles of conservation—but to provide better options for documenting and representing our work.

While the potential of these resources is exciting to a Western audience, we must balance this outlook with data on the average Yemeni's access to information technology. The World Bank statistics on Information and Communications Technologies (ICT) for Yemen are not encouraging. Based on statistics from 2000, personal computing and internet use is rare and expensive in Yemen. Out of Yemen's population of 18 million, there are only 1.9 people per every 1,000 who have a personal computer. Yemen has only 15,000 internet users, and the average monthly off-peak service charge for access to the World Wide Web is $44.50. These averages are well below the rest of the Middle East and North Africa with the exception of the service charge statistic, which is $26.50. (World Bank 2003).

There are also little if any of these statistics predating 2000, so it is impossible to chart the growth of ICT, which is generally more promising. Whereas the ICT infrastructure is experiencing rapid growth in a country like Egypt, and it makes sense to engage the potential of these technologies, there is simply no evidence for a parallel in Yemen. Also, there is no information on the distribution of ICT within Yemen. Anecdotal evidence would suggest that these resources are concentrated in Sana'a and Aden as opposed to the Hadhramaut, but this cannot be supported by statistics. Furthermore, we have no anthropological information on the way Yemenis use computers or even consume media. We cannot take it for granted that there is even a pedagogical culture connected to personal computers and the internet, as there is in many other countries.

While there are many reasons to be cautious in regard to the use of ICT, there are also the specific needs of our project to consider. During the field season, our photographs and drawings numbered in the thousands. Our first step was organizing and storing these materials in a database schema. Also, with the number of Yemenis living abroad—in particular, members of the Tarim community—a presence on the World Wide Web is necessary. In fact we have received encouragement from Yemeni students and professionals living in the

United States and Saudi Arabia who learned of the project through the web site (www.mcah.columbia.edu/tarim), many of whom will return to the Hadhramaut with a better impression of the architectural heritage of the region.

The second stage of media production will then focus on developing our raw materials into web-based resources for the study of Tarimi architectural heritage. To this end we are building an integrated, multilevel system that includes digital image collection and delivery and the development of multimedia pedagogical environment. In regard to delivering these resources within Yemen, we have to provide both the hardware and the appropriate social spaces within which to distribute them. Again, we can find parallels in Borelli and Jerome's screening of their film in locations across the Valley (Borelli 2001). This process will begin with demonstrations at our own events, such as the upcoming adaptive reuse workshop, and develop into a set of site specific resources to be used in educational institutions and museums. We can also work closely with organizations such as the Preservation Society, GTZ, GOAM and GOPHCY to put together a network of resources that will reach a broader user group. In addition, at this point in time, we can run our resources directly off the hard drive of individual machines so that we do not depend on slow connection speeds.

Conclusions

Careful documentation of al-'Ishshah revealed the physical condition of the complex, alerting us to areas that require immediate structural stabilization. Protecting the palace through complete restoration is going to be a more difficult task to accomplish because of issues of multiple ownership. The presentation of al-'Ishshah to the public as the seat of the al-Kaf family is the ultimate goal. In order to develop the house museum, further research is necessary into the lives of earlier generations of the al-Kaf family. This may be best accomplished through video documentation of the oral histories of surviving family members or cooperative work with other research projects that will eventually be disseminated on site as well as online.

The documentation training program will continue to survey and record the Tarimi palaces, evaluating and prioritizing needs. We have identified the Hamtut, an abandoned palace in salvageable condition, for the 2003-04 season. (Al-Munaysurah is in relatively good condition and, therefore, we have postponed its documentation.) The Hamtut is adjacent to Dar Al Salam, a modernist palace which lends itself for adaptive reuse as a school. We are proposing that Dar Al Salam be purchased for the establishment of the Center for Mud Brick Architecture, and that the Hamtut be reused as a hostel for the Center's visiting scholars.

We will also continue to pursue the concept of establishing a historic district in Tarim. Currently, there are no laws in Yemen which protect private property, with the exception of those which protect private property within World Heritage Sites. We will continue to have a dialogue with the government to this effect.

Finally, we will attempt to bring Yemeni architecture and engineering students into this process to widen our base of stakeholders. The web site will evolve with each additional documentation project. We will continue to train GOAM employees and hopefully, American graduate students, to further develop awareness of the significance of local construction techniques and of the Tarimi palaces as an ensemble.

Fig. 1 Qasr al-'Ishshah, south façade.

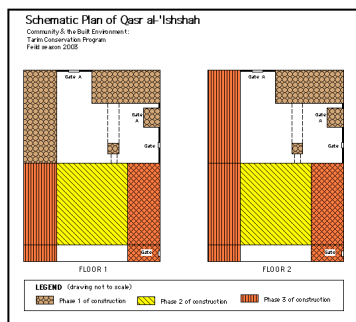

Fig. 2 Dar Dawil.

Fig. 3 Qasr al-'Ishshah, phases of construction.

Fig. 4 Decorative pilasters.

Fig. 5 Wood cabinetry with decorations.

Fig. 6 Column capital.

Fig. 7 Lime plaster decoration on interior ceiling.

Fig. 8 Niches and kerosene lamp holders.
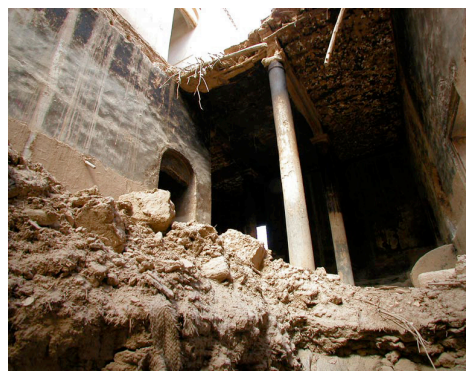

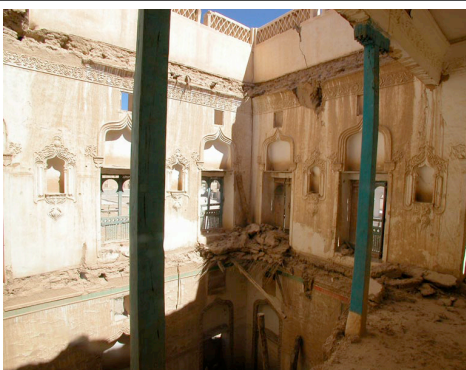Fig. 9 Collapse, western façade.

Fig. 10 Collapse, kitchen.

Fig. 11 Collapse, Dar Dawil.

Fig. 12 Art Nouveau window.

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