



2007 On Site Review Report

2942.YEM

by Salma Samar Damluji

Urban Development Project

Shibam, Yemen



Architect
GTZ Shibam Office

Client
Local Communities

Design
2001 - Ongoing

Completed
2005 - Ongoing

Urban Development Project

Shibam, Yemen

I. Introduction

Based in the city of Shibam and encompassing the Greater Shibam district, this is a community development project set up to empower inhabitants to restore their immediate environment and improve the quality of their lives. The project has a wide operational programme embracing four components:

- Heritage conservation (housing and monuments restored by master builders)
- Economic development (women, crafts and agriculture)
- Community initiatives
- Infrastructure (solid waste management, technical infrastructure: water, electricity, sewage, streets, lighting)

II. Contextual Information

A. *Historical background*

The ancient city of Shibam is one of three major urban centres in Wadi Hadramut, along with Say'un, the capital of the Interior, and Tarim to the east¹. It was the commercial capital where the caravans assembled on the Arabia trade route. Due to its composition and stunning setting, Shibam was included on the UNESCO World Heritage List (1982-1984). Mud-brick high-rise buildings cluster in a walled mass that exudes the genius of Yemeni architecture. There is no definite date for the construction of this city, but its name is mentioned in early texts and in pre-Islamic poetry (Umrū' al Qais). One of its mosques was supposedly constructed during the reign of the Abbasid Caliph Harun al Rashid (786-809). Locals tend to date the older buildings to 200 or 300 years ago, but it is an established fact that these buildings have been repeatedly reconstructed over the centuries to sustain the architectural mass and volume of the city.

B. *Local architectural character*

Different house types occur in the different areas and towns of Hadramut, partly as an expression of socio-economic status, partly out of a need for security. The vertical expansion of the housing was informed by the topography, with horizontal expansion being restricted by proximity to arable land (Shibam) or by locations pitched high on the flat plateaux of mountains (e.g. Hajarayn). Larger towns were walled for defensive purposes, leaving limited space for expansion inside.

In terms of interior organisation, the ground floors of Hadrami houses were almost always taken up with grain and staple food storage. In Shibam the ground and first floors have dark,

¹ For a more precise description of the geography and history of Shibam and Hadramut see; *The Valley of Mud Brick Architecture, Shibam and Tarim in Wadi Hadramut*, (Damluji, Reading 1992)

lofty and narrow depots with few openings for ventilation. Sheep and goats are kept in adjacent rooms and terraces on the first floors at night. The second and third floors were designed as several living rooms (mahadir) used by the men, while the fourth and fifth floors contained living areas used by the women, along with kitchens, washrooms and toilet facilities. The sixth and upper floors were used by the children or by the newly-wed couples of the extended family. Terraces placed at the upper levels compensated for the absence of open courtyards in the house.

C. *Climatic conditions*

Shibam and Wadi Hadramut are in an arid climate zone: southern Yemen and its coast are subject to seasonal rains during the sub-continental monsoon.

D. *Site and surroundings*

Shibam is one of few historic cities of the Interior that is not built directly against a mountain backdrop. It sits on a raised earth dais, often described by historians as the mound of an ancient city's rubble, and is surrounded by a city wall (sur). It was constructed on the main artery that runs east-west through the middle of the wadi, and was originally entered through its main southern gateway. To the north are agricultural fields, to the west the old cemetery. Urban expansion has taken place to the south, across the flood path (saylah), in the adjacent town of Sahil Shibam. Like the other new towns of the wadi, Sahil Shibam has witnessed unprecedented urban sprawl in the last two decades.

Within the city walls there are 437 private houses (of which 398 are inhabitable and 39 in ruin). There are six mosques (with an additional six situated in the spate irrigation fields outside the city walls), two madrasas and one private zawiya. The city has four public squares as well as smaller plazas between the housing clusters. There are four buildings housing charitable associations; two public palaces, the city gate, two primary schools (one private and one public), a health clinic and an administrative complex by the southern gateway consisting of four buildings. There are 134 shops (mostly on the ground floor of residential buildings).

III. Programme

A. *History of the inception of the project*

The Shibam Urban Development Project (SUDP) was launched in 2000. A joint Yemeni-German venture, it aimed to capitalise on 10 years of cooperation between the two countries in the field of urban development: the GTZ (German Technical Cooperation) represented the German side, while the GOPHCY (General Organisation for the Preservation of Historic Cities of Yemen), under the supervision of the Ministry of Culture, was to implement the project on the Yemeni side.

The project cooperates closely with the Social Fund for Development of Yemen (SFD), an organisation concerned with alleviating poverty and assisting Yemen to offset the effects of economic reform. The SFD provides some funding to heritage projects that involve

preserving traditional building techniques and creating jobs in the construction sector; it has financed most of the project's conservation interventions.

The project also cooperates with several local institutions, including the Local Council, which was created as part of a nascent decentralisation process. Several other community-based organisations form an integral part of the project's partnerships.

The SUDP was envisioned to take place over three phases. Currently, it is at the end of its second phase. The first phase, which ran until 2004, concentrated on opening up contacts with the community, organising and mobilising community-based organisations and initiating interventions based on community participation and priorities. The second phase of the project has consolidated initiatives undertaken in the first phase, strengthening the local capacity to manage and implement interventions and enable the process to become operational.

B. How were the architects and specialists chosen?

According to the project director, many of the requisite skills for implementing the programme were initially lacking in the area. As a result, the project at first depended on a core team recruited from other parts of Yemen and on 'backstopping' by international and regional consultants. The housing programme, in particular, required both short-term backstopping and long-term assistance from several GTZ and DED consultants. However, when the Shibam Historic Housing Unit was established, the GOPHCY gradually took over responsibility for running it, to the point where it now handles all of its daily operations. The unit also depends on the services of an old master builder, who advises on appropriate traditional techniques.

Before a subsidy can be determined and a house restored, the programme requires a documentation and assessment of the problems with the building. At first, four technical teams from the area were qualified to do this. Each was made up of one architect and one engineer, generally young graduates who lacked experience of working on traditional mud structures (mud architecture is not taught at local universities). Each team engaged a senior master builder, whose input was an indirect on-the-job training for the young professionals. The teams also received on-the-job training in documentation and assessing priorities. As the demand for the project's services grew, the number of teams was increased to eight. The teams are routinely evaluated on performance, accuracy and punctuality. Occasionally, when quality slips, a team is replaced: this has happened three times over the last five years.

The work is carried out by local master builders and their crews. For the historic housing programme the owner is free to choose any professional they wish. Restorations of public monuments, which are fully funded by the project, are tendered out by the SUDP. The project is also involved in the tendering process when a house is to be restored through a high level of subsidies (as occasionally happens with very poor families where the head of the household is incapacitated and cannot oversee the work), or involves specially delicate ornamental and historic features. Any master builder wishing to acquire commissions from the project has to be admitted to a professional association that has been set up to ensure adherence to

traditional building techniques. A committee of elders supervises the work of the master builders and resolve any conflicts that arise over the quality of the work.

For non-construction work such as community development projects, training, capacity building, etc. consultants were often recruited from Yemen. Experience on similar projects in the region was an essential qualification.

C. General programme objectives

The main objective of the project is ‘to strengthen the local community’s capacity to preserve its cultural heritage and in doing so ensure that the community shares the economic returns and benefits of having preserved this heritage’.

This strong emphasis on economic development stems from the premise that urban heritage constitutes one of the main assets in a country with precious few resources. In preserving its heritage, Yemen is actually preserving an important asset for its future development.

The project adopts an integrated approach to urban development focusing not only on the conservation of heritage but also on improved urban management. Solid waste management has been enhanced by working with local authorities to develop and finance collection routes and infrastructure. Local craftsmen are being trained, and women are being taught to adapt weaving traditions into tourist products, so strengthening the urban economy. Agriculture around the city is being revived through cooperation with a local association on the rehabilitation of the old canal and spate irrigation system.

By incorporating varied aspects of urban development into the conservation process, the project has enabled the community to make a direct link between heritage issues and improved economic conditions. In addition, it has empowered the community organisations that cooperate with it to carry forward their programmes in other contexts, independent of the project.

D. Functional requirements

The inhabitants of a designated historic site have to observe stringent rehabilitation procedures and at the same time are denied future development rights. By subsidising the preservation of the heritage, private as well as public, the state is compensating them for the structural imbalance created by the historic listing. The level of compensation has to be carefully calculated to give the community back what it is owed, as over-subsidisation could in the long run encourage a ‘rentier’ condition.

One of the main tenets of the project is therefore to provide services and dispense state subsidies in a demand-driven manner, to ensure that people play an active role in developing their assets. Subsidies take the form of incentives for improvement, rather than rents. From the outset, the project has insisted that the owner take charge of restoring their own property: that they set their own priorities for intervention, commission the master builder and manage the construction budget. Subsidies are given directly to the owner in phases, as the work progresses.

The subsidy system has also to be flexible enough to meet the individual's capacity to contribute. Owners who have the financial resources to do all of the work at one time are issued a single contract. Others have a series of contracts tailored to meet their cash flow: some owners have been issued as many as six contracts, covering the work required to bring their houses up to an acceptable state of preservation.

By being flexible, demand-driven and oriented to meet not just the requirements of preservation but also the inhabitants' priorities, the project has managed to engage the local community in the long-term management of its heritage. However, it has been necessary to accept that some important historic elements have been left out, in the absence of any direct demand to preserve them. (To counter this, it is argued that eventually the neglected assets will become devalued to the point where they become interesting for a future investment, or that through ratification the remaining assets will be re-valued. This has largely proved true in practice.)

IV. Description

A. Building data

To date the project has worked on approximately 200 houses (with 198 houses having completed at least one phase of rehabilitation by the end of February 2007). The average house has six storeys and about 500 square metres of floor space (of which only 225 metres are useable, the remainder being formed of walls and residual spaces). Plots range from 325 square metres to 17 square metres, though the average plot size is 90 square metres.

Some 437 houses can be identified in the city. Only 397 of these are inhabitable, the rest are in ruin. The project has so far reconstructed three ruins and has facilitated the reoccupation of 30 per cent of the houses that lay vacant before the start of the work.

Besides the housing programme, the SUDP has established a Monuments Fund, financed by its own funds and by the Social Fund for Development. To date the following historic public elements have been restored:

The minaret of al-Harah madrasa. This nineteenth-century structure was built to provide a modern curriculum as well as a Quranic education to the boys and girls of Shibam. The main body of the madrasa was destroyed some years ago and is slowly being reconstructed by the original patron family. However, the original minaret still stands. Around 20 metres high, it retains most of its historic ornament. An old master builder was engaged to train two apprentices to undertake the necessary structural stabilisation and renew its mud and lime renders.

The custom houses of al Qu'ayty and Kathiri states. These two 1930s buildings lie a kilometre outside the historic city, marking the border between the two states. The Qu'ayty post consists of four small rooms with a total surface area of approximately 30 square metres. The Kathiri post is smaller, around 18 square metres.

Ba Ziad mosque. Situated in farmland about 900 metres outside the city, this mosque is used by Shibami farmers working in the fields during the summer. Its total surface area is about 100 square metres.

The Bilad al Gharib mosque lies in the valley of Bin Ali, some 20 kilometres from Shibam. It had become too small for local needs and was threatened with demolition (an expatriate donor offered funds to replace it with a modern large mosque). The project negotiated with the local community to restore the mosque and build a new annexe to meet the need for additional space during holiday prayers. The mosque has western and eastern covered spaces, a yard and a Quranic studies room. Its total floor area is about 200 square metres.

Kut al Hasa. This small hilltop watchtower constitutes an important visual element overlooking the city. It covers about 75 square metres and is 12 metres high.

The Mountain Kut. This two-storey watchtower, perched 250 metres above the city, was built in the 1920s to control the pathway from the Kathiri state. The tower is a square c. 8m x 8m, and around 11 metres high.

Five siqayah in and around Shibam. These historic fountains were built by philanthropists to provide drinking water for travellers. Each consists of a small reservoir topped by a small dome.

The wooden city gate. The original wooden gate, removed some 15 years previously to facilitate traffic flow, was restored to its original location.

B. Evolution of design concepts

i. Response to physical constraints

The main constraint on the preservation works is the physical difficulty of hauling building materials through the narrow streets of the city and up to the top of the houses. To address this issue, the project provided houses with difficult access additional compensation to cover the cost of manually moving the supplies from the nearest unloading point to the site.

It has generally proved easy to use local materials as these are mostly found in abundance in the area. An exception is the lime, which is being produced in a way that is detrimental to the environment, in lime-kilns fired with burning car tyres and other combustible fuels. The project has worked with local producers to improve the burning of lime. However, the process is costly, and local suppliers cannot compete with producers who use harmful fuels. The project is now attempting to develop alternatives to the lime-burning process.

The production of the traditional cement known as ramad has also proved difficult as most master builders have taken to adding Portland cement to the lime. The project has engaged retired master builders to train the younger ones to reproduce the ramad process. A pilot trial was carried out, and the project was able to develop cost estimates for commercialising the production.

ii. Response to user requirements

Shibami houses have a very specific spatial organisation, which the restoration work usually tries to respect. Minimal interventions accommodate modern living requirements (through the addition of toilet spaces, the separation of floors to accommodate multi-family living, etc.). In general, however, the level of intervention is limited by the fact that the structural system does not permit major changes.

iii. Purely formal aspects

Though the older master builders still had the skills required to restore the houses, many of them had not been using them for years (commercial building is now widespread). At first it was difficult to convince them to return to the abandoned techniques. It proved necessary to develop many pilot cases, using (fully subsidised) public restoration projects as testing grounds. Direct intervention by the project's architects ensured that particular details were adequately documented and so could be easily reproduced (allowing for slight modifications in response to cost constraints). In general, several prototypes were developed for the various details to accommodate the diverse tradition of ornamentation: a typical Shibami house has different window types even within a single room.

iv. Landscaping

The project introduced some landscaping elements, planting palms, laying some traditional pavements and repairing some public fountains. However, the main landscaping efforts are awaiting the implementation of the infrastructure project, which will be funded by the SFD.

C. Structure, materials, technology

i. Structural systems

The project followed the advice of the senior master builders in developing standard responses to structural problems in the mud buildings. Responses include adding wooden stilts (ma'atin) along damaged facades to help reduce the load of the upper floors, using horizontal wooden beams to 'stitch' vertical cracks in walls, replacing defective structural elements, and in extreme cases removing added floors to reduce the extra loads imposed on the buildings. All these structural interventions are traditionally practised in Shibam, though it was necessary to engage senior master builders to supervise the work of the younger master builders and train them in these techniques.

ii. Materials

All structural elements are reported to be made from the traditional 'Ilb (zisyphus spina christi), a local hardwood. However, in extreme cases the upper floors are supported by steel tubes (a method often used in spanning ceilings in mud-brick building in Hadramut since the 1980s).

iii. *Renderings and finishes*

Renderings are usually made from mud mixed with local hay and straw. Alluvial mud is collected from the agricultural fields around the city after every few floods. This returns the fields to their original level, and profits the farmers. The Agricultural Association established through the project's intervention uses the funds raised from the sale of the mud to maintain the irrigation system.

For waterproofing the outer surfaces of the building, lime is applied in two layers plus a final wash. The first application is thick while the second layer is thinner and is usually mixed, while wet, with fine sand that acts as aggregate to stabilise the lime. The final lime wash is usually mixed with a small quantity of red sugar.

D. *Origin of technologies, material, labour and professionals*

While the housing programme depended in its first few years on backstopping by regional and German consultants, project staff are now for the most part Yemeni, recruited from various parts of the country. Many project consultants were recruited from another regional project developed by GTZ in Aleppo, Syria. International consultants for the project were German.

Most interventions have been carried out using local traditional techniques and materials. These techniques are labour-intensive; on average the ratio of labour to material is approximately two to one. This is in sharp contrast to modern techniques, where the proportions are almost reversed.

V. Construction Schedule and Costs

A. *History of project design*

The project was begun in 2000. An initial assessment and community meetings indicated that improvements to the housing stock would be an important intervention, as the city was becoming depopulated and many houses were ruined or in danger of collapse. An economist (Burkhard von Rabenau) was asked to help devise a package for assisting home-owners to carry out necessary improvements to their houses.

The economist advanced the opinion that the residents of the city were being indirectly taxed for living in the listed site, as they were denied development rights and the flexibility to build to lower standards. It therefore seemed appropriate to offer a subsidy to offset this unfair situation. The idea was discussed with the SFD who agreed to fund the subsidies provided the following conditions were met:

1. Subsidies were to be offered on a clear and transparent basis, to compensate for the undue burden of the historic listing of the site. Residents should also contribute their fair share for the upkeep of their property.

2. The programme should make up for 40 years of neglect and bring the housing stock up to a good level of conservation. After that, more sustainable sources of funding would have to be established to cover regular maintenance.
3. The project should have a strong training component, with an overspill effect on the local workforce.

A pilot phase was envisaged with a 25,000 USD subsidy from the SFD. The GTZ acted as a guarantor for the subsidy and provided substantial funds for training and backstopping.

An architect was engaged to design the implementation module for the project. In 2002 the first four test cases were carried out. They were selected from a pool of 30 applicants on the basis of average structural conditions, varied patterns of tenure and the owner's capacity to contribute. During the rest of 2002 and 2003 a total of 26 houses were restored. In some cases the owners could initially only afford a limited contribution and were later involved in follow-up agreements. The first phase was then evaluated and a new phase devised.

This second phase started in 2004 and lasted for three years, although its targets were achieved in two years and four months. In that phase improvements were carried out to around 90 houses. A final, two-year phase started in 2006. In this phase the programme is being implemented by the management and technical staff of the Yemeni authorities, with minor technical and backstopping inputs from the SUDP. In total, 198 houses (approximately 50 per cent of the city's housing stock) have benefited from the three phases.

B. Total costs and main sources of financing

Total commission of BMZ (German Federal Ministry of Economic Cooperation)
to GTZ: approximately 5.1 million USD
Actual spending to date: 4.0 million USD

The following is an approximate summary of costs of direct interventions by the project. Further indirect costs include technical and managerial support for counterpart organisations as well as the overall management of the project and overheads.

Housing programme

Cost of subsidies to date: 230,000 USD (c. 45 million Riyals, funded by SFD))
Owners' contribution to the restoration of their houses: 420,000 USD (81 million Riyals)
Cost of technical assessment and documentation: 150,000 USD (100,000 USD from SFD, 50,000 USD from GTZ)
Cost of management: 180,000 USD (120,000 USD from GTZ, 60,000 USD from GOPHCY)
Total cost of housing programme to date: 980,000 USD

Historic monuments

Cost of restoration works: 125,000 USD (35,000 USD from SFD, 10,000 USD from GOPHCY, 85,000 USD from GTZ)
Cost of technical work: 65,000 USD (funded by GTZ)
Cost of management: 40,000 USD (15,000 USD from GOPHCY, 25,000 USD from GTZ)
Total spending on monuments to date: 230,000 USD

Joint community and economic development initiatives

Cost of projects: 350,000 USD (240,000 USD from GTZ, 60,000 USD from the Local Council and local institutions, 50,000 USD from local NGOs and beneficiaries)

Cost of technical support, training and management: 450,000 USD (50,000 USD from the Local Council and local NGOs, c. 400,000 USD from GTZ).

Total cost of community and economic development initiatives: 800,000 USD

Technical infrastructure

Rehabilitating existing network: 175,000 USD (funded by SFD)

Training and testing of pilot cases: 300,000 USD (220,000 USD from DED, 80,000 USD from GTZ)

Anticipated spending for implementation of infrastructural network: 2.5 million USD (funded by SFD)

Solid waste management

Implementation of programme to date including running costs: 210,000 USD (170,000 USD from Local Council and the Cleaning Fund, 40,000 USD from GTZ).

Technical studies, backstopping, and community awareness programmes: 50,000 USD (funded by GTZ)

Cost of training programmes (on-the-job as well as special training for institutions and counterparts)

Approximately 450,000 USD (funded by GTZ)

C. *Comparative costs*

The cost of work in Shibam is on average 50 per cent higher than work undertaken outside the city using less expensive mud architecture standards. The subsidy is envisaged to cover 35 per cent of the total cost of the work, meaning that residents will in theory pay the same as people living outside the city.

However, it was discovered a higher subsidy is required for ornamental work. A subsidy of 50 per cent for certain elements and 75 per cent for the more intricate work was devised.

D. *Qualitative analysis of costs*

The majority of subsidies (approximately 65 per cent) were used by owners to make improvements to the finishes of their homes (mud render, lime-wash, etc.) Structural repairs account for 15 per cent of subsidies, technical infrastructure (water and electricity) for 3 per cent. Spending on historical elements accounts for around 17 per cent of the subsidies.

The average cost per square metre varies considerably depending on the size of the house. The subsidy level also varies according to the owner's ability to contribute. In general, a house starts with an average subsidy of about 400 Riyals (2 USD) per square metre, which may rise through follow-up agreements to around 1,500 Riyals (7.5 USD) per square metre.

In 2002 the average subsidy per contract was around 750 USD; now it is c. 1,000 USD per house. This increase reflects rising construction costs as well as greater spending on historic elements.

E. Ongoing costs and 'life performance' of building materials, maintenance, etc.

Generally maintenance is limited to an annual lime-wash on the roofs, a mud and lime render on the roofs and terraces every 20 years, and a mud render on the exterior walls every 40 to 50 years, in addition to periodic repainting and plumbing repairs. This equates to a 300 USD average annual investment per house.

On the completion of the major repairs the city will require a yearly investment of around 120,000 USD, which at current subsidy levels translates into 40,000 USD annual subsidy. Looking ahead, the project is cooperating with the Local Council to set a tourist entry fee to Shibam. It is expected that this revenue will gradually replace SFD support, and that at current levels of tourism a fee of about 5 USD per visitor would sustain the programme.

VI. Technical Assessment

A. Functional assessment

Covered above. (There has been no marked change of use in buildings, and the project has restored the original function of many parts of houses that had collapsed. The restored mosques have resumed their previous function.)

B. Climatic performance

There has been no change in the climatic performance of buildings as a result of the intervention of this project.

C. Response to treatment of water and rainfall

A new infrastructure project is being implemented with the assistance of this project with funding from the SFD. It includes water and sewage, electric and wire cables and road paving. No completion date has been specified, but it is estimated that it will take two to three years to implement using trained teams. In 2004-05 a German consultant was engaged by the SFD to undertake a feasibility study. In 2006 modules were developed in neighbouring Sahil, where 40 master builders and some 200 workers were trained in techniques of shoring, soil consolidation and structural support. In 2006 the contract was awarded to a Jordanian company, ArabTech. The project will commence in May 2007 with a 19-house pilot sector, covering five per cent of the city.

In March 2007 sample trials were underway to determine the most favourable local material for paving the streets. This can only take place once all the city infrastructural works have been completed.

D. Environmental response

E. Choice of materials, level of technology

Wherever possible, traditional materials have been used. As mentioned earlier, some builders have been using cement as a substitute for the original ramad, and in some cases have replaced surface decorative works (originally mud plaster) using lime with cement. A project to revive the use of ramad is already in progress. Construction generally uses low technology.

F. Response to, and planning for, emergency situations

G. Ageing and maintenance problems

SUDP assists inhabitants to maintain buildings, including waterproofing and damage to the structure or repair works. Considering the overall pace of architectural rehabilitation in Shibam, and the general condition of the city, this remains an ongoing issue.

H. Design features

Shibam remains a well-protected urban site, with no building violations to disturb its general structure. The conservation of sections of the wall and of Maruf Ba Jamal mosque have enhanced the overall profile of the city.

I. Impact of the project on the site

Rebuilding works are generally limited in scope, so the transport of building materials is controlled. The phased infrastructure works have yet to begin, so it is too early to assess their impact.

J. Durability and long-time viability of the project

The SUDP project is dedicated in the main to creating operating structures that contribute directly to the economic development of the community. As long as funding is maintained for the various programmes, their activities remain viable. Ideally, they should be encouraged to become self-sustaining.

VII. Users

A. Description of those who use or benefit from the project

The housing programme provides subsidies to all residents of the historic city. An across-the-board open policy has meant that all social groups are eligible and do indeed benefit from the programme. Tenure types in the city are as follows: 47 per cent single ownership, 18 per cent multiple ownerships, 22 per cent tenants, 13 per cent tenants in waqf (religious endowment) houses. Participation in the programme parallels these percentages : 40 per cent single ownership, 18 per cent multiple ownership, 30 per cent tenants, 12 per cent tenants in waqf houses). Around 10 per cent of the direct recipients of the subsidies are women, most of them

are single and heads of household. Work requested by the house owners covers men's and women's spaces equally.

Two categories that were initially underrepresented were large houses with multiple absentee owners and the extremely poor. The first category caught up once relatives of the various property-owners had time to decide on an intervention. In many instances, tenants offered to restore the house in exchange for a subsidised rent. The net effect was that many of the abandoned houses were reoccupied. The other category, the extremely poor, required a more proactive approach. A special fund was set aside to provide additional subsidies on the recommendation of local NGOs or the Local Council. Families had to fulfil certain criteria to be eligible (such as the death or incapacitation of the bread-winner of the family, low income, or inability to meet the cost of urgently needed repairs).

However, the project's social and economic components are intended to empower community-based organisations throughout the district of Shibam, and not only in the historic city. The main partners that have benefited from the project are:

The Hawtah Women's Charity and Social Association. The project helped to incubate this new NGO and worked with it on various programmes to strengthen the economic and social role of women. Literacy programmes helped 20 per cent of the illiterate women in the district to acquire basic reading and writing skills. Also, the NGO organised classes in sewing, hairdressing and computing and arranged extra-curricular activities with the aim of encouraging girls to stay in school. It also runs a scholarship programme that assists young high-school graduates to go to university in the nearby town of Seiyun.

The Hazm Community Centre. Developed on the initiative of a local NGO, this centre works with women in extreme poverty, providing training workshops to help them improve their lives. A core production unit of around 35 women is adapting traditional weaving techniques to create new products that can be sold to tourists.

The Ribba (spate or sayl irrigation) Agricultural Cooperative Association in Shibam. Based on the old tradition of the water rights committee, this new organisation brings together about 80 per cent of the farmers and land-owners in the spate irrigation lands around the historic city. As the oasis surrounding the city is part of the world heritage asset, the project has cooperated with this NGO to develop measures for the rehabilitation of its intricate irrigation system. The NGO also dispenses subsidies to farmers wanting to restore their secondary canals, sluices and field-drainage.

The Mud Architecture Association. Anyone participating in the restoration work supported by the project has to be a certified member of this association (which presently has some 33 active master builders and 220 workers and apprentices on its register). The association has established a social security fund to compensate workers who are injured on construction sites and also negotiates salaries of workers and apprentices. Through a committee of elders, it has developed standards for work in Shibam and ensures that its members adhere to them. The level of demand for skilled labour has quadrupled since the inception of the project, and this is reflected in a 50 per cent increase in the labour force working in the greater Shibam area.

The success of these organisations has encouraged several other NGOs, cultural clubs and community groups to launch their own initiatives and seek the project's assistance to improve their work or implement programmes. Local schools are organising lessons in traditional crafts; a private museum has set up; a workshop trains high-school students to build cardboard models of Shibami houses; local craftsmen are developing new products to sell to the tourists; a local cultural club has organised a travelling exhibition of historic photographs; and so on.

VII. Persons Involved

Project personnel list presented by SUDP

GTZ team leaders:

Ursula Eigel (2000 -2004)

Omar Abdulaziz Hallaj (2004-2007)

Main architects /engineers:

Omar Abdulaziz Hallaj (GTZ), Development of housing programme/backstopping

Tom Liermann (DED), Historic features programme /training for technical unit

Mohamad al-Kaderi (GTZ), Management of technical unit (2002-2005)

Erik Schweikhardt (GTZ), Technical support to technical unit

Jamal Bamakhrama (GOPHCY), Management of GOPHCY contribution

Sadiq al-Mashhour (GOPHCY), Management of technical unit (2006)

Ali Baraja (GOPHCY), Field architect

Mazin Sheikh al-Masawi (GOPHCY), Field engineer

Administration:

Khalid Gaashan, Project officer /planner

Documentation and archiving:

Monaf Abboud (GOPHCY)

Abdullah Sabain (GOPHCY)

'Backstopping' consultants:

Burkhard von Rabenau, Economist

Hadi Saliba, Conservation planning

Jamal Jaber, Wood conservation

Khaled Sarif, Nabil al-Jerafi, Solid waste management

Nadim Rahmoun, Infrastructure implementation

Community development officers:

Aisha Said

Hana Bin Taleb

Eshraq Aidan

Amina Bin Taleb

Principal master builders:

Said Baswatayn, Supervisor of housing programme implementation

Jam'an Basaida, Mbarak al Juraydi, Awad Huwaydi, Supervisors of Monuments Fund projects

Faraj Salim Kwayran (Mud Architecture Association), Lead counterpart organising local labour

Salem Msawnaq, Ubayd Basawatayn, Salem al Hadri, Jama'an Basaida, Mahfuz Huwaidi (Senior Master Builders' Committee)

Most active master builders in the housing programme:

Ali Marbash, Faraj Kwayran, Saleh Bahdaila, Kamal al-Hadri, Hazmi al-Hadri, Khairan Bayashout, Mahfouz Bahdaila, Mohamad Baswaitin, Omar al-Hadri, Faraj Badawi, Awad Baziad, Ahmad Bayashout, Ashour Kwayran, Said Wadaan, Ahmad Houwaidi,

Other master builders working actively on monument restoration:

Ali Bakrbashat, Jum'an Mouzaynan, Ahmad Badawi, Awad Wad'an.

Master carpenters:

Ahmad Bajidah, Omar Bajidah, Mahfuz Bajidah, Sabri Kharaz, Fadil Bajidah, Ahmad Baya'shut, Brik Zubair, Ali Zoubair

Local Council:

Tariq Talib Falhum, Director General of Shibam District, Head of Local Council

Mari'i Badr Jabiri, Secretary General of the Local Council

Hud Bazurais, Representative of Shibam in Local Council

Project coordination (San'a'):

Dr Abdullah Bawazir (2000-2005), GOPHCY

Dr Abdullah Zaid Ayssa (2006-2007), GOPHCY

X. Bibliography

The project has been published in the following articles and features:

Feibig, H, 'Masterplan für Vitales' in Akzente, 1/2003

Hallaj, O. A., 'Economic and Cultural Constraints of Conservation: Case Studies from Aleppo, Syria and Shibam, Yemen' in Mona Fawaz, ed., Urban Heritage and the Politics of the Present, American University of Beirut, 2006

Hallaj, O. A., 'Urban Development for a World Heritage Site: Shibam, Hadramawt, Yemen' in Trialog, 76:1, 2003

GTZ has published a monograph on its work in heritage conservation, with a large section devoted to Shibam: See Battis, E. et al., Keeping Cultural Heritage Alive, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ): Eschborn, 2006

The project itself has published two booklets:

Fouad, Z. A., *Shibam in the Eyes of Its Children*, Yemeni-German Shibam Urban Development Project, 2001

Siebeck, D., *Shibam Hadhramaut: Tourist Information*, Yemeni-German Shibam Urban Development Project, 2003

Salma Samar Damluji

April 2007





Houses visited.

General view





Aerial view.

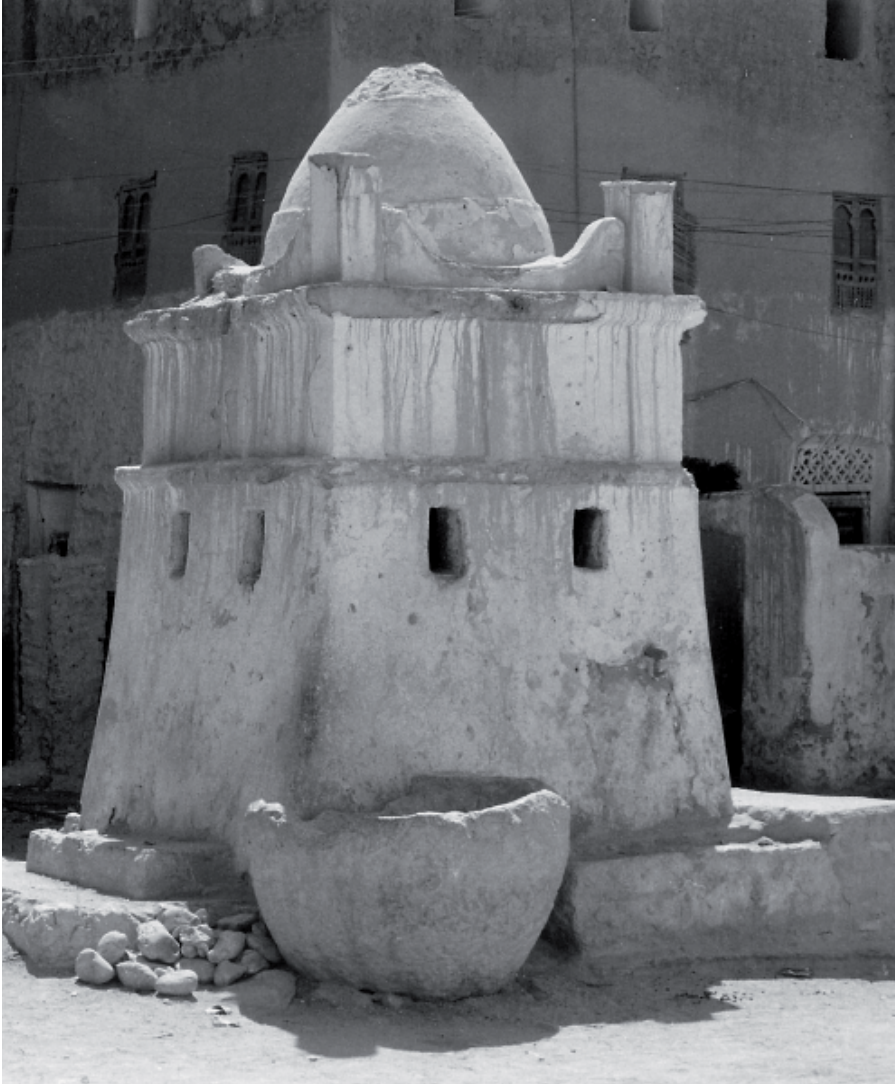


Shibam city gate.



Madrasa Al-Hara minaret, restored in 2004. Before and after.

Siqaya Al-Hayyara, restored in 2003. Before and after.





Haroun Rashid Square.

Street paving.





Street of Shibam.

Town meeting.

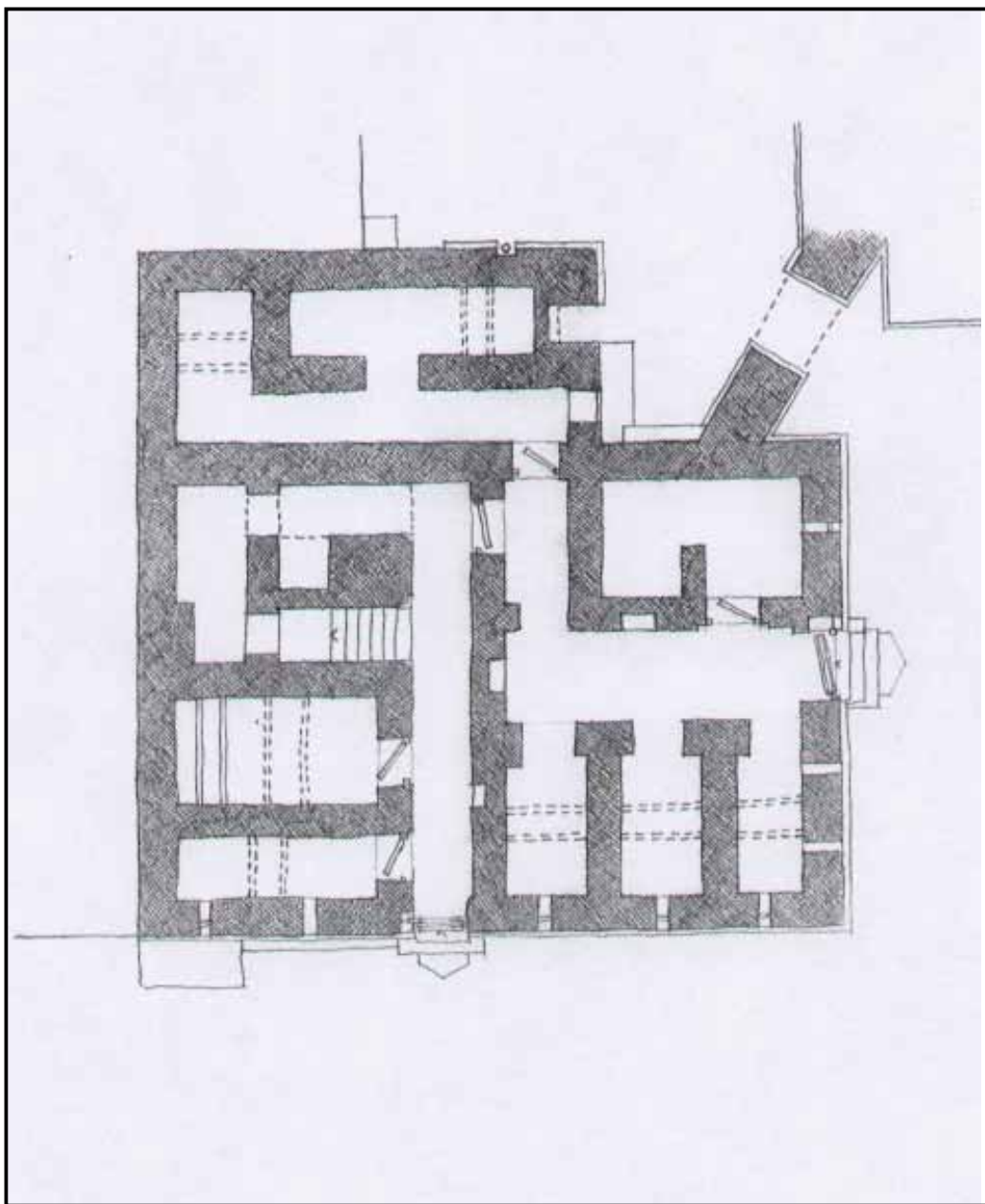
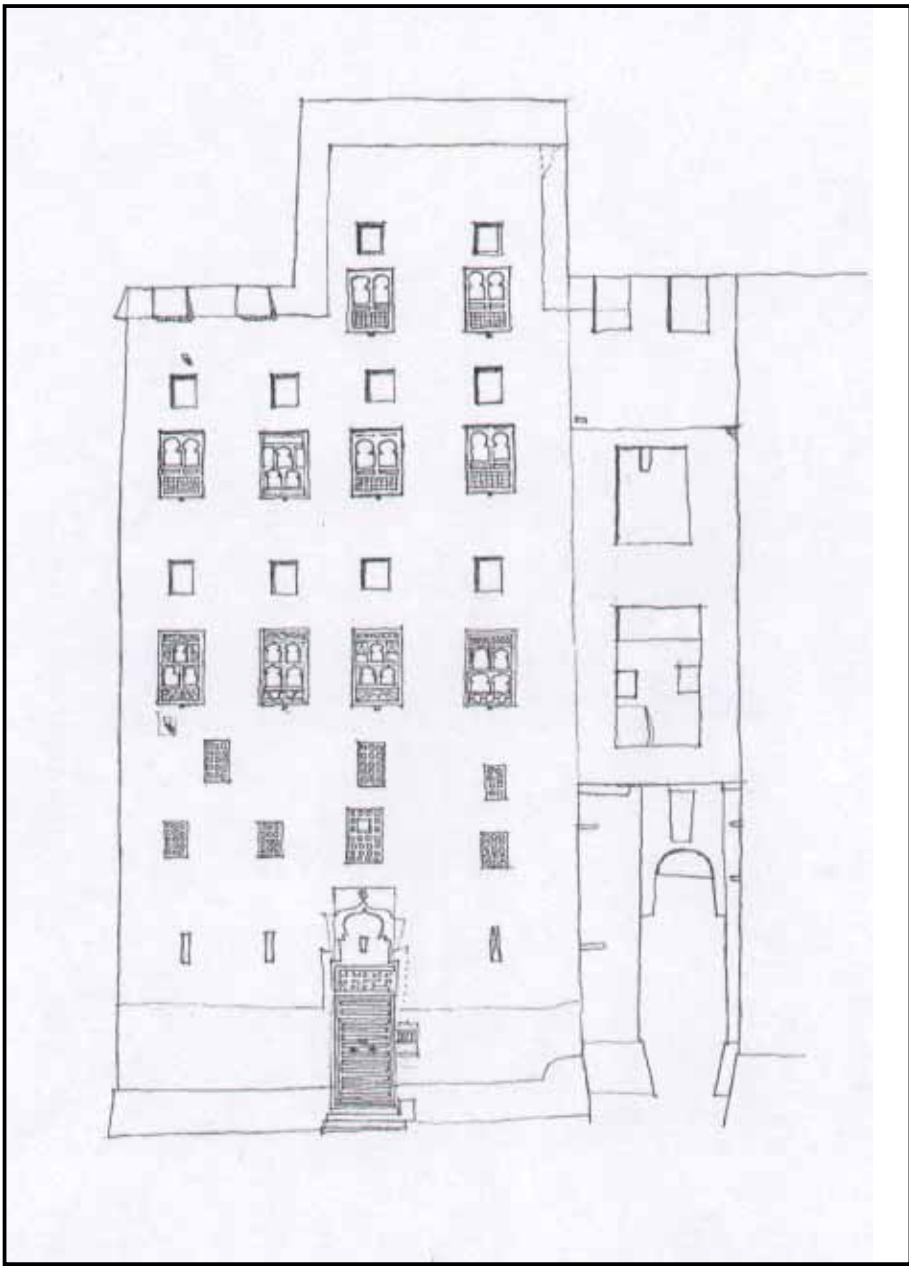




House D56, facade.

House D56, restoration of wooden window.

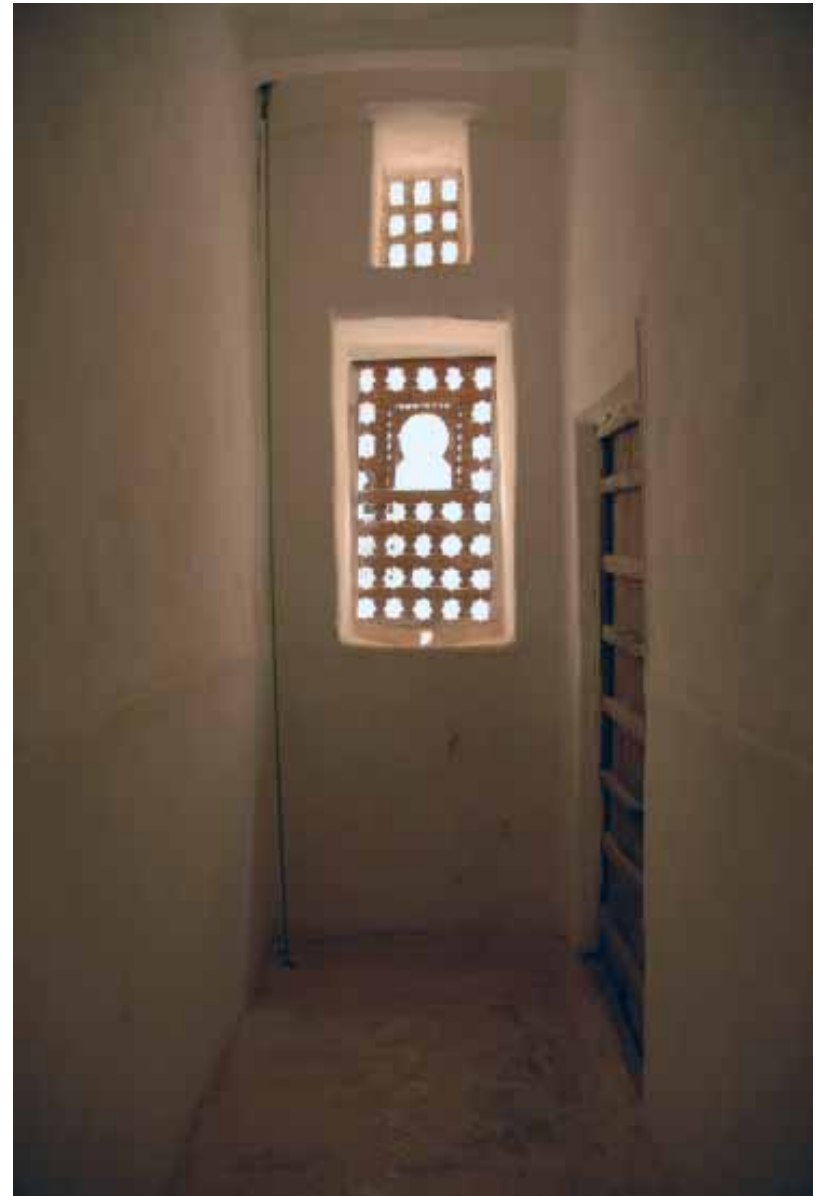




House B51, elevation, section and floor plan.



House B51, facade.



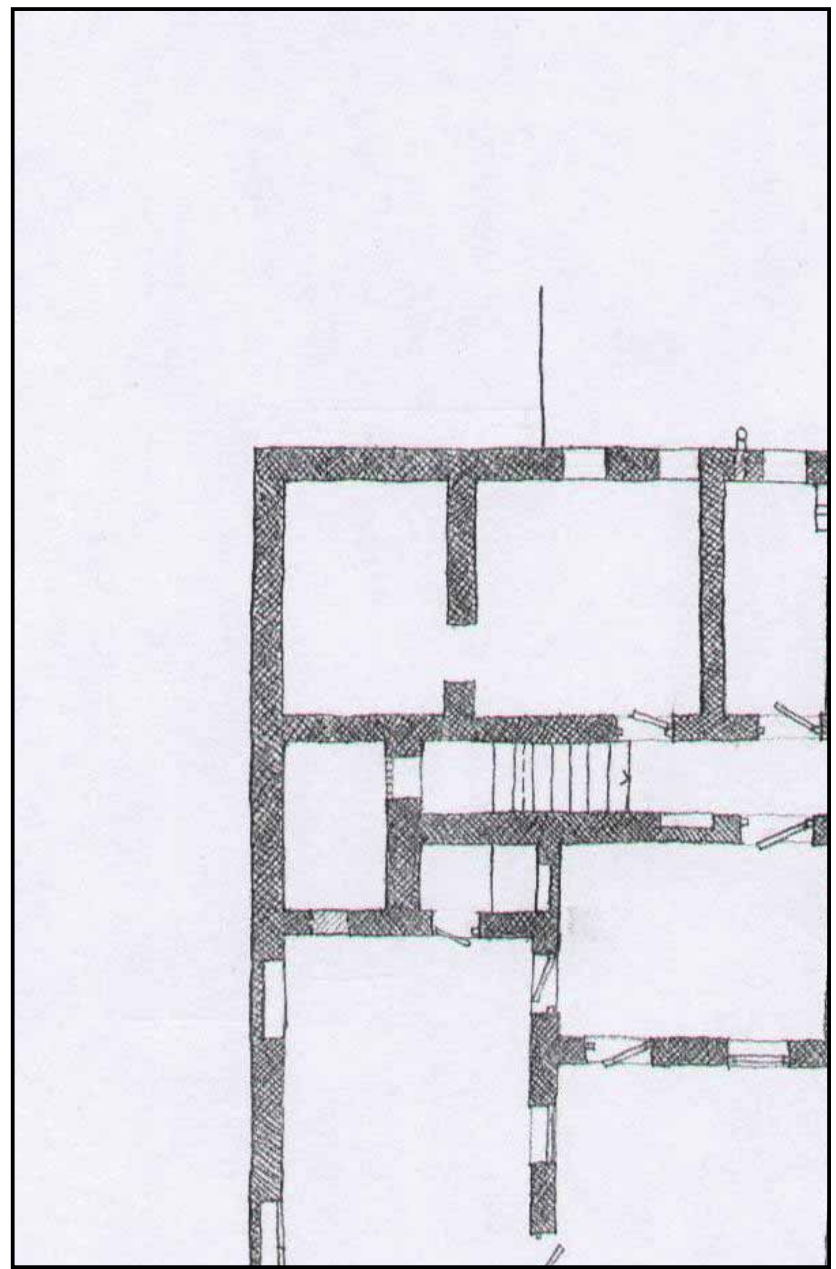
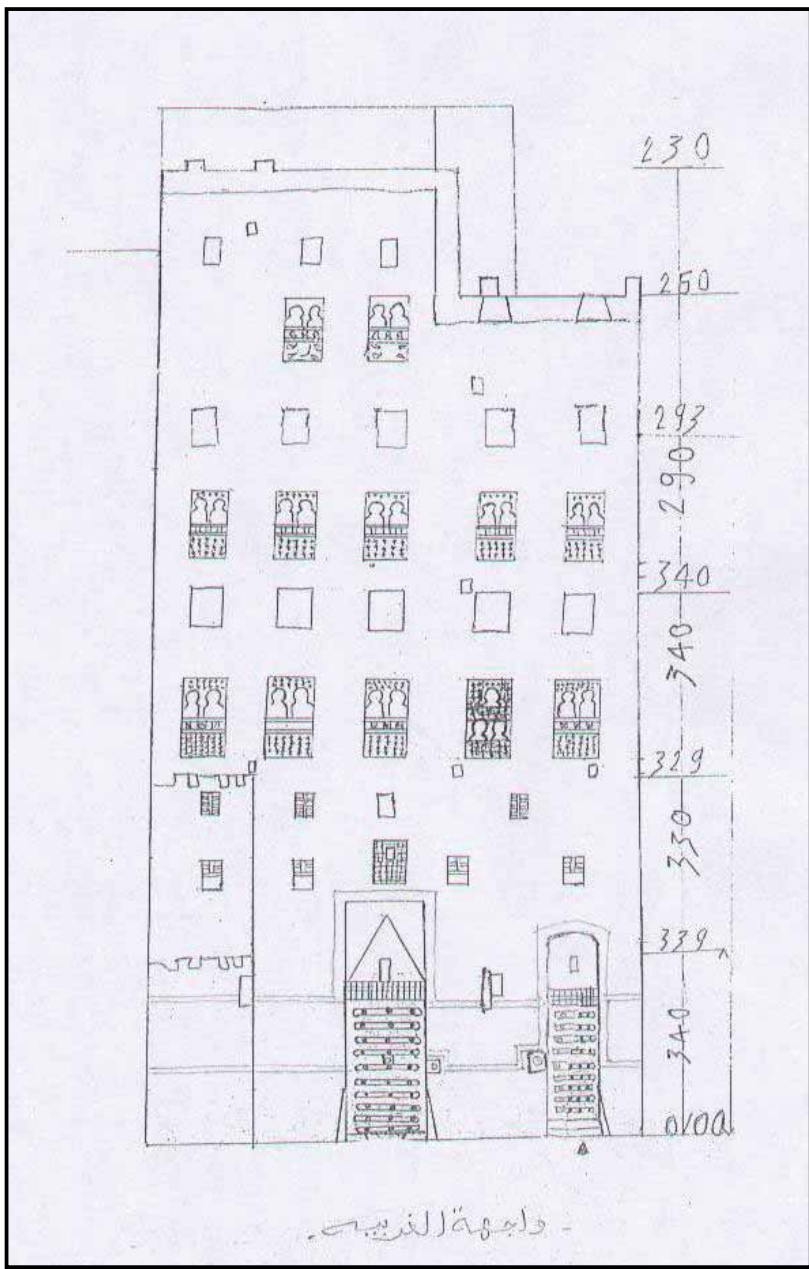
House B51, corridor.

House B51, restored wooden window.

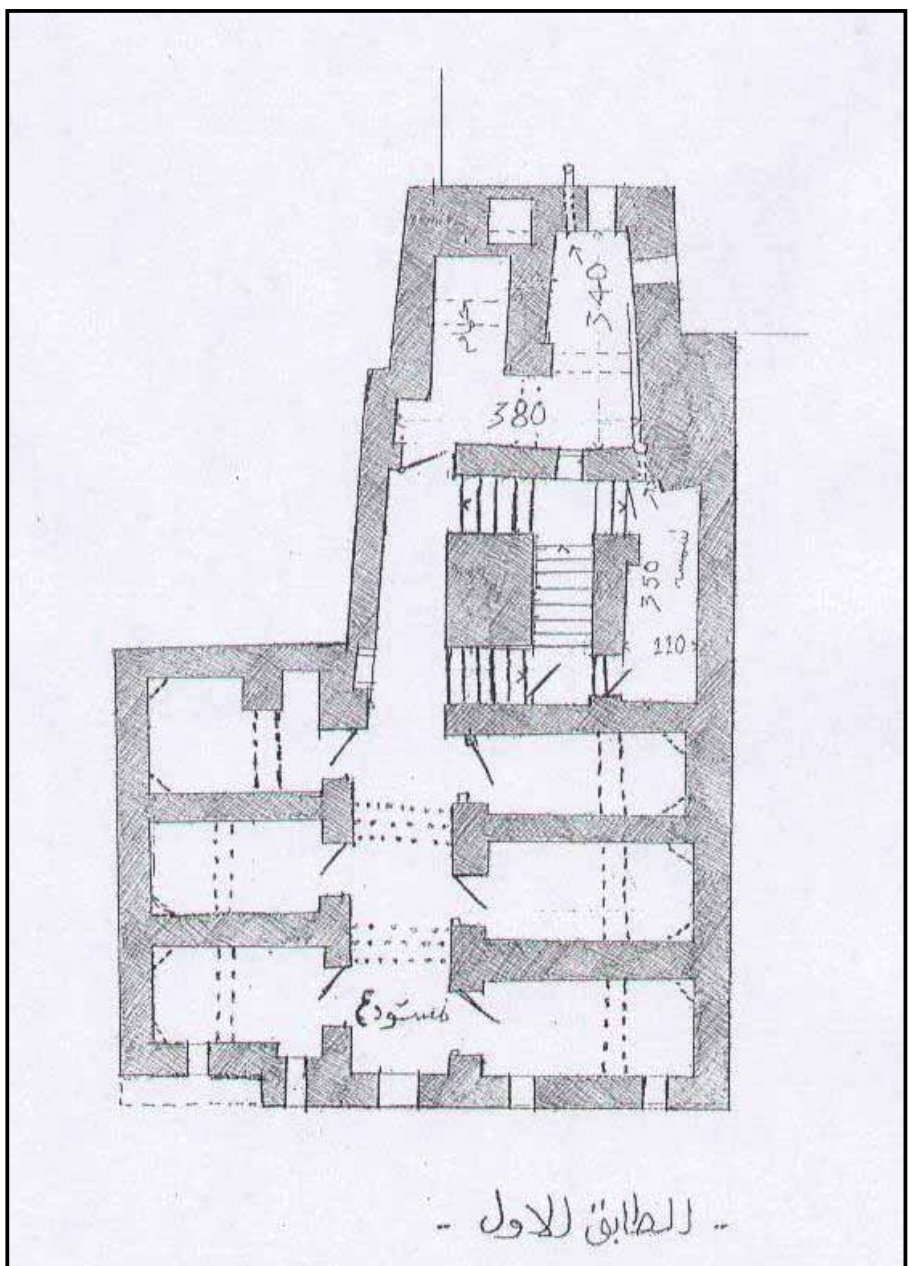


House B51, wall niche.





House A85, elevation, section and floor plan.





House A85, street view.

House A85, entrance.





Maruf mosque.

Spate irrigation.





Kut al Jabal.

Kut al Hasa.





Ba Ziad mosque.

Ba Ziad mosque, during restoration.

