

## **Develop Heritage Buildings to Support Countries Culturally and Economically (Case Study-Harat Al-ain in Oman)**

Muazaz Y. Soud Al-Dulaimi<sup>1</sup>, Rameez Abdul Rashid Dabre<sup>2</sup>

<sup>1</sup>University Of Technology And Applied Science

<sup>2</sup>Higher College Of Technology, Muscat, Oman

Civil And Architecture Engineering Department

**Abstract:** This discussion paper describes heritage structures that were constructed with earthen material. Since ancient times, mud and other earthen construction have always been the most convenient and strongest available materials. This type of technique results in very little negative impact on the environment, high-end security, and resistance to extreme weather, peaceful living atmosphere, energy saving as well as low maintenance. The main goal of this study will illustrate the role that historical buildings play for developing countries culturally and economically. A nation's heritage is a reflection of its progress and prospects and this must be preserved. To achieve this goal, modern science and ancient wisdom can work together in the task of seeking harmony as a tangible resource for development. The study here shall highlight the experiments carried out by the researcher in the Sultanate of Oman through the Harat Al-Ain traditional neighborhood in wilayat Izki, Sultanate of Oman as a sample of the case study. The methodology of this study has been variant surveys and direct observation to the site to conserve and rehabilitate the Harat Alain by developing the master plan which intends to attract tourism and its inhabitant.

**Keywords:** Harat Al-Ain, Sustainability, Traditional Technique, Conservation, Tourism

### **Historical Background**

Oman's traditional architecture goes back to the earliest urban settlements in the Arab lands. Harat Alain sets a typical example of Oman's traditional architecture. It is located in North wilayat Izki of Al-dakhiliyah region in the form of rectangular shape surrounded by palm trees.

According to the historian Ibn Khaldun Al-Maqdisi, the purpose of building towns is to have places for dwelling and shelter. Therefore, it is necessary for this connection that harmful things are kept away from the towns by protecting them against inroads, and that useful features are introduced and all the conveniences are made available in them (Akbar, 2002).

### **Research Objectives**

The present study aims to identify and explore the main features of the heritage buildings in a hot & dry climate by going through the immense traditions that were left behind by planners

Acquiring such knowledge will give us the ability to analyze the practicality of implementing and incorporating such features and characteristics in the design and planning of Modern Islamic cities. The study will highlight the experiments carried out by the researcher in the Sultanate of Oman through the Harat Al-Ain traditional neighborhood in Izki - Oman to explore the possibility of adopting and rehabilitating it to make it more efficient for society and more attractive to tourism.

### Scope of the study

The study will attempt to go through the vast heritage and tradition in the field of planning local traditional neighborhoods.

Moreover, the study will analyze the ruling on the ideal historic neighborhood in a hot arid climate in terms of services and amenities. This part of the study will assist in examining the possibility of implementing the features and characteristics of such neighborhoods and how those features can be modified to adapt to new realities of designing a modern city.

### Structure of Research Methodology

This study was initiated by identifying the elements essentials for the development and enhancing the tourism activities of the region, both culturally and economically. This particular case study was selected because of its potential heritage and architectural value. After selecting the site the objectives of the study were mapped out leading to collecting varied of data through understanding Literature review, interviewing inhabitant, governing the direct observation as well as dealing and understanding the entire site in the form of a Case study (Harat Al-Ain) with focus were given on analyzing the traditional urban fabric of settlement. The result of this data leads and help in proposing the development and rehabilitation of Hairat Alain with proposed suggestions and conclusion about the studies finding.

### Significance of the Study

The paper is expected to contribute to the theory, organizational learning, and resource bases in conceptual guidelines for the conserve and redesign heritage buildings. In terms of theoretical significance, this study will contribute to the physical environment knowledge. It

is also will contribute to the few studies done on this aspect by focusing on urban traditional principles and will attempt to advance the comprehension of the factors that affect the transfer knowledge process and key impediments to learning better understand heritage neighborhoods.

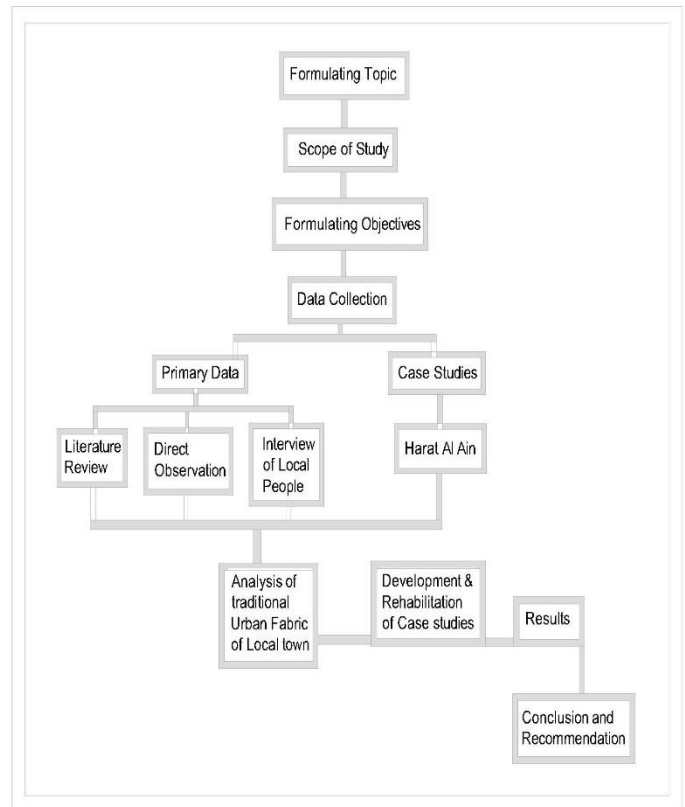


Figure 1. 1 Structure of Research Methodology

**CASE STUDY**

**Harat Alain:**

**Introduction**

The ancient neighborhood of Harat Al-Ain is one of the oldest, unhabitated neighborhoods for the Izki, al Dakiliya region in the Sultanate of Oman.

**Site location :**

It is located in a remote area about 120 km to the west of Muscat. It has a green mountain towards the west, the State of Samail in the South. Several villages include the Homsidin, Al-Aamer, Handsome, and many small lanes.

**HISTORICAL BACKGROUND**

Oman's traditional architecture goes back to the earliest urban settlements in the Arab lands. Harat Alain sets a typical example of Oman's architectural heritage. Harat Alain goes back to king Malik Bin Faham Alazdi's times. The hara is located in North wilayat Izki in the Aldakiliya region it takes an almost rectangular shape surrounded by palm trees

**SITE AND THE AREA OF STUDY:**

The study was started with the first house located close to the entrance of this neighborhood. There is a back door

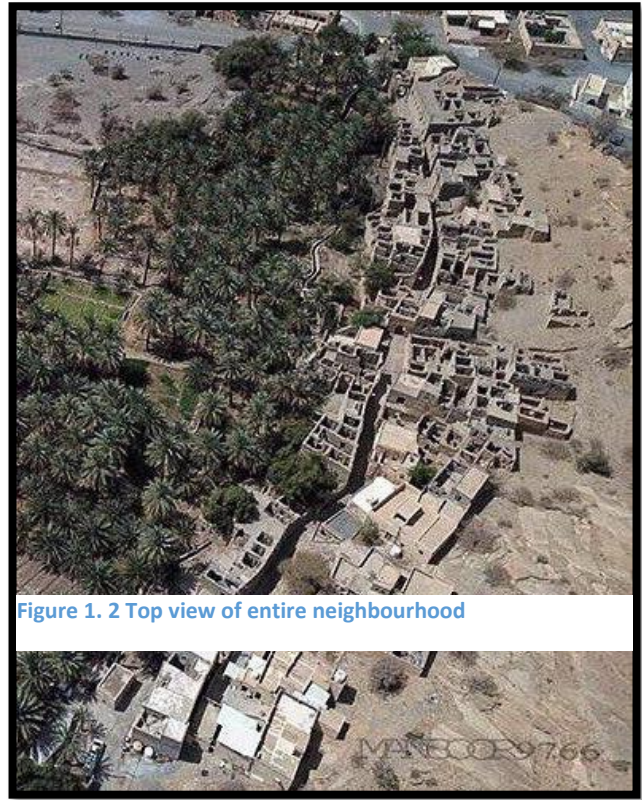


Figure 1. 2 Top view of entire neighbourhood

(made from wood) that leads you to stone stairs to the back

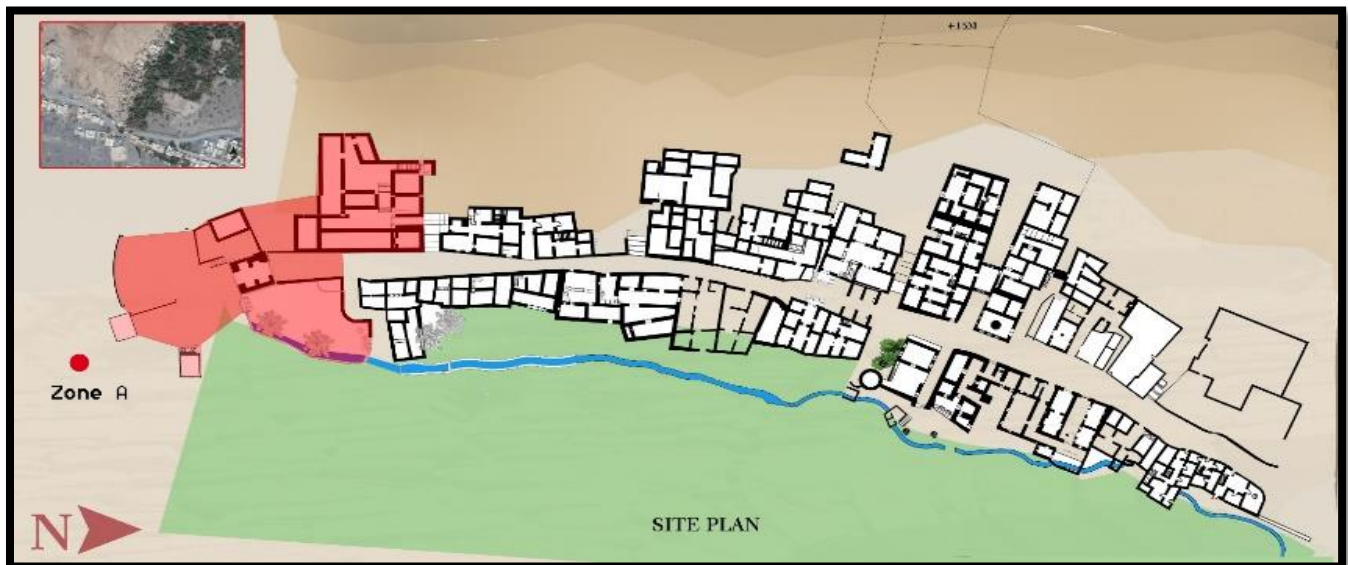


Figure 1. 3 Site Plan highlighting primary focus

**Bait Al-sheik:**

of the house. If you go straight from the Sikka of the hara you will reach the living area of this house, the living area

is not opened to any other parts of the house and it has a wooden door with a very simple design (plan representation attached).

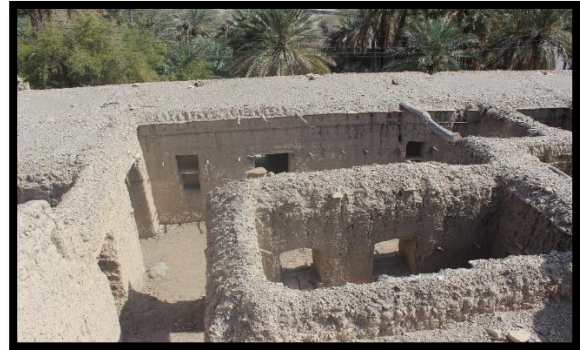


Figure 14 . Back door

If you continue walking through the Sikka other stairs lead you to the first floor of the house, reaching to a sitting area, that lies between the rooms of the house and it's open to the sky. Along the walls of the house just above the wall level, there are pieces of wood sticking out like hangers these are used to hang the (Kandel) candle lights.



On to the right of the sitting area, there are two rooms with the roof missing, to the left, there is a room that is still standing very strongly, the windows of the room facing the front facade, between each window and the next there is a niche (ROAZNAH). On top of the room just below the roof there are small openings to allow natural ventilation in and out of the room. This room has a blue wooden door with a very simple design.



The room of this building is constructed with palm tree trunks and is joined together by rope to form a strong joint; this type of construction is used when the house does not hold another floor on top of it.

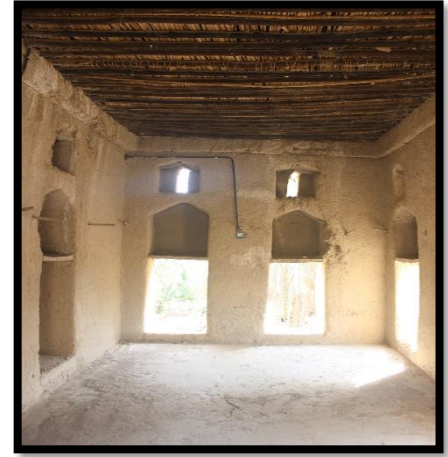


Figure 1. 5 Elevation of neighbourhood from street



**Elevation:**

**Section:**

**ARCHITECTURAL FEATURES**

**WINDOWS:**

**Plan:**

Figure 1. 7 Section of House understanding topography

Figure 1. 6 Plan of the Existing house

It is comprised of an external frame and an internal double-leaf shutter. Frames act both as checks to stop window movement and security devices. Windows are at different heights in the wall and have different sizes.

It was of a single or double leaf, with wooden frames in the mud-brick wall. Have a few iron entry doors. Door



Figure 1. 8 windows

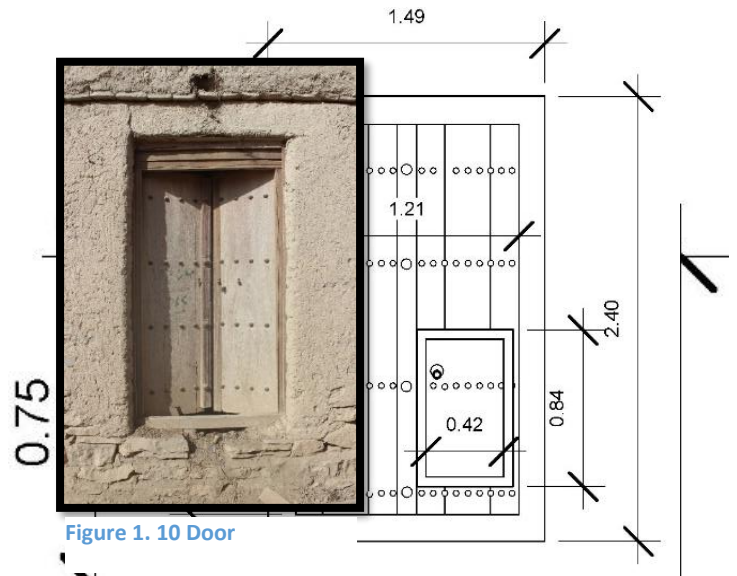


Figure 1. 10 Door

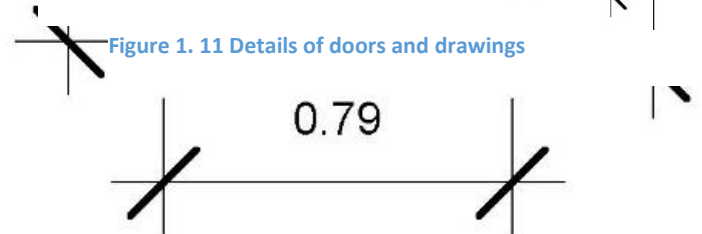
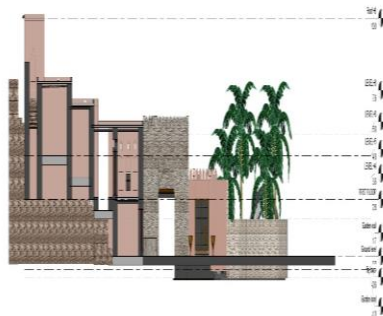


Figure 1. 9 Details and drawing of windows

panels are made of palm trees and wood planks. The central post fixed to one of the panels acts as a check to stop the movement.

**NICHES:**



**DOOR**

Niches are placed in the center of the interior walls. Used as a storage place. Niches vary in shapes, size, and number of recesses. It may in compass windows and openings.



Figure 1. 13 Niches

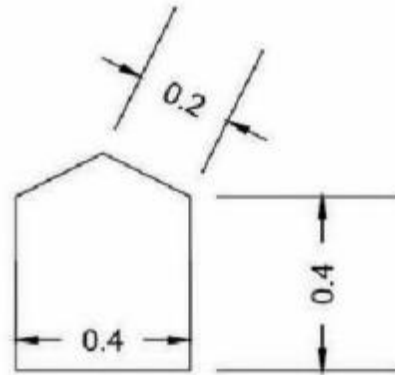


Figure 1. 12 Details of niches and drawing

**CEILING AND FLOORING:**

Built of beams from palm tree trunks, with palm organic fibers mats, mud screen, and lime finishing. Beams rest on



Figure 1. 15 Details of Ceiling from inside

the recesses of the mud-brick walls.

**PARAPETS:**

Built of mud bricks and it can be flat ends of crenelated ends.

**WALL:**

Walls are constructed by laying and finishing mud bricks with mud mortar or "sarooj." Bricks are mostly 23×35 or 20×40 cm and are made of clay.

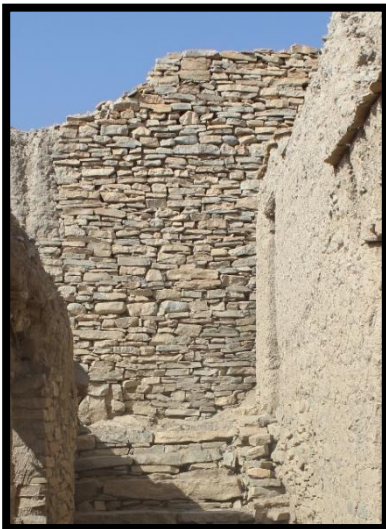


Figure 1. 17 Mud Brick wall constructed with "Sarooj"



Figure 1. 14 Wall extended into Parapets



Figure 1. 16 images of shaft

**SHAFT:**

Arrows in mud-brick walls have different functions. Arrows are located in the upper part of the wall or below the ground floor ceiling.

**STAIRCASES:**

Staircases are made of stone slabs or mud bricks. Some staircases have mud finishing. The first instance was



Figure 1. 18 images of staircase

obtained by stacking stone slabs to form steps.

**OPENINGS:**

Its devices are conceived to enhance the natural ventilation and lighting of room and circulation spaces. Also, it let the smoke out by stack effect.



Figure 1. 19 opening in walls

**EXISTING ON-SITE PHOTOS**



### After rehabilitation

The preservation of the local heritage depends mainly on the rehabilitation at the planning and architectural levels. The rehabilitation of the information, documents, and photographs that document the house before rehabilitation is used to restore all its missing elements from roofs, windows, doors, wood, ornaments, and external facades. The building of the house by documenting architecturally according to the latest equipment and drawing all the floors and facades and architectural sections and study the



building



materials

in various parts and take samples and analyze them within the technical laboratory for reuse in the restoration and Install the material itself or add some materials to it to increase its permanence in addition to the study of the health situation and weaknesses and strength and conduct the work of emergency support on the building before the construction interventions to include the cracked walls and arches and windows and propose appropriate solutions to the restoration and restoration work and cleaning the old stone and the replacement of stones Broken stone and carved stones, embossed, decorated and covered with walls, restoration of floors, ceilings, and drainage systems.

### IMAGES FROM PROPOSED SUGGESTION FOR REHABILITATION:





**CONCLUSIONS AND RECOMMENDATION**



The traditional city takes into account all-natural, social, environmental, symbolic, religious, and psychological factors. The deeply rooted and constant facet of identity is symbolized by the environmental nature. As a result of this interaction, distinctive characteristics, in addition to physical elements, have been established in the urban structure within the traditional neighborhood. The overall result is a discernible and homogenous structural and urban environment. Globalization seeks to restrict the local identity into one type for all areas. Modernism has entered the Islamic countries in consequence of the contact with the West, aided by the lack of review of the previous achievements of our ancestors as well as the lack of ability to follow their example. And this is because of a shortage of cultural grounding for most of the urban and Islamic planners. The deficiency of trained town planners and architects can be legitimately regarded as a contributing cause of the basic mistakes committed in the planning and expansion of most Arab metropolises. Muslim engineers and architects, who know the local habits and surroundings

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