

Adaptive Reuse Strategy for Abandoned Historic Villages in Asir (Saudi Arabia): A Participatory Approach

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Abstract

How can we reinvent abandoned villages of cultural and historical value that seem of no practical use? How can we sustain unique vernacular cultures in an age of progressive globalization? These are the questions social scientists, urban planners, architects, and archaeologists grapple with around the world in the light of rising urbanization and progressive depopulation of rural communities. This paper describes the traditional architecture of abandoned rural settlements in the southwestern region of Asir in Saudi Arabia and examines the present situation from the residents' viewpoints. Departing from a framework of a dynamic understanding of heritage, the author proposes a process of adaptive reuse and revitalization. The research starts by posing several questions. What future do we imagine for abandoned villages that historically have played a significant role in the civic structure of a community and contribute to forming a society's memory and identity? Can we suppose that the adaptive reuse of abandoned villages makes a positive contribution to the circular economy while solidifying a dynamic understanding of heritage as an ongoing social and cultural process? To this effect, the author conducted a phased research project focused on the adaptive reuse of one abandoned village near the region's capital of Abha. The architectural research entailed architectural surveys and documentation as well as qualitative inquiries. The author hopes that this project and its results will be a further stepping-stone in motivating people to find cultural, social, and economic value in their heritage and to make their properties a vital component of the circular economy by passing on traditional knowledge of vernacular building techniques to younger generations.

Introduction

Vernacular cultures globally are in transition. Historic villages that need protection from a cultural perspective disappear due to migration, neglect, and abandonment. Challenges for rural communities in the Middle East, Europe, Asia, the Americas, and beyond include declining and aging populations, problems with youth retention, limited economic and social opportunities for residents, depleting natural resources, loss of local services, and often higher costs of living. Due to better job opportunities in metropolitan areas, villagers leave behind the land of their ancestors and their heritage in all its forms in search of a higher standard of living. The result is a persistent abandonment of villages that may be appreciated for their historical and cultural value but are perceived to be of little economic worth. The agricultural futures of rural communities are also in question: Policy and industry changes in agriculture have added uncertainty, with added stressors from environmental damage often linked to water pollution and climate change. The question is how rural villages can reposition themselves, diversify their economic base, enhance their quality of life, and attract economic value? Along with this question comes how we can bring abandoned villages back into use to benefit the concerned communities and future generations.

These issues call for the investigation of sustainable adaptive reuse measures as a way to preserve local traditions while, at the same time, lending them new interpretations and significance in such a way that new generations may discover fresh ideas about their inherited

traditions through the transformation of historical buildings according to a contemporary understanding. The research discussed in the present paper proposes a model for the adaptive reuse of heritage buildings in Asir, in terms of creating an interactive process of cultural heritage, protecting the intrinsic values of the built fabric, and enhancing, at the same time, the development dynamics of the rural context of the villages.

Two previous studies (Hussein et al., 2018; Klingmann et al., 2019) have identified indicators that describe the cultural value and utilitarian economic potentialities of abandoned villages in the region of Asir and their responsive environmental performance concerning the local climate and geography. Based on this data and a qualitative survey, new research was conducted that verifies the compatibility of the settlement's potential reuse for cultural, touristic, and residential uses while preserving its morphology, its traditional building methods, local materials, and above all, the relationship between the buildings and the social, cultural, and geographic environment. To facilitate this research, the author chose a specific case study that allowed for many of the variables involved in adaptive reuse projects, such as awareness-raising measures, the urban context, the design approach, and the site's programming for reuse. The results highlight that the choice of new functions for the abandoned buildings should be based on the suitability of the new uses to their owners so that they see a long-term cultural and economic value in the undertaking, while at the same time supporting the circular economy and cultural heritage for future generations.

Historic Villages in Asir



Fig. 1: Small traditional hamlet comprised of traditional mud houses, Sarat Abidah area. Photograph by the author.



Fig. 2: Narrow passages divide residential clusters. Al Jahama village (Sarat Abidah area). Photograph by the author.

The highlands of Asir

Asir is a mountainous region in the Kingdom of Saudi Arabia, which has more than 700 abandoned traditional mud and stone villages. Stretching from the south of Taif to the frontier of North Yemen, Asir is one of Saudi Arabia's most rugged and remote cultural landscapes. The region of Asir is renowned for its rich tradition of agriculture, temperate climate, high mountains, and green valleys, which are in stark contrast to the flat and arid desert landscapes that characterize most of the Arabian Peninsula. Asir is also known for its long-standing tradition in the arts and crafts and its exceptional mountain communities, demonstrating a resilient bond to its harsh yet fertile territory. Asir means "difficult" in Arabic, alluding to traversing the steep terrain by camel or foot. This remoteness has also helped preserve the distinctive cultural heritage of the Asir region. In the highlands, in the innumerable stone and mud villages, hidden away and hard to access, there are still many tribal traditions that bear little reference to the modern Saudi Arabia of today. Although the formal power of the tribes has been diminished in recent history by the hegemony of the Saudi government, many kinship customs and allegiances are still very much alive in the day-to-day life of the people, particularly in the more remote areas of the region. Even

today, many communities do not welcome intrusion, and the region is still almost as unfamiliar to many Saudis from other regions in the Kingdom as it is to people in the Western world.

Urban organization of villages

Asir is home to distinctive stone and mud-brick architecture that bears a morphological and material resemblance to the earthen skyscrapers of Sanaa or Shibam in Yemen. Its traditional villages, whether situated on a hilltop or in a wadi, resemble citadel-like strongholds of vertical buildings rising from the land. At a superficial glance, the urban structure of the Asiri settlements seems unsystematic, but as Saleh (1999) argues, soon reveals a series of rigorous meanings and a meticulous spatial organization, especially when taking into consideration the body of tribal customs, conventions, and religious practices that inform and address the kinship system (p.51). Based on a hierarchy of family relations, compact residential clusters (*harah*) of adjacent and often interlinked houses, grouped around semi-private courtyards, subdivide each village. Each house cluster was shared by one kin group for work and social activities and formed an independent and self-contained unit, which in the past provided shelter for people and animals alike. Protected by massive walls, each *harah* forms a self-sufficient cluster punctured only by a single entrance, which is safeguarded by a sturdy wooden plank door, which in turn is secured by multiple locks. This gate was traditionally opened at dawn and bolted at dusk to ensure the residents' safety against outside enemies. Circulation space was often a residual of the *harahs* and other built spaces, including defense towers, a mosque, a souk, a treasury, a cemetery, and a public building for assembly purposes. Narrow passageways scaled proportionately to allow for pedestrian flow provided access to the individual *harahs* and served as sheltered social spaces for the residents. Their tight organization helped protect against cold winds in the winter while providing ample shading during the summer months. Frequently, the convoluted arrangement of the exterior spaces was also intentionally modified to trick and eventually catch enemies in case of an attack with labyrinthine alleyways, unexpected dead-ends, and make-believe entry places (Saleh, 1999, p.54). Some of the passages were also bridged (*Saddih*) with connecting overhead spaces, which served as strategic surveillance points.

Architectural Morphology

Since historically, a concern for safeguarding meager resources against potential raids placed a premium on optimal security measures, the houses took the form of tower-like structures enhanced by thick walls that provided structural strength and resistance. Furthermore, as Saleh (1998) comments, the religious doctrine of Islam, with its emphasis on gender segregation and domestic privacy, contributed to the evolution of an introverted architecture with a marginal outlook to the public realm (p.178). However, as opposed to the typology of the courtyard house, which is predominant in many Arab regions and enclosed by a high exterior wall, the tower house is directed outwardly towards the distance. The building's height and elevated position enabled its inhabitants to survey and control the surrounding

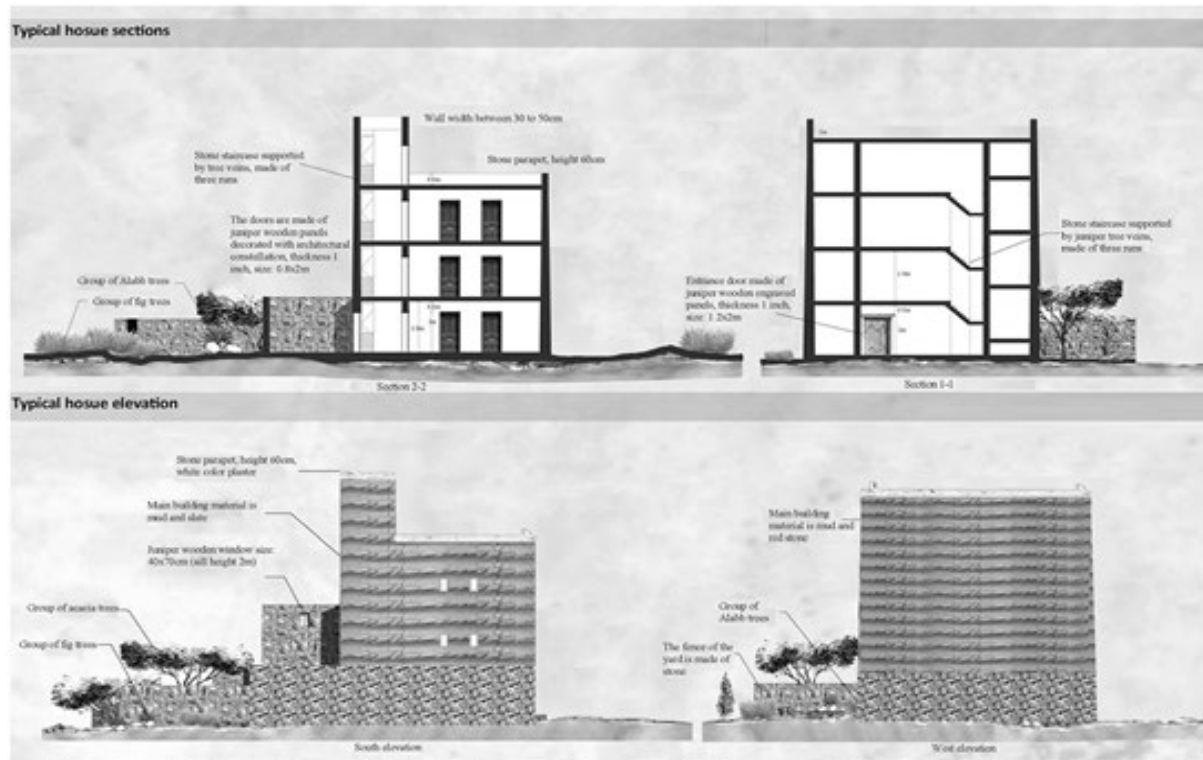


Fig. 3: Wall sections and elevations of a typical Asiri house showing vertical organization, stone base, and mud walls with inserted slates. Work by author with students.

territory— hence its name "HuSn" derived from the verb *HaSana* (to fortify). In the Abha region, domestic buildings typically range from slender three to four-story mud-built tower houses in the south to more quadrangular houses of local stone adorned with quarts in the north.

Massive external walls that are on average one meter in-depth provide each building with a high thermal mass, which absorbs the hot summer air during the day and releases it during the night, and in the winter, helps to insulate against the cold. The conical shape of the building provides structural strength and efficient resistance to winds. As Asir is known for its abundant rainfall and cold winters, resilient foundation walls overlap with the external mud walls to protect them from heavy rain and snow. Horizontal bands of intersecting slates cascade the rain away from the vulnerable clay and guard against erosion. Since the staircase occupies a large part of the building, most rooms are small, connected by a series of wooden doorways. While the livestock used to occupy the ground floor, the main gathering spaces for the family and their guests, the majlis, were located on the first floor, followed by the more private family rooms on the second and third floors. The kitchen generally occupies the topmost level and opens to a large roof terrace, which the inhabitants also used for washing. Windows are tiny and square and enhance the fortress-like appearance of the house. Arranged linearly, the openings, protected by sturdy wooden shutters, are located in the inner portion of the exterior wall and provide enough sunlight and cross ventilation for cooling in the summer but are also able to prevent the entry of cold winds and rain during the winter. All windows are carefully positioned at seating height and deliver a perfectly framed view into the wide-open landscape, contrasting the intimate atmosphere of the

interior with expansive vistas that overlook the surrounding territory.

Abandonment of Historic Villages

Over the last four decades, the impact of modernization, a national economy, centralized planning policies, and an extensive road-building program throughout Saudi Arabia have drawn Asir steadily into the Kingdom's mainstream. Today, the vernacular expression of the settlements has been extensively degraded—mainly through the effects of modernization and associated repercussions of emigration and abandonment. Presently, Asir boasts hundreds of ghost villages, as local villagers progressively moved to the metropolitan areas in pursuit of a more comfortable lifestyle, which was facilitated by a surge in government jobs and other forms of assistance by the state. As Saleh (2002) mentions, even where traditional villages are still standing, their original owners no longer occupy them, if they are inhabited at all (p.55). While rapid real estate development and speculation impacted the larger metropolitan areas of Abha, Khamis Mushait, and Najran, fostering the growth of suburban sprawl, the more remote settlements are lying barren, falling into steep decay. What was once a flourishing landscape of self-sufficient agricultural communities has given way to a trail of suburban modernist villas that pay little tribute to the regional culture and land. The historic mountain villages sit empty, their doors bolted, their houses partially destroyed.

Over the past 15 years, awareness in the Kingdom has emerged that heritage buildings constitute an essential element of Saudi Arabia's social and cultural capital and that heritage conservation can potentially also provide

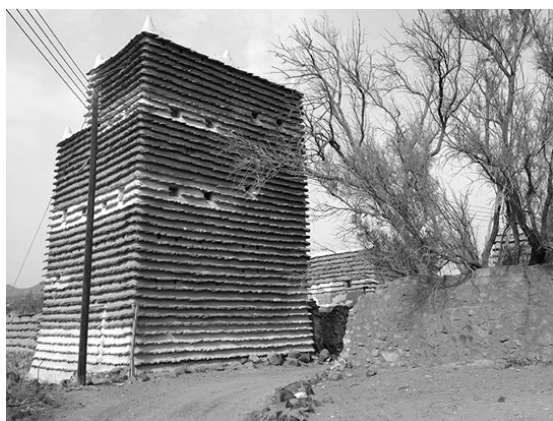


Fig. 4: Example of a 4-story mud-built tower house (Sarat Abidah). Photograph by author.



Fig 5: Example of a contemporary concrete-block villa with postmodern elements. (Sarat Abidah). Photograph by author.

many economic benefits to urban and rural communities. Architects and government officials in Saudi Arabia also increasingly recognize the social problems created by imported planning models and building regulations. A new discourse has developed to reestablish a closer relationship between cultural values and building practices that are more responsive to the regional context. The need for alternative planning models that correspond more closely to vernacular morphologies is now an accepted direction in urban planning and architecture. The incorporation of preservation has also become a growing area of interest, mainly as it concerns the cultivation of tourism. In 2001, the Saudi government established the Saudi Commission for Tourism and Antiquities (SCTA), recently renamed the 'Saudi Commission for Tourism and National Heritage' (SCTH). While the SCTA has played an essential role in advancing the discourse on built-heritage conservation in Saudi Arabia, its focus is not on conservation per se but rather on promoting tourism in association with cultural sites that show high potential as touristic heritage destinations.

Conversely, the majority of the Asiri people are not in favor of conventional tourism, nor do they fully trust the government's initiatives. Also, most houses are still privately owned, frequently shared by many heirs, making restoration efforts from the government's perspective a complicated endeavor. Moreover, most owners are sentimentally attached to their inheritance and regard their

traditional dwellings as a tribute to their ancestors; hence, they rarely consider selling them. However, while many owners seem emotionally devoted to their family assets, they see no monetary incentive to upkeep, renovate, or reuse their properties.

According to a study conducted by Bagader (2014), most Saudis greatly value their heritage, but at the same time, they prefer to live a contemporary and comfortable lifestyle. Many experts believe that the dependence on government initiatives and a general lack of awareness of the importance of conserving the built-heritage sites for cultural benefits have been significant factors in the progressive decay and destruction of traditional settlements in the southwest (p.31).

A Survey amongst Owners of Traditional Houses

In order to analyze how people with different backgrounds and ages view their vernacular heritage, how they value their traditional houses, and how they view the prospect of reusing them for contemporary and future needs, the author conducted a survey using a self-directed questionnaire that she distributed to residents of the area. All of the interviewees were owners of abandoned mud houses and had either constructed them or inherited them from their families. Being raised in Asir seemed to be a privilege for all the participants that the author interviewed. 85% of the respondents expressed a desire to safeguard their traditional houses because they feel that these structures are an integral part of their cultural identity, which they would like to pass on to the younger generation. Most of the respondents also expressed a consensus about the cultural significance of the Asiri villages as physical evidence for the interaction between the Asiri community and its unique environment. While all owners claimed that they are sentimentally attached to their houses, which they view as heritage, 70% believe there is no monetary return on upgrading the properties. 60% of the owners think that it is the government's responsibility to preserve and rehabilitate the abandoned sites even though they own them. Only 10% of proprietors attempted to restore and upgrade their properties. 60% of the respondents said they had no idea how they might creatively reuse and profit from their houses. When the author proposed new potential uses to them, 57% of the participants said they could imagine converting their house for touristic use to preserve their culture and educate people about it. When asked, however, what tourism meant to them, 37% of the respondents said that they would prefer to adapt their house as a meeting space for friends and family, 25% said that they would consider using it as a restaurant, 25% responded that they would reuse it as a second home for rent and 13% said that they would like to use it as a secondary home for family gatherings. 75% of the participants would prefer to keep their property as a more private space, and 25% would consider opening it to the public for educational purposes. All respondents expressed a desire to preserve their mud house as a document of their culture that they could share with future generations. When asked if they would consider moving back to their traditional houses if upgraded to today's standard, 64% responded positively.

Towards a Participatory Concept of Heritage: A Review of Relevant Literature

Since the early 2000s, many scholars have critically investigated the concept of heritage and concluded that monuments or sites alone do not per se classify as 'heritage.' According to Smith (2006), while physical constructs and surroundings are relevant as settings, they cannot categorize by themselves as heritage. Instead, Smith describes heritage as a complex process that passes on established values and meanings through reiterative interpretations that create new significances and associations. Notably, the main innovation in heritage definition no longer depends only on the tangibility or intangibility of heritage but lies in the progressive shift from considering cultural expressions as objects to defining them as cultural processes. Consequently, we perceive today's heritage no longer as a 'consecrated relic of the past' (Bortolotto, 2006), but as a living and progressive entity to be interpreted, appropriated, and transformed by local communities. Kenny (2009), in turn, defines heritage as a process that takes place in the present by allowing for a dynamic understanding of cultural production. He also argues that the continuous process of heritage construction is a product of the cultural process that the heritage practices seek to develop and maintain. As Kalaf (2017) summarizes, heritage can no longer be regarded as a static entity but rather as a dynamic construct subject to transformation with changing values, perceptions, needs, circumstances, and generations.

However, despite the formulation of a dynamic interpretation of heritage, most of the physical remains that exist today are still treated as 'antiquities,' which are preserved and protected from people either partially, by keeping them in open or closed museums, or by altogether banning them from public access (Kamel, 2015). Either way, as Kamel concludes, little interaction is allowed between people and historical remains, which, over time, has resulted in a gap between societies, their history, and their heritage practices. According to Kamel, a more dynamic understanding of heritage would imply that historic buildings can qualify as heritage only when appropriated by people, which lends new meanings and interpretations that become an integral part of their societies' lives. As heritage and culture increasingly qualify as evolutionary constructs, we should also regard the approach to 'heritage' itself, and the modes of re-imagining, redefining, and, ultimately, fabricating as evolutionary. This concept defines heritage as a discursive activity in the present, which might be separate from the remains yet, at the same time, connected and linked to them. This attitude establishes the continuity of vernacular practices by widening the concept of heritage to the reproduction, reinterpretation, and transmission of vernacular building practices. Therefore, if we take the paradigm of heritage as a social practice and activity seriously, a connection should be fostered between the physical remains of a particular culture and new interpretations of their meanings. In the case of abandoned historical structures, this would require the community's proactive engagement in the reinterpretation, re-appropriation, and transformation of such properties according to contemporary needs.

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Council on Monuments and Sites (ICOMOS) underline the importance of cultural heritage in the achievement of sustainable development (UNESCO 2011, pp.5–7). UNESCO's Historic Urban Landscape (HUL) Recommendations also provide a significant resource to the international debate about a more dynamic and interactive understanding of heritage. While the guidelines recognize the necessity of supporting the protection, safeguard, conservation, and valorization of the Historic Urban Landscape, they also emphasize the intangible dimension of heritage and the related economic processes. (p.5, art. 8) The focus shifts from the preservation of the artifact to acknowledging the role of changing social, cultural, and economic processes in the definition of heritage (p.5, art. 4). Similarly, the European Commission (EC) has recognized cultural heritage as a common good representing a strategic resource for sustainable development. In Section 2, the EC identifies it as a critical element in the global competition using, for the first time in an institutional context, the notion of "intrinsic and social value of heritage" (2011, p.8).

A more anthropological understanding of heritage and a growing understanding of historic structures as vital resources for sustainable development brings us to the role that adaptive reuse can play in the circular economy. This interdisciplinary understanding also mandates a more participatory construct of heritage described by Kamel (2015) as "a practice of meaning and identity-making tool that uses memories from the past and provides routes for new generations to discover fresh ideas about their inherited traditions and values through interacting with physical remains from the past" (p.67-76).

Heritage buildings are crucial in transferring cultural knowledge to future generations (Misirlisoy et al., 2015). Where heritage buildings can no longer be used with their original use, proposing new uses is inevitable to preserve a buildings' significance (Misirlisoy & Guence, 2016). Adaptive reuse, as defined by Douglas (2002), is any construction work aimed at changing a building's capacity, performance, or program to adjust, reuse or upgrade a structure in order to accommodate new conditions or needs, which would also allow for the conservation of the different values of cultural heritage. Adaptive reuse also enables an extension of a building's life cycle, in line with circular economy principles that aim to prolong the lifetime of resources for as long as possible (European Commission, 2015). Moreover, building reuse can be considered a medium to reveal the legacy of a particular culture, consisting of heritage buildings as physical artifacts and the wealth of information provided by each item (De Medici et al., 2020). The consideration of the built environment as a resource consequently not only implies the acknowledgment of its value as a built object; instead, as De Medici et al. indicate, the built heritage also acquires value for its ability to trigger memories, acquire knowledge, and tell stories; put differently, it constitutes a vital source of cultural heritage (2020)

According to Stahel (2009), adaptive reuse is also a crucial means to ensure sustainable management of built resources, contributing to a circular economy that advocates converting products that are deemed useless by

some into resources for others, closing loops in industrial ecosystems, and minimizing waste. In today's discourse on climate justice and the living planet, Stahel argues that it is unacceptable to render anything useless and make no contribution to the improvement of our environment. The simple mandate of "Reduce, Reuse, Recycle" is a testament to contemporary life's essential prerequisite. Indeed, everything has to be useful, and existing buildings cannot escape from this agency of usefulness (Plevoets & Van Cleempoel, 2019), while Hosagrahar et al. (2019) contend that there is an urgent need to translate these principles into concrete actions. To this end, we need to develop new creative approaches and tools.

Case study: The abandoned village of Al-Jahamah

The case study described below is an applied and interactive research project divided into several phases to determine potential and compatible uses of abandoned historical buildings. This project aspired to research suitable models of adaptive reuse that might attract owners to reinvest in their neglected properties while also strengthening the region's identity as a whole. The process enacts its regenerative action by considering how the recovery of historic abandoned buildings and new uses might contribute to the region's cultural heritage and encourage a renewed sense of belonging, identity, and well-being through new forms of interpretation and participatory processes.

The author selected Al Jahamah village in the Sarat Abidah area of Asir as a case study because of its exceptional setting and remote location. Since the main characteristics of the village's urban morphology are intact, the case study could also serve as a reference for other villages in the region. Al Jahamah village contains nearly fifty buildings constructed from red rubble stone, which the builders extracted from the site. The settlement overlooks an expansive valley with a series of agricultural terraces, some of which are still used for pasture by the neighboring communities, while others lie barren.

Investigating Opportunities: a research methodology divided into five sequential phases

The investigation is divided into successive phases, starting from a preliminary in-depth social and historical analysis and an awareness-raising initiative, passing through an evaluation of new uses that are compatible with what already exists, and concluding with a presentation of new scenarios oriented to revitalize the abandoned fabric.

The first phase dealt with surveying the present status of the village and understanding the existing fabric. An analysis of historical documents, interpretation of the fabric's current status, and extensive field analysis have been critical steps for assessing the village's present state and attributing appropriate values to the different parts.

The second phase consisted of a comprehensive survey of the buildings' current status to evaluate the historical and typological elements by comparing the original village to its present decayed condition. Only with an accurate knowledge of what presently exists on the site, it became



Fig. 6: Al Jahama Village (Sarat Abidah area).
Photograph by author.

possible to identify appropriate interventions, which entailed the restoration of existing parts and the design of (new) suitable connectors and additions.

In parallel, the author launched an awareness-raising initiative with several community members to boost interest among families, the community, and local authorities, draw attention to the village's cultural value,

exchange knowledge about its history and develop ideas about potential future uses. A series of workshops, lectures, and discussions that included community members and a group of local experts were part of this endeavour.

The third phase involved the documentation and the reprogramming of the urban fabric, according to public, semi-private, and private uses. In this phase, the team identified building clusters suitable for residential, commercial, touristic, and cultural functions.

The fourth phase focused on the research of appropriate active sustainable technologies such as solar power, water wells, and sustainable waste management that would protect the area's resources from potential pollution while at the same time enabling a modern lifestyle. Since the construction of the traditional Asiri house employs indigenous building materials and passive environmental systems, the research focused on how the passive techniques of traditional construction could be effectively combined with 'active' sustainable technologies to enable the village to operate in a self-sustained manner off the grid.

The fifth phase of the process pertained to possible adaptive reuse patterns that would be culturally appropriate and economically viable. During this phase, the team analyzed the constituent parts of selected building groups while identifying opportunities related to the intrinsic qualities of the built fabric: natural light, ventilation, exposure, architectural quality, flexibility, suitability to modify or expand volumes, and potential connections with the surrounding settlements.

Based on the survey data and subsequent workshops with community members, the team identified several guiding criteria.

- Tourism and recreation
- Creative, cultural and educational activities
- Inter-generational knowledge transfer
- Typical local productions
- Environment and natural capital
- Community and social cohesion
- Privacy and shared uses
- Financial viability and income generation
- Well-being and liveability
- Cultural value of properties and landscape
- Regeneration of natural surroundings
- Activation of connections within the village environment
- Compatibility with the architectonic quality of existing historical elements
- Compatibility with the size and shape of the available space
- Activation of linkages within the community

All proposals placed a strong emphasis on building an environmental and cultural awareness to provide an enriching positive experience for community members and visitors as well as generate a direct financial benefit for reusing and conserving the village.

Adaptive Reuse Scenarios

Residential reuse

Since many Asiris have migrated to the major cities for work opportunities, but still return to the region regularly to visit family members and enjoy its cold climate, a feasible form of adaptive reuse that seemed logical to the team and community members was the conversion of existing structures into a second-home community. To address both - the need for conserving the heritage and the necessities of a contemporary lifestyle, the team, together with the community, worked on several restoration proposals that respect the morphological structure of the existing building clusters yet offer a more modern and more comfortable setting. By adding, combining, and eliminating walls, the team's goal was to create more spacious units that occasionally also offer private outdoor spaces. The team also explored a horizontal separation of uses where some parts of the village were designed for more public and touristic uses while other areas were designated for the private use of residents and their families. In the more public areas, a vertical separation of functions, where the lower parts of the houses, formerly reserved for stables, would be opened for small businesses and guest rooms while the upper parts of the houses would remain residential was integrated.

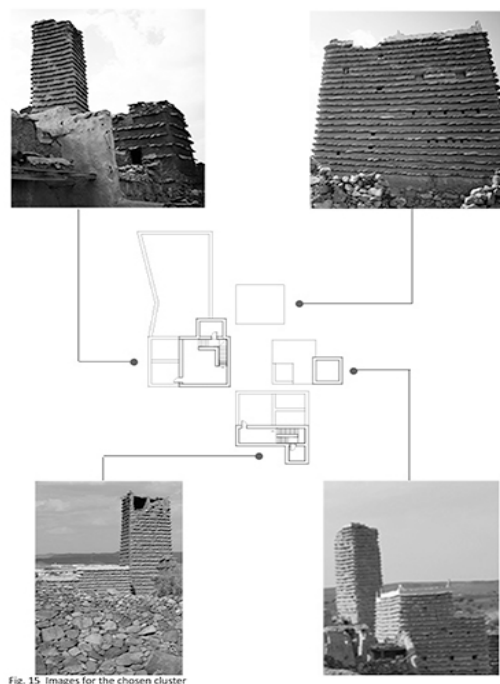
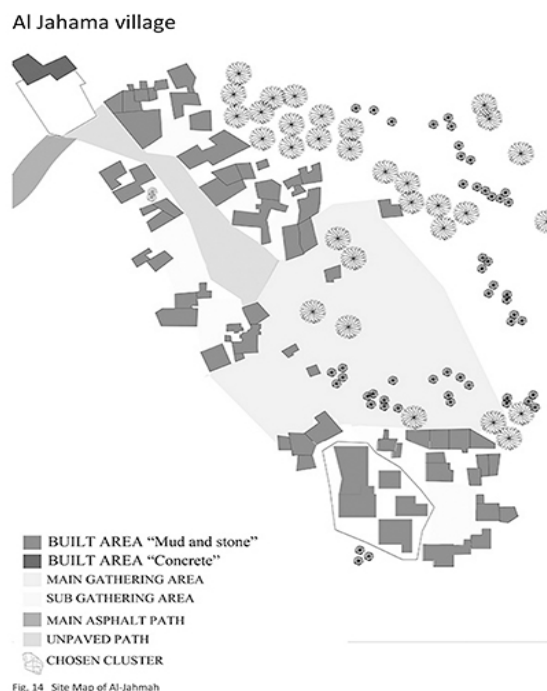
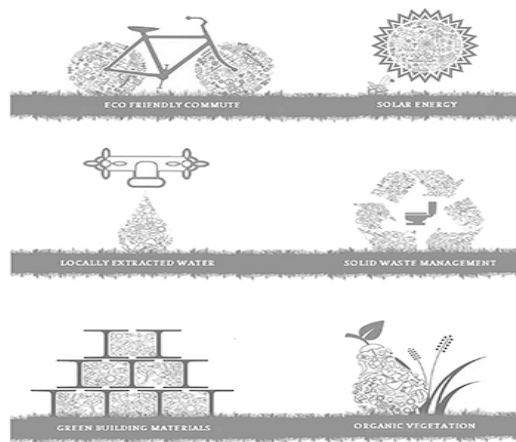


Fig. 7: Al Jahama Village, urban organization, and cluster example. Photographs and works by author with students.

Green Asir |

Smart sustainable community



Healthy green lifestyle

PROMOTE THE USE OF LOCAL MATERIALS (ADOBE)

IMPROVE EDUCATION ABOUT LOCAL CULTURE

PROMOTE HEALTHY BUILDING



Fig. 8: Vision of Al Jahama as a self-sufficient green village: lifestyle criteria. Works by author with students.



Fig. 9: Vision of Al Jahama as a self-sufficient green village: materials, components & systems criteria. Works by author with students.

Agricultural reuse

As the harvesting of fresh produce used to play a significant role in the self-sustained lifestyle of the Asiris but with progressive modernization has since fallen to the wayside with the arrival of mass-produced food, commercial reuse included the reactivation of the existing orchards for organic farming, along with a farm-to-fork restaurant and farmers' market. The focus on agricultural produce seemed a logical proposal as the provision of regional produce with its emphasis on freshness, local availability, and simple preparations could bring the agricultural heritage of farming back to Asir by responding to a growing demand for regionally grown fresh organic food in the Asiri highlands.

Cultural reuse

Guided by the aim to strengthen the cultural heritage and transmit the knowledge of ancient building and painting techniques to future generations, the team proposed to convert some of the more significant buildings into an intergenerational cultural art and research foundation with an ancillary learning center. The youth and students from the region and other parts of Saudi Arabia would have the opportunity to study traditional Asiri building methods while learning how to combine ancient crafts with modern sustainable technologies. The foundation would foster a creative intersection of traditional building practices, innovative technologies, and the arts to reinvent vernacular cultural practices and bring them into a viable future. A women's education centre would serve as a place of

Passive Technology |

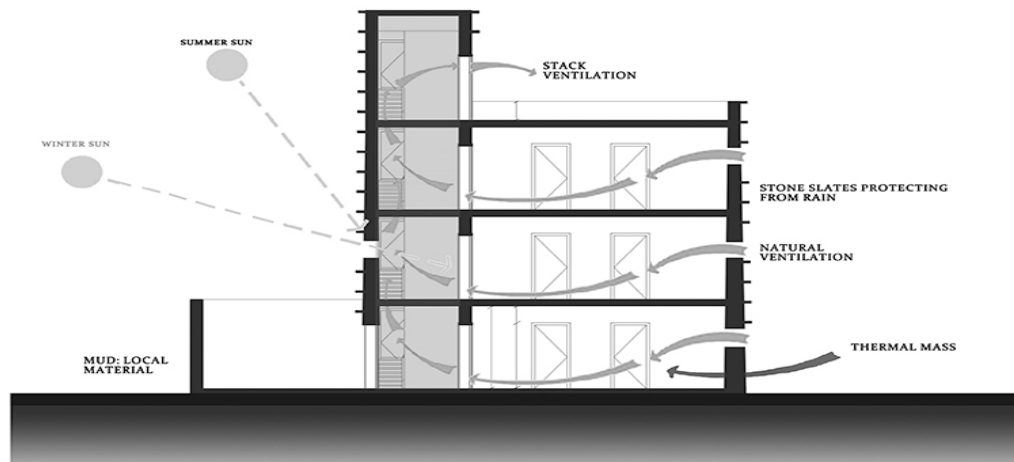


Fig. 10: This diagram shows passive techniques inherent in the Asiri House such as efficient cross-ventilation combined with a high thermal mass. Works by author with students.

Active Technology |

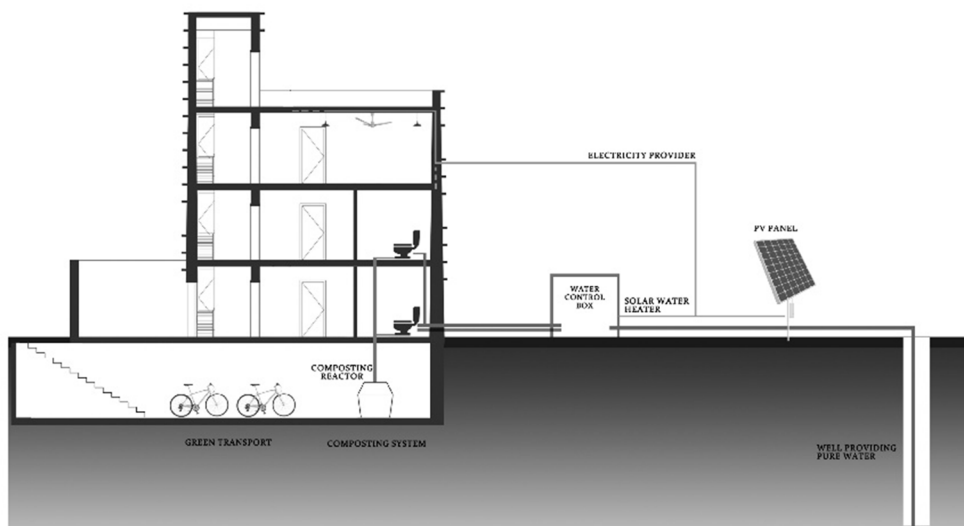


Fig. 11: To complement these benefits, a freshwater well is suggested that combined with solar panels that will provide hot water and electricity. A sustainable wastewater treatment system will convert the wastewater into grey water to be used for watering the orchards. Works by author with students.

knowledge exchange and specialize in the teachings of the nagash art, which is an application of colourful mural artwork unique to the region's cultural heritage, traditionally practiced by women. This platform would give older women in the community who are experts in this craft the opportunity to practice this unique style of painting again while sharing their expertise with young

female students in the region. In this way, the cultural foundation could serve as a vital platform for the preservation and reinvention of vernacular practices while inspiring new generations to transform their cultural heritage. All educational elements combined will benefit the community by fostering interdisciplinary and intergenerational initiatives that might include vernacular

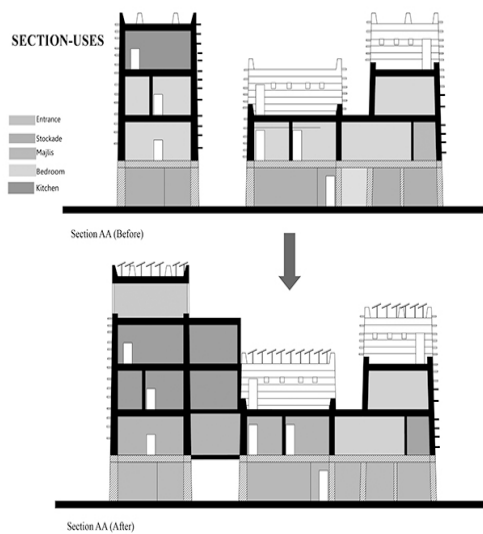


Fig. 12: Conversion of one housing cluster into a single-family dwelling. The section shows vertical and horizontal additions. Works by author with students.



Fig. 13: A reactivation of organic farming is proposed along with the introduction of active green technologies that would enable remote villages to stay off the grid while benefiting from modern conveniences. Works by author with students.

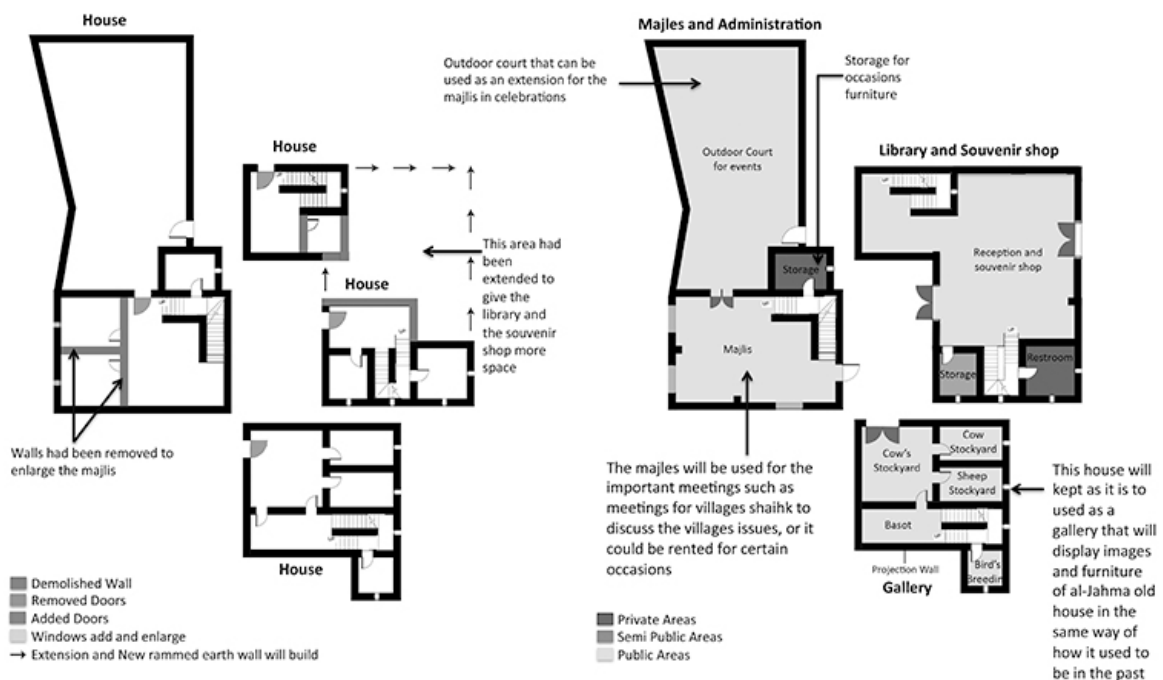


Fig. 14: Reprogramming of housing cluster a cultural foundation with a series of exhibition-, workshop- and meeting spaces. Works by author with students.

and contemporary practices and help integrate the village as people will be able to learn about sustainable building construction, organic farming, art, and culture.

An essential aspect of the project is also its accessibility. The ground floor spaces have been re-imagined as seamless extensions of the public space of the village where workshop-, meeting- and exhibition spaces for culture, art, and education interspersed by exterior courtyards, which become magnets that can reconnect the

community with the historic structures, enhancing the presence and role of the new space for the care of the citizens. The design process emphasizes the existing historic character while also creating a contemporary image so that visitors and residents will be encouraged to enter and feel at home in a relaxed, hospitable environment. A café, farm-to-fork restaurant, and retail shops are also a part of the program, offering healthy food in a strategic position near the central gathering space, which links the village with the natural surroundings and

Section#1 (After)

Enlarged and extended spaces in order to suites and serve the functions inside such as the extension part in the library.

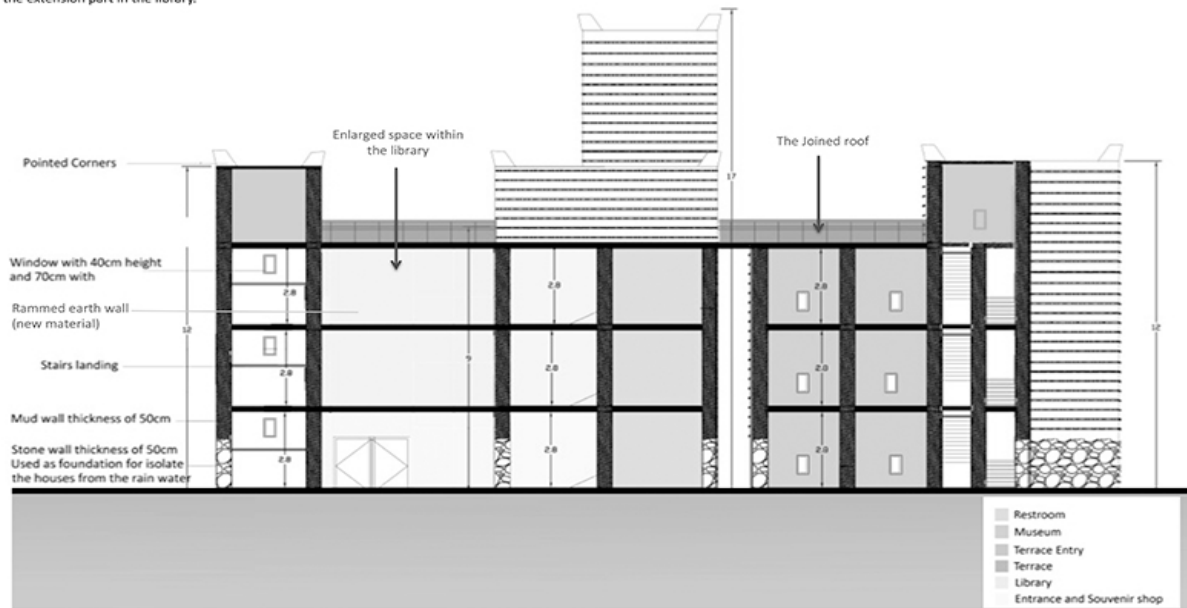


Figure 91 Section for the Proposed Cluster (After).

Fig. 15: The section shows new connections, partially enlarged spaces and, a new addition built with rammed earth. Works by author with students.

helps create a friendly, inviting environment. In this way, the research foundation would serve as a central gathering space for the village and as a destination point for visitors and tourists, where people would be able to learn more about the area.

Conclusion: A Holistic Process of Re-appropriation

Many issues at the heart of a global debate concerning a sustainable future intersect with the theme of building reuse, ranging from the research of sustainable development models to the protection of cultural roots. Abandoned historical buildings continue to be one of the most untapped potential resources of the circular economy while presenting an integral aspect of vernacular communities' cultural heritage. Where vernacular buildings are no longer able to accommodate their first use, proposing new uses is inevitable in order to preserve the buildings' significance. The barriers and the constraints to accessing this untapped resource for adaptive reuse are numerous and convoluted, but they can be overcome by raising awareness and encouraging a proactive engagement of the community. If we interpret cultural heritage as an ongoing process, we should foster a connection between the physical remains of a specific culture and possible interpretations of their meanings and contemporary social, cultural, and economic relevance. In the case of abandoned historical structures, this process requires close collaboration between architects, builders, sustainability experts, and community members to create a holistic process of re-appropriation and transformation of such properties according to the needs of the present. This research shows one example of how the reuse of historic buildings might constitute a significant opportunity for revitalizing an abandoned village. The design solutions

adopted attempted to harness the potential of reuse, both in renewing buildings' functions according to current social and economic needs and their sustainable performance. The user contribution in the decision-making process and detailed analysis provided valuable information to find the most appropriate use for a synergistic revitalization of the village. However, as each vernacular culture and region is unique by definition, this process must be carefully customized to each community, culture, and region. The author is convinced that with relevant research, innovative ideas, a participatory approach to design and construction along with more flexible regulatory policies, the adaptive reuse of abandoned villages could play an essential role as a creative and sustainable process to pass on the cultural heritage of a region to future generations.

Acknowledgment

The author wants to thank Dar Al Hekma University for enabling this research project with financial support and Prince Sultan University for encouraging the research. The author also wants to express gratitude to Faris Thagfan, whose support was invaluable in guiding and coordinating this project during all its phases. Also, the author wants to thank Lubna Yasin for her invaluable support, Sima Refae for her committed assistance, and all Dar Al Hekma students who assisted in field research and design work.

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Keywords

adaptive reuse, circular economy, cultural heritage, built-heritage conservation, sustainable architecture.