

The Conservation of New Gournia Village According to Hassan Fathy's Philosophy and Ideas

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(Received 31/5/2016; accepted for publication 21/2/2017.)

Abstract: Motivated by the declining condition of New Gournia, the international association "Save the Heritage of Hassan Fathy" made an appeal to several international conservation organizations to help with the conservation of the village. Responding to this appeal, the World Heritage Centre embarked upon a study of the village and a conservation initiative. The study recommended adopting two approaches to the conservation of New Gournia, one of which is based on the conservation of the village according to Hassan Fathy's ideas. The study summarized these ideas as "architecture that is based on appropriate technology or sustainability". The aim of this study is to discuss the architect's genuine ideas concerning New Gournia, which should guide the conservation works in the village. The subject of the study was approached by means of a theoretical review of a broad literature that explores Hassan Fathy's ideas, one of which is Hassan Fathy's own book entitled "Architecture for the Poor". An individual conservation initiative of one of the houses that Hassan Fathy designed in New Gournia, which reflects a clear understanding of his ideas, was explored as well. The previous literature review was supported by a number of interviews carried out in Egypt and the United States. The study revealed that the architect's main idea of the project was to sustain the traditional qualities of Old Gournia's community by introducing an architecture that responds to its diverse contexts. The study suggests adopting an approach to the conservation of the peasants' houses that depends on sustaining and enhancing the traditional qualities of New Gournia's community, instead of restoring the particularities of Hassan Fathy's original design.

Keywords: Urban conservation; Theories of urban conservation; Theories of architecture; Earthen heritage; Hassan Fathy; New Gournia Village; World Heritage Sites.

1. Introduction

New Gournia Village, Hassan Fathy's most renowned community-centered project, represents an outstanding heritage resource on the national and global levels. In Egypt, the project represents one of the few and early efforts to introduce a model for the sustainable development of Egypt's rural and indigenous settlements, and a vision for the character of Egypt's suburban environment. The principles adopted in New Gournia experiment are still applicable worldwide for traditional communities.

As a heritage resource, New Gournia is also very significant because it represents two patterns of cultural heritage whose significance has been undervalued for a long time. These two patterns are 'recent' and 'vernacular' heritage. The previous two patterns of cultural heritage have been found to be under-represented on the World Heritage List (UNESCO, 1994).

The suspension of the construction of New Gournia around 1947 (Fathy, 2000) can be considered the major challenge that faced New Gournia experiment. A small section of Hassan Fathy's

original layout has been constructed. At present, many of the buildings designed by Hassan Fathy have been demolished and replaced by modern buildings constructed using reinforced concrete, with very poor architectural and visual qualities. These new concrete buildings diminish the village's genuine spirit and feeling. The condition of the few remaining earthen buildings is declining rapidly. The previous challenges have been the stimuli for the conservation initiative of the village.

The conservation of New Gournia Village should be viewed as a very challenging experience. New Gournia itself should be considered as a physical conservation intervention because the main aim of building the village was the relocation of Old Gournia's traditional community. Therefore, New Gournia should be considered as one of the key material evidences that reflect Hassan Fathy's conception of urban conservation. What makes the conservation of the village more challenging is the incompleteness of Hassan Fathy's original layout and the later inconsistent additions and alterations made to the village. The previous challenges are also represented by the two distinct concepts that the village conveys. One of the two concepts is associated with Hassan Fathy's ideas concerning how the new village should look like and how it could accommodate Old Gournia's traditional community with all its socio-cultural and economic complexities, while the other is associated with the traditional community's distinctive socio-cultural qualities.

To stop the accelerating decline in New Gournia's condition, the World Heritage Centre has embarked upon a conservation project of the village that has been preceded by a thorough study. The study has recommended adopting two approaches to the conservation of the village. The first approach is based on saving some of the remaining earthen structures in the village through emergency interventions according to earthen architecture conservation techniques, and also on the accurate conservation of these earthen structures according to their exact designs. The study has described the previous approach as a materials-based approach to conservation. The second approach can be described as preserving the village according to Hassan Fathy's architectural ideas instead of restoring it to its original design. The architect's ideas have been explained to represent sustainability principles (UNESCO, 2011; p16).

2. The Aim, the Method and the Limitations of the Study

The main aim of this study is to discuss the implications and the consequences of the conservation of New Gournia according to Hassan Fathy's ideas. The study also aims at explaining Hassan Fathy's architectural ideas in relation to New Gournia, which should be the reference for any conservation works carried out on the village in the future according to the World Heritage Centre's second approach. The study focused on the World Heritage Centre's second approach, which is concerned with the conservation of New Gournia following Hassan Fathy's ideas rather than according to its original design. The reason why the study has focused on the second approach is the novelty of this approach and its association with new patterns of cultural heritage, particularly recent heritage. The interest in the conservation of recent heritage has been associated with the introduction of a new conservation concept, which is the conservation of recent heritage properties according to their designers' ideas or their original intentions. The second approach is still a vague new approach to architectural conservation. The previous approach is also very confusing, particularly in relation to the implications of Hassan Fathy's ideas.

To achieve the aims of the study, a broad review of literature that further explores Hassan Fathy's ideas in relation to New Gournia was carried out. The literature includes Hassan Fathy's book entitled "Architecture for the Poor". Two outstanding experiences that represent a conscious understanding of Hassan Fathy's architectural ideas were discussed as well. The two experiences are an individual conservation initiative carried out by Fikri Hassan to one of the houses designed by Hassan Fathy in New Gournia, and Simone Swan's experience in the United States following Hassan Fathy's ideas. The agreement of Hassan Fathy's previously reviewed ideas with the principles of sustainability was also scrutinized. Hassan Fathy's own conservation experience of the theatre in New Gournia was also analyzed in a trial to deduce his perception of any potential future conservation works in New Gournia. This literature review was supported by field visits and survey work carried out in New Gournia; in addition to a group of structured and non-structured interviews carried out in Luxor, Egypt and in the United States of America.

3. Introduction to the Architect, New Gournia and the Conservation Project

Hassan Fathy was born in 1900 in Alexandria. He graduated from Cairo University in 1926. Hassan Fathy has designed more than 100 projects, many of which have been constructed. New Gournia Village can be considered one of the most significant community-centered projects that he designed (Steele, 1997a). The works of Hassan Fathy, particularly New Gournia Village, have been appreciated on the international level. In 1980, Hassan Fathy was awarded the Aga Khan Award (The Aga Khan Development Network, 2016), and in 1984 he was awarded the UIA Gold Medal (International Union of Architects, 2012). Hassan Fathy passed away in 1989 (Serageldin, 2007).

New Gournia Village (Fig. 1) lies on the western bank of the Nile in Luxor. The village was designed as a relocation venue of a traditional community residing in a nearby village called Old Gournia, which lies on the edge of one of the mountains outside Luxor. The construction of the village

began around 1945, and was discontinued in 1947 (Fathy, 2000). The key buildings in the constructed section of the village that have survived include the mosque, the khan, the theatre, Hassan Fathy's house, a small section of the marketplace, and some of the peasants' houses. New Gournia lies within one of Egypt's World Heritage Sites, which is Ancient Thebes with its Necropolis World Heritage Site (Supreme Council of Antiquities, 2006). Although the village lies inside this World Heritage Site, it has never been considered as an element contributing to the site's Outstanding Universal Value (UNESCO, 2011; Gandreau and Delboy, 2012). Despite this fact, New Gournia still enjoys outstanding heritage qualities that should allow it the chance to be considered as one of the elements that contribute to the World Heritage Site's Outstanding Universal Value (Abdel Tawab, 2012a).

The condition of New Gournia, as well as all the other buildings designed by Hassan Fathy, has declined dramatically. In an attempt to muster the national and international efforts to stop the further deterioration of such a significant cultural heritage,



Figure 1. The layout of New Gournia showing the key elements in the village and the buildings that are recommended to be preserved according to Hassan Fathy's ideas (Fathy, 2000; p70 illustration 66; UNESCO, 2011; p33; the author). 1. the mosque, 2. the khan, 3. the theatre, 4. veterinary clinic, 5. tourist police station, 6. community hall, 7. secondary school, 8. Gournia city council, 9. education administration and preparatory school, 10. police station, 11. agricultural secondary school, 12. water plant, 13. fire station, 14. electricity station, 15. ambulance station, 16. traffic police station, 17. cattle breeding station, 18. agricultural department, 19. storage of Upper Egypt Flour Mills, 20. nursery and garage.

an international association concerned with the conservation of the works of Hassan Fathy has been established in Switzerland in 2008. The association, which is called "Save the Heritage of Hassan Fathy", has contacted the World Heritage Centre and the World Monuments Fund concerning the declining condition of New Gournia (Save the Heritage of Hassan Fathy, 2012). Both organizations responded positively and embarked upon a conservation project to safeguard New Gournia. The conservation project involved carrying out two studies on the social and architectural aspects of the property (World Monuments Fund, 2011; UNESCO, 2011). However, few preservation works have been carried out to the buildings in the village, since the project seems to have been suspended since the uprising in Egypt broke out in 2011.

4. Causes of the Deterioration of the Earthen Buildings in New Gournia

The causes of the severe deterioration of the physical condition of the earthen buildings in New Gournia include the selection of poor construction materials, particularly the lime stone used for the foundations, the deteriorating sewage system in

the village, and the lack of adequate damp isolation measures. The construction of the village on a relatively low area is one of the reasons why it lacks a proper sewage system, and one of the causes that led to the rise of the ground water level in the village. The rise of the ground water level and dampness are also attributed to the current inadequate sewage system in the village that depends on septic tanks. The lack of adequate damp isolation in the earthen buildings in the village and the rise of ground water level led to the infiltration of the rising dampness through the foundations and the earthen walls leading to the subsequent deterioration of these walls (UNESCO, 2011). What makes things even worse is the lack of any periodical effective maintenance works of these earthen buildings (UNESCO, 2011), and the inadequate maintenance work carried out by the occupants of these buildings, who usually use Portland cement for maintenance (Fig. 2). Cement mortars and renders are known for their detrimental effects on earthen walls and their role in accelerating their deterioration (The technical staff of Cornerstones Community Partnerships, 2006).

The other significant causes of deterioration involve the uncontrolled new urban development



Figure 2. The walls inside one of the earthen houses in New Gournia have deteriorated dramatically due to the infiltration of the rising dampness and rising ground water level and the lack of adequate damp insulation, as shown in this photograph. Inadequate restoration work carried out to these walls have even worsened their condition (the author).

and the rapid rate of new building activities in the village due to the increasing housing demands and the failure of the earthen houses to accommodate these increasing demands (UNESCO, 2011). These new development projects, which are usually constructed using reinforced concrete, suffer from poor architectural and visual qualities. Unfortunately, many governmental agencies have contributed to this negative phenomenon. The lack of a contextually sensitive master plan of the village and the lack of a clear and effective urban management process of the village are other causes of its deterioration (UNESCO, 2011).

5. Various Approaches to Architectural Conservation that are Relevant to New Gournia

Early conservation practices have been characterized by two key approaches to conservation, the scrape and the anti-scrape approaches. The scrape approach has been associated with the French architect Eugène-Emanuel Viollet-le-Duc (Abdel Tawab, 2010), and has been influenced by his restoration works and writings, particularly his book "On Restoration". Le-Duc's philosophy can be described as "to restore a building ... is to re-establish it in a state of completion which may never have existed at any given moment in the past" (Earl, 1997; p38). On the other hand, the anti-scrape approach has been associated with William Morris and John Ruskin. The anti-scrape approach has called for the protection of historic buildings against the alterations and demolition that have been mainly associated with the restoration of these buildings following the scrape approach (Abdel Tawab, 2010). Because of the growing criticism leveled at it, the scrape approach has largely been abandoned. The anti-scrape approach had profound influences on the international charters guiding conservation practice worldwide and on conservation laws on the national level. However, the recent international interest in the conservation of new patterns of cultural heritage, particularly modern heritage, has profound influences on current conservation philosophy and approaches. The main concept of the conservation of modern heritage is to preserve buildings representing modern heritage according to the principles of modernism instead of merely

restoring them according to their exact original conditions, which implies tolerating alterations to such buildings as long as they respect the principles of modernism (Heynen, 2006).

The scientific committee concerned with the World Heritage Centre's conservation project of New Gournia has recommended two approaches to the conservation of the village. The first approach depends on the conservation of the earthen buildings according to earthen architecture conservation techniques, and can be described as a materials-based approach. The other depends on the conservation of some earthen buildings according to the philosophy and ideas of Hassan Fathy's vernacular architecture, instead of preserving these buildings according to their exact original designs (UNESCO, 2011). The second approach, which is the focus of this study, seems to have been influenced by the conservation approach adopted in the case of modern heritage. The main difference between the previous two approaches is the extent of alterations carried out to the earthen buildings during their preservation that can be tolerated. While the second approach, the focus of this study, tolerates undertaking some alterations to the earthen buildings in the village as long as they respect Hassan Fathy's ideas, the first approach seems to be in favor of maintaining the buildings' original designs unaltered.

Both the previous two World Heritage Centre's approaches are concerned with stopping all the causes of the deterioration of the village and undertaking all the necessary remedial measures to the deteriorating elements and materials. The World Heritage Centre has developed a master plan for the conservation of the village that recognizes both approaches. The master plan recommends undertaking all the activities and conservation measures that are required to stop the causes of the deterioration of the village. These activities and measures involve undertaking all the urgent interventions to consolidate the deteriorating earthen buildings, upgrading the infrastructure networks in the village, including the sewage system, and designating New Gournia under the Act No. 119 as a conservation area (UNESCO, 2011), or what is officially called "Areas Enjoying a Distinctive Value" (Abdel Tawab, 2012b), in order to protect the village against uncontrolled new development projects.

6. A Discussion of Hassan Fathy's Ideas in Relation to New Gournia

6.1 Hassan Fathy's architectural ideas revisited

The main focus of Hassan Fathy's ideas is the introduction of architecture that is culturally authentic, humanistic, and extremely sensitive to traditional communities' climate and their socio-cultural, economic and environmental contexts. Hassan Fathy's ideas involve the participation of local communities in the design process, adopting self-help construction methods, the possibility to borrow compatible architectural paradigms from other cultures, and the profound concerns about the needs of the poor (Serageldin, 2007). These ideas also involve adopting a co-operative method of construction, through which the residents participate in the construction process, the dependence on appropriate technology in the construction process, and the construction of buildings using local materials such as adobe and stone (Alamry, 2001; p37).

New Gournia project embodied these ideas to a large extent. One of Hassan Fathy's aims of the project of New Gournia has been to promote the collaboration between architects and local craftsmen, not only to reduce construction costs but also to construct buildings that are sensitive to local communities' lifestyles and capable of stimulating their self-esteem of their cultures. Pyla states that "Fathy also aimed to nurture collaborations between architects and local craftsmen, not only to minimize cost but also to create a type of architecture sensitive to local rural lifestyles that would, in turn, cultivate peasants' pride of their own culture" (Pyla, 2009; p717). The following quotation emphasizes Hassan Fathy's ideas concerning the previous communal approach: "Anyone would be ready to build a house for himself if shown how. The snag is that a house is essentially a communal production: one man cannot build one house, but a hundred men can easily build a hundred houses" (Fathy, 2000; p121). Hassan Fathy's architectural ideas concerning the design of New Gournia involve the provision of affordable residential units; taking into consideration the various social, human and climatic aspects of the local community and the region where it lives; reviving the local community's traditional arts and crafts; the creation of new jobs that are mainly

based on the local community's traditional crafts; anticipating and respecting the local community's needs, traditions and customs; and restoring to the local community its aesthetic qualities (Steele, 1997a). Hassan Fathy's ideas also involve developing a national architectural style that represents the Egyptian identity. The following quotation emphasizes this idea: "Yet in modern Egypt there is no indigenous style. The signature is missing; the houses of rich and poor alike are without character, without an Egyptian accent. The tradition is lost, and we have been without an Egyptian accent" (Fathy, 2000; p19).

In relation to New Gournia, Hassan Fathy's main aim for the project has been to sustain the qualities of Old Gournia's traditional community. Hassan Fathy's preference to provide a central well for each neighborhood to use as a source of water, instead of installing water pipes inside the peasants' houses, emphasizes the previous conclusion. Hassan Fathy explains that, for girls in traditional communities, fetching water from the neighborhood's well is their only chance to be seen by prospective husbands and to get married (Fathy, 2000; p99). Hassan Fathy's approach to sustain the traditional qualities of Old Gournia's local community agrees with Taos Pueblo's approach to maintain the traditional way of life. The traditional community residing in Taos Pueblo in the United States insisted on the prohibition of the installation of water pipes and electricity cables inside the houses in Taos Pueblo (UNESCO, 1987). Hassan Fathy's aim for the project in New Gournia has also been to restore to Old Gournia's community its traditional crafts and building skills. The following quotation indicates this aim: "It is important to understand that this search for local forms and their incorporation in the new village was not prompted by a sentimental desire to keep some souvenir of the old village. My purpose was always to restore to the Gournis their heritage of vigorous locally-inspired building tradition, involving the active cooperation of informed clients and skilled craftsmen" (Fathy, 2000; p43).

Hassan Fathy's concept of the design of New Gournia has focused on reviving traditional crafts, either by reintroducing the deserted traditional crafts or by enhancing the quality of the traditional crafts that are becoming neglected. From Hassan Fathy's point of view, traditions should not be considered as stagnant aspects of traditional

communities. Subsequently, he aimed at establishing new traditions, and reviving deserted ones. These new traditions involve the traditional crafts and construction techniques that he borrowed from other traditional communities in order to enhance the traditional community's quality of life and to confront present-day challenges. Such ideas might explain Hassan Fathy's diverse historic references adopted in New Gournia. Hassan Fathy's following argument emphasizes the previous ideas:

"Tradition is not necessarily old-fashioned and is not synonymous with stagnation. Furthermore, a tradition need not date from long ago but may have begun quite recently. As soon as a workman meets a new problem and decides how to overcome it, the first step has been taken in the establishment of a tradition. When another workman has decided to adopt the same solution, the tradition is moving and by the time a third man has followed the first two and added his contribution, the tradition is fairly established. Some problems are easy to solve; a man may decide in a few minutes what to do. Others need time, perhaps a day, perhaps a year, perhaps a whole lifetime; in each case the solution may be the work of one man" (Fathy, 2000; p24).

Hassan Fathy (Fathy, 2000) indicates that the traditional crafts and architectural paradigms that are borrowed from other traditional communities or historic buildings and introduced to New Gournia's traditional community will gradually grow into tradition. This evolution is expected to take place when New Gournia's traditional community absorbs these traditional crafts and architectural paradigms and starts to integrate them into the continuously added new buildings, and when the building process in New Gournia evolves into a more professional process. This change will naturally happen when the villagers' wealth increases (Fathy, 2000; p42). From Hassan Fathy's point of view, traditional crafts and architectural paradigms might reach the end of their cycle of evolution, and it is the role of local craftsmen to keep these traditional crafts evolving using their innate creativity. Therefore, traditional crafts and architectural paradigms and styles should be ever-evolving. The following quotation explains Hassan Fathy's previous ideas:

"Once a particular tradition is established and accepted, the individual artist's duty is to keep this tradition going, with his own invention and insight to give it that additional momentum that will save it from coming to a standstill, un-



Figure 3. The mosque in New Gournia, whose design and form have been influenced by the form of the mosque in Old Gournia (the author).

til it will have reached the end of its cycle and completed its full development" (Fathy, 2000; p25).

Hassan Fathy's ideas explain his tendency to adopt diverse historic references in his design of New Gournia. These historic references involve, for instance, references made to traditional architectural elements characteristic of Old Gournia. These elements include the mosque (Fig. 3), the dovecots and the maziaras used in Old Gournia's houses. Other architectural elements represent historic references made to Cairo's medieval houses. These elements include, for instance, the qa'a used in the houses, and the Turkish bath of New Gournia (Fathy, 2000).



Figure 4. The plan of the mosque in New Gournia showing the key spaces in the mosque and the space that has been dedicated to meditation, which is the space indicated as a small chapel (Fathy, 2000; p75 illustration 75; UNESCO, 2011; p33; the author). 1. entrance, 2. forecourt, 3. store, 4. vaulted gallery for passers-by, 5. courtyard, 6. praying iwans, 7. sheikh's room, 8. store, 9. small chapel (the meditation space), 10. ablutionary, 11. ablutionary entrance.



Figure 5. The meditation space to the back of the mosque in New Gournia (the author).



Figure 6. The theatre in New Gournia (the author).

Other architectural elements have been influenced by foreign concepts. Hassan Fathy's design of the mosque in New Gournia involves a space dedicated to meditation (Fathy, 2000; p75) (Fig. 4, 5). Meditation is a religious ritual that is irrelevant to Islam, the religion of Old Gournia's traditional community. The meditation space might have been provided in order to assign a function to the unused space that resulted from the orientation of the praying space towards Mecca while aligning the entire plan according to the village's dominant street pattern. The theatre in New Gournia (Fig. 6) is another building that represents such foreign influences. Hassan Fathy's design of the theatre has been influenced by the Greek theatres and the Elizabethan theatres in the United Kingdom (Fathy, 2000). The techniques that Hassan Fathy used to construct domes and vaults in New Gournia have been influenced by the Nubian traditional construction techniques. Hassan Fathy has explained the various historic references that he adopted in the design of New Gournia and the various influences on the architectural elements that represent these references. The external straight staircase of New Gournia's mosque is one of the key architectural elements that represent the previous influences. Hassan Fathy (Fathy, 2000; p42) indicates that the design of the staircase has been influenced by the staircase of the mosque in Old Gournia, and that this traditional architectural element dates back to the earliest years in Islam and is still used in Nubia and Upper Egypt.

The architectural elements used in the design of New Gournia indicate that the majority of Hassan Fathy's historic references have been

associated with areas other than Old Gournia. One of the most significant influences on his design of New Gournia is the Nubian heritage, particularly their traditional crafts and techniques used to construct domes and vaults. The reason why Hassan Fathy has been influenced by the Nubian heritage is their personal pride in their heritage and the houses they owned and their interest in decorating them using their traditional arts. Unlike the Nubians, the rest of the Egyptian peasants residing in the traditional villages lying along the Nile Valley were not able to own their houses because of Mohammed Ali's requisition of the land in Egypt. Consequently, those peasants lost their personal pride of ownership. On the other hand, the Nubians were beyond this central authority, thus escaped such domination and retained their personal pride of ownership of their houses (Steele, 1997a).

Hassan Fathy's interest in historic references is largely attributed to his trust in the wisdom of the older generations and their experience in construction using traditional techniques that have been proven to survive over time. Hassan Fathy indicates that traditional communities have learnt how to deal with their environmental and housing challenges by trial and error. He adds that the solutions that these communities have reached to overcome these challenges resulted from countless experiments and accidents and out of the experiences of generations of builders who retained the successful solutions and rejected the unsuccessful ones. The successful solutions adopted by these traditional communities have been naturally passed on as tradition (Steele, 1997b; pp 83-84). Hassan Fathy was interested in making

reference to traditional architecture because of the richness of such architecture. According to Hassan Fathy's ideas, historic references made to traditional architecture can result in the development of countless architectural variations. Consequently, such historic references should be considered as a dynamic approach to design that should result in ever-evolving architectural styles. In his book entitled "Architecture for the Poor", Hassan Fathy points out that, during the construction of New Gournah, he used to encourage the traditional craftsmen involved with the construction of the village to produce countless designs of the sabras doors and the windows' claustra used in the buildings in the village. Hassan Fathy's interest and encouragement indicate the richness of traditional crafts and architecture and also indicate his rejection of using identical static prototypes in design, his rejection of modernism's mass manufacture and production, and his preference for the continuous evolution of traditional crafts and architecture (Fathy, 2000; p35).

According to Hassan Fathy's ideas, New Gournah project should have not resulted in the establishment of a static architectural style that is merely associated with the project's designer. His ideas focused mainly on the role of the local craftsmen in developing an ever-evolving traditional architecture and their role in making sure that the tradition does not reach a static stage. Reaching this stage would mean the end of the life cycle of the traditional architecture. According to these arguments, New Gournah experiment should have not resulted in the establishment of a definite static architectural style, which has eventually happened. The projects that Hassan Fathy designed following New Gournah experiment emphasize the repetition of a well-established architectural style that owes most of its traditional paradigms to New Gournah experience and its diverse historic references. The establishment of such a definite architectural style represents two phenomena. The first is Hassan Fathy's interest in pursuing an established pattern of architectural practice. According to this pattern, architects tend to develop their distinctive architectural styles, to attend to these styles' smallest details including furniture elements, and to develop their architectural presentation techniques that altogether express their architectural ideas. Hassan Fathy, who was interested in designing his distinctive furniture elements (Abdel Kawi, 2009),

seems to have followed the previous pattern in his design of New Gournah and the following projects. The difference is that the sources of Hassan Fathy's architectural style were the Egyptian traditional architectural styles and paradigms. The second phenomenon is Hassan Fathy's disappointment following the discontinuation of New Gournah experiment and the limitation of his architectural career to merely designing private houses for Egypt's gentry following New Gournah's architectural style. Hassan Fathy's disciples have contributed to the establishment of the architectural style that has later been called Hassan Fathy's style by repeating his architectural paradigms in their designs. The establishment of such a stagnant architectural style is entirely against Hassan Fathy's ideas.

6.2 An individual initiative for conservation of a house designed by Hassan Fathy

An individual initiative to preserve one of the houses designed by Hassan Fathy in New Gournah reveals an understanding of Hassan Fathy's architectural ideas. The conservation initiative has been carried out by Fikri Hassan, who has been involved with the World Heritage Centre's conservation project of the village, and who seems to have been influenced by its proposed approach to preserve the village according to Hassan Fathy's ideas. The main aim of the initiative was to rehabilitate the house into a hostel (Fig. 7). The rehabilitation resulted in many alterations to the house. These alterations involve the addition of a front courtyard, and the



Figure 7. The conservation initiative carried out on one of the houses designed by Hassan Fathy in New Gournah, which resulted in the rehabilitation of the house into a hostel (the author; Hassan, 2011).



Figure 8. The new staircase that has been installed in the courtyard of the house (the author).

installation of a new staircase to the left of the new courtyard. Unlike Hassan Fathy's characteristic two vaults staircases, the new staircase is supported by three vaults (Fig. 8). Through an arched gate, the staircase leads to the upper floor that will be used as a hostel. Atop the upper floor, a small dome and a dovecot constructed using red bricks have been added (Fig. 9). The courtyard incorporates a new gate to the house, the design of which incorporates



Figure 9. The new dome and dovecot added to the house during the conservation works (the author).



Figure 10. The gate of the house designed by Hassan Fathy in New Gournia, which was the subject of the conservation and rehabilitation works (the author).

some traditional features such as the maziara. The door leaf of the external entrance is an old one reclaimed from one of the demolished houses designed by Hassan Fathy (Hassan, 2011) (Fig. 10). A new entrance that mimics Hassan Fathy's characteristic entrances has been added to the house. The design of the entrance incorporates Hassan Fathy's famous carved star-like motif over the doorway. The door leaf of the entrance is an old sabras door that has been reclaimed from one of the demolished houses in the village designed by Hassan Fathy (Hassan, 2011). The new entrance was constructed using red bricks. The rehabilitation resulted in many internal alterations, which involved the addition of many arches constructed using red bricks. In order to harmonize the new additions with Hassan Fathy's original design, all the additions were rendered using the original earthen render, called heebah. Hassan Fathy's original shallow domes used in the old house were intended to be preserved (Hassan, 2011).

Through the previous conservation works, Fikri Hassan has tried to follow Hassan Fathy's ideas, as inferred from his book "Architecture for the Poor", and has also tried to adopt some sustainability principles. Fikri Hassan not only



Figure 11. Ahmed Abdel Rady's house (the author).

referred to Hassan Fathy's book to understand his architectural ideas, but was also interested in experiencing the buildings designed by Hassan Fathy. During his visits to the village, Fikri Hassan has always stayed in one of the houses that have been originally designed by Hassan Fathy, which is Ahmed Abdel Rady's house (Fig. 11), mainly to experience the same spirit and feeling that inspired Hassan Fathy. Hassan Fathy lived in New Gournah during the design and construction of the village so as to maintain a close relationship with the site and with the traditional community in Old Gournah. Improvising many design details on-site, Fikri Hassan seems to have followed Hassan Fathy's spontaneous approach to the design of New Gournah. Fikri Hassan's spontaneous approach to the rehabilitation of the house designed by Hassan Fathy agrees with his description of the design and the conservation of the village as experimental experiences (Hassan, 2011). This spontaneous approach emphasizes that Fikri Hassan has followed Hassan Fathy's experimental approach to the design of New Gournah. To Hassan Fathy, New Gournah was like an experiment in which he tried to examine the applicability of his ideas. Re-using many of the doors and windows that have been disassembled from the demolished buildings designed by Hassan Fathy (Hassan, 2011) emphasizes Fikri Hassan's adoption of a key sustainability principle that is concerned with recycling building materials and elements.

Fikri Hassan's dependence on local craftsmen, particularly Ahmed Abdel Rady, in the rehabilitation of the house indicates that he has been following Hassan Fathy's ideas concerning the role of local craftsmen in the design and



Figure 12. One of the few remaining doom-palms located just outside the built up area to the north of the village (the author).

construction process. Fikri Hassan has also tried to reintroduce the same architectural elements that Hassan Fathy used in New Gournah; particularly domes, vaults and dovecots; and constructed them according to Hassan Fathy's construction technique. Fikri Hassan's concerns about the contribution of particular natural features in the surroundings of the rehabilitated house to the townscape qualities of the village, particularly the doom-palms outside the village (Hassan, 2011) (Fig. 12), emphasize the influences of Hassan Fathy's ideas. Hassan Fathy has emphasized the contribution of these trees, as distinctive natural features in this area, to the overall character of the village (Fathy, 2000; pp 43-44).

6.3 Simone Swan's experience in the United States of America

Simone Swan was the founding director of the Menil Foundation in Houston. In the 1970s, she was introduced to Hassan Fathy's ideas particularly the idea to construct buildings using earth, by which she became very impressed. She travelled to Cairo to meet Hassan Fathy and learn the various techniques used to construct buildings with earth. Following her return to the United States of America and after Hassan Fathy passed away; Simone Swan built her house in Presidio in Texas using his construction techniques. She also founded Adobe Alliance where she regularly holds workshops to teach the local residents in the region, and those who are interested in earthen architecture, the same traditional construction techniques in order to help them with building affordable houses (Swan, 2016). Shortly after, her ideas began to spread

among the farmers in the northern parts of Mexico (Wanek, 2009). Simone Swan's experience in Texas is very significant because it explains her understanding of Hassan Fathy's architectural ideas.

Using traditional construction techniques to provide affordable houses is one of Simone Swan's ideas that reflect the influences of Hassan Fathy. Following Hassan Fathy, Simone Swan used the same traditional construction techniques that are used by the Nubians to construct domes and vaults. Building Nubian domes and vaults using earthen bricks is inexpensive and easy and can be used by the farmers in northern Mexico to build affordable houses, as Simone Swan hoped for. Simone Swan used the Nubian domes and vaults in Texas and Mexico although their forms might be considered foreign to the distinctive architectural styles of these regions because she was following Hassan Fathy's ideas concerning making reference to historic architectural paradigms. Nonetheless, these traditional paradigms can be considered compatible with the climate of these regions. Therefore, Simone Swan's experience should be considered as a trial to hybridize these traditional paradigms with a compatible environment (Dollens, 2005). Simone Swan's use of the Nubian domes and vaults indicates that her interest in the ability of these traditional paradigms to resolve present-day challenges facing the farmers in Mexico transcends the limited interest in the adaptability of these paradigms' forms to the prevalent architectural styles. Simone Swan's philanthropic backgrounds might explain why she was impressed by Hassan Fathy's social and humane ideas (Swan, 2012), and why she focused in her work on these aspects instead of focusing on the adaptability of the forms of the buildings she built to their surrounding material context. Simone Swan has also followed Hassan Fathy's ideas concerning the ultimate dependence on the local craftsmen in the construction of New Gournia, particularly his master mason Alaa al-Din Mustafa (Steele, 1997a; p14). Simone Swan has also depended in the few buildings she constructed on a master mason who is experienced with the traditional construction techniques in the area, Maria Jesus Jimenez (Wanek, 2009).

Simone Swan's use of the Nubian domes and vaults to build affordable houses agrees with Hassan Fathy's ideas. Hassan Fathy himself has made many references to historic paradigms that seem to be irrelevant to Old Gournia, such as those

of Cairo's medieval houses. To Hassan Fathy, historic and traditional architecture reflects the experiences and the wisdom of the older generations. Consequently, all traditional and historic architectural paradigms should be considered applicable to any traditional community as long as they can provide answers to present-day challenges. These answers have evolved over a very long time and reflect the experiences of many generations.

6.4 The principles of sustainability and the works of Hassan Fathy

Hassan Fathy can be considered among the pioneers of sustainable and green architecture. Pyla states that "Those who search for the pioneers of sustainability, green architecture or appropriate technology, often point to Fathy as a good example to emulate" (Pyla, 2009; pp 725-726). Among those who consider Hassan Fathy a good example of the pioneers of sustainable and green architecture is James Steele (Pyla, 2009; p730). Others like Simone Swan (Swan, 2012) and Steven Moore (Moore, 2011) consider the buildings Hassan Fathy designed to agree with the principles of sustainability. Pyla (2009) also indicates that the book Hassan Fathy published, "Architecture for the Poor", had great impacts comparable to those followed the publication of Rachel Carson's book "Silent Spring". The latter has been considered among the early stimuli of the principles of sustainability. Many of the ideas discussed throughout Hassan Fathy's book seem to agree with the principles of sustainability that have been introduced at a later stage.

Many of the buildings Hassan Fathy designed, which have been considered as early examples of sustainable and green architecture, have been designed prior to the emergence of the notion of sustainability. The emergence of the notion of sustainability has been associated with two key events. The first is the foundation of the Brandt Commission in 1977, while the second is the publication in 1980 of the International Union for the Conservation of Nature's book entitled "World Conservation Strategy" (Steele, 1997b). Many of the projects Hassan Fathy designed that agree with the principles of sustainability have been designed and constructed prior to the previous two dates and prior to the emergence of the notion of sustainability. One of the projects that Hassan Fathy designed that is considered to agree with the

principles of Sustainability is New Baris Village. Steele (1997b) emphasizes the agreement of the design of New Baris Village with the principles of sustainability. The construction of New Baris Village, which lies near Kharga Oasis in Egypt, began in 1967. During the design stage of the village, Hassan Fathy carefully studied the traditional architecture and the climate of the region where the village will be constructed, and examined the mud-brick ruins in the nearby necropolis of Bagawat. Hassan Fathy managed with the help of natural systems of ventilation and a revised version of the traditional wind catchers, incorporated in his design of the village, to reduce the temperature of the internal spaces in the market building in the village and also succeeded in providing cool spaces suitable for the storage of fruits and vegetables (Steele, 1997a; p197). These design considerations support the argument for the agreement of the design of New Baris Village with the principles of sustainability. The construction of New Baris Village was discontinued in 1967 because of the war and was never resumed (Steele, 1997a). The 1967 date indicates that New Baris Village has been designed and partially constructed more than 10 years before the foundation of the Brandt Commission and the emergence of the notion of sustainability, as it is known at present time. New Gournah should also be considered an example of Hassan Fathy's works that embody the principles of sustainability. The design and construction of New Gournah, begun around 1945 (Fathy, 2000), has also predated the foundation of the Brandt Commission.

The works of Hassan Fathy, particularly New Gournah Village, agree with the principles of sustainability to a large extent. One of the key international documents that discuss the principles of sustainability is Agenda 21. Agenda 21 focuses on six subject areas. The fourth subject area, concerned with the management of human settlements, is the most relevant one. This area focuses on aspects of the principles of sustainability; such as using local materials, using traditional construction techniques and available regional resources, and the dependence on self-help strategies. These aspects also involve the dependence on energy-efficient designs and recycled building materials (Steele, 1997b).

Hassan Fathy's architectural principles, in relation to New Gournah, as explained in his book "Architecture for the Poor", largely agree with the previous principles of sustainability. Hassan

Fathy's concern with the influence of the local climate on the design of New Gournah represents one of his key architectural principles. Using earth as construction material for New Gournah and employing architectural elements in its design, such as internal courtyards and wind catchers, emphasize Hassan Fathy's previous architectural principles. Hassan Fathy has also adopted the idea to recycle building materials and elements in New Gournah a long time before the introduction of the principles of sustainability. The following quotation emphasizes Hassan Fathy's ideas concerning recycling building materials: "Although Egypt needs rebuilding, the materials for this are already there on the site; every village has in its existing houses much of the earth needed to make the new ones we must build" (Fathy, 2000; p109).

Although Hassan Fathy's architectural ideas agree with the principles of sustainability, it should be born in mind that Hassan Fathy could not have been influenced by the more recent arguments on sustainability, since the concept of sustainability was totally unknown at the time when he designed New Gournah. Hassan Fathy's ideas have focused on the adaptability of architecture to its environment in its broadest context that involves the socio-cultural and economic contexts. Pyla (2007) emphasizes that Hassan Fathy's ideas, explained in his book "Architecture for the Poor", extend far beyond the limits of the common architectural notion of sustainability that is concerned merely with aspects such as materials and management systems. The socio-cultural and economic dimensions of Hassan Fathy's ideas must be the reason why his ideas transcend this common conception of sustainability. The very early time when Hassan Fathy designed New Gournah and the popularity of his book "Architecture for the Poor", indicated by the fact that the book has been translated into many languages, seem to indicate the potential influences of Hassan Fathy's ideas on the later arguments on sustainability.

6.5 Hassan Fathy's conservation experience of the theatre in New Gournah

Hassan Fathy's conservation experience of the theatre in New Gournah can be considered as one of the most significant references that explain his ideas and conception of architectural conservation in general, and can also help in guiding the potential conservation works in the village. Conservation works to the theatre in New Gournah have become



Figure 13. The four buttresses that have been added to one of the side walls of the theatre during the conservation works carried out by Hassan Fathy (the author; Moustaaader, 1985).

very urgent because of the decline in its condition due to the lack of appropriate maintenance. The major elements in the theatre whose condition has declined dramatically are the stage, the halls, the surrounding south-west and north-east walls, and the copula-shaped roof (Moustaaader, 1985).

Hassan Fathy's approach to the conservation of the theatre focused on the reconstruction of the deteriorating elements. He also added eight buttresses to support the two side walls. Four of these buttresses were constructed using earthen bricks, while the other four constructed using burnt clay bricks (Fig. 13). Hassan Fathy took the opportunity of the reconstruction of the deteriorating elements to train the children in the village on traditional construction techniques. He also founded a training center close to the mosque, where the children have been trained till they gain the knowledge that allows them to become masons. Hassan Fathy depended on four Nubian masons brought from Nubia to help with the reconstruction of the architectural elements and with the training of the children (Moustaaader, 1985).

The previous preview indicates some of Hassan Fathy's architectural ideas and his conception of the conservation of New Gournia. The conservation experience in New Gournia can be used as a guide for the conservation works that will be carried out to the village, since the main reference of these works will be Hassan Fathy's ideas. The conservation works in the theatre emphasize Hassan Fathy's ideas that focus mainly on disseminating traditional craftsmanship among the young generation, and on tolerating any necessary changes as long as they express the wealth of the local community's traditional crafts and architecture. Retaining the theatre's original design was not Hassan Fathy's main aim of the conservation works. On the contrary, the main aim of the conservation works was to revive the local community's traditional craftsmanship. Hassan Fathy's approach to the conservation of the theatre in New Gournia agrees with the principles of sustainability and with the concept referred to as sustainable conservation (Abdel Tawab, 2015).

7. Arguments against and for Hassan Fathy's ideas in relation to New Gournia

The major argument against Hassan Fathy's ideas concerning New Gournia focuses on the diverse references made to irrelevant historic features. These diverse historic references made the design of New Gournia appear as a trial to revive a heritage that never existed in the past. Consequently, the design of New Gournia might be argued to represent a revival of a fake or a made-up traditional architecture. While discussing this criticism, Pyla (2009) questions whether Hassan Fathy's amalgam of irrelevant traditional forms was a way to revive an authentic traditional architecture, or whether it was a trial of Hassan Fathy to manufacture his own version of heritage. The other argument against Hassan Fathy's ideas concerning New Gournia focuses on the contradiction between his trust in the potentials of traditional architecture and his interest in grafting Old Gournia's architectural heritage by foreign elements influenced by other traditional communities' heritage. Hassan Fathy's manipulation of Old Gournia's traditional architecture might indicate his distrust in the potentials of this architecture.

The rebuttal to the previous argument is that Hassan Fathy has never considered that the architectural heritage of any traditional community is capable of providing ideal answers to all present-day architectural challenges. What supports this rebuttal is that the architectural heritage of any traditional community or any ancient civilization is not expected to have evolved to the perfection phase, in relation to the construction technology used in its buildings. Consequently, such architectural heritage should not be expected to provide ideal answers to all present-day architectural challenges facing these traditional communities or the descendants of the civilization to which it belongs. Cross-vaults, which have been largely developed during the Roman era, have not been used by ancient Egyptians as a roofing structure. The historic association of cross-vaults with the Roman civilization does not mean that they cannot be used to resolve present-day construction challenges facing traditional communities outside Italy. Simone Swan's experience in Texas and Mexico supports this argument. Simone Swan used the Nubian domes and vaults to help the Mexican farmers with building affordable houses because the construction of the Nubian domes and vaults is cheaper than the construction of the traditional timber roofs.

Based on the previous arguments, and according to Hassan Fathy's ideas, the architectural heritage of a particular traditional community can be grafted by architectural elements influenced by other traditional communities' heritage as long as such new elements provide answers to present-day challenges, and as long as they are compatible traditional elements. However, the traditional community's acceptance of these foreign architectural elements should be examined. Hassan Fathy did not examine the traditional community's acceptance of the foreign historic paradigms that he used in New Gurna. Pyla (2009) emphasizes that some of Hassan Fathy's architectural paradigms brought from Nubia, particularly the Nubian domes, have not been acknowledged by Old Gurna's local community, who associated domes only with sacred spaces like mosques and mausoleums. Consequently, many of New Gurna's inhabitants remodeled their houses and in many instances demolished the domes in their houses (Pyla, 2009). However, it should be born in mind that Hassan Fathy's project in New Gurna

has been an experimental architectural project.

There are other significant arguments against New Gurna experience and Hassan Fathy's ideas concerning New Gurna. Mitchell (2001) indicates that Hassan Fathy's approach to design New Gurna Village can be criticized for being a paternalistic approach and that Hassan Fathy himself can be criticized for showing arrogance to the villagers. Mitchell (2001) points out that Hassan Fathy's arrogance is inferred from his disappointment of the suspicious and strict inhabitants of Gurna who refused to co-operate and who were not able to put into words even their material requirements in housing, as Hassan Fathy himself expressed. Taragan (1999) also emphasizes Hassan Fathy's paternalistic approach to design New Gurna. She points out that Hassan Fathy put himself in the position of the erudite architect who is trying to educate the peasants how they should live. Taragan (1999, p174) supports her argument by a quotation from Hassan Fathy's book "Architecture for the Poor", which reads "If you were given a million pounds, what would you do with them? ... I had two possible answers: one, to buy a yacht, ... and sail round the world ... the other, to build a village where the fellaheen would follow the way of life that I would like them to" (Fathy, 2000; p1).

Mitchell (2001) discusses another negative aspect of New Gurna experience and a significant cause of its limited success. This aspect is the opposition of most of the families in Old Gurna to the planned eviction and resettlement in New Gurna. Taragan (1999, p169) also emphasizes the resistance of the villagers in Old Gurna to the government's offer to relocate them and their refusal to move to New Gurna. Mitchell (2001) indicates that the plan to relocate Old Gurna's traditional community should be seen within a broader context that involves other governmental plans to relocate other traditional communities almost in the same time. The aims of these early relocation plans mainly involved improving living and health conditions of these communities, particularly following the spread of serious epidemics, and the protection of ancient archaeological sites. All the targeted traditional communities have opposed those relocation plans (Mitchell, 2001). Later the government succeeded in the relocation of many Nubian traditional communities. The relocation of the Nubian

communities has been associated mainly with the construction of Aswan High Dam and the subsequent flooding of the majority of the Nubian homeland (Steele, 1997a).

In 2007, the United Nations adopted a declaration that strictly prohibits the relocation of indigenous communities without their free prior and informed consent. This declaration is the United Nations Declaration on the Rights of Indigenous Peoples. Articles 8, 10 and 28 in the declaration address the prohibition to relocate indigenous communities (United Nations, 2007; pp 5-10). In 2014, and through a national referendum, the Egyptian people endorsed the then new constitution of 2014, which was developed following the revolution of 2011. The constitution of 2014 involves a very significant article, Article 63, that explicitly prohibits the compulsory relocation of any citizens, including traditional communities (Albarbary and Bakri, 2016). However, Hassan Fathy should not be held responsible for the faulty relocation plan of Old Gournia's community and its consequences, even though he accepted to participate in the relocation plan and to design the new village of New Gournia.

8. Conclusions

The declining condition of New Gournia has prompted the need to carry out urgent preservation works to the village. In a positive response, the World Heritage Centre and the World Monuments Fund embarked upon a conservation project of the village, which has been preceded by a study that has recommended adopting two approaches to the conservation of the village. The first approach is concerned with the accurate conservation of the earthen buildings according to earthen architecture conservation techniques and according to these buildings' exact original designs, while the other approach is based on the conservation of the village according to the architect's ideas. The architect's ideas have been considered to represent sustainability principles. The previous preview reveals some of the challenges that are expected to face any conservation project carried out to New Gournia Village. These challenges are attributed to the fact that New Gournia project itself was a conservation intervention mainly represented by the relocation of Old Gournia's traditional community.

These challenges are also attributed to Hassan Fathy's unique and controversial approach to the relocation of Old Gournia, the discontinuation of the project, and the fact that New Gournia should be considered as an experimental architectural project.

The previous discussions indicate that Hassan Fathy's idea concerning the relocation of Old Gournia's community was to sustain the genuine qualities of the traditional community and to restore to it its traditional crafts. Hassan Fathy's ideas tolerated grafting the traditional community's heritage by foreign traditional architectural paradigms, while maintaining its traditional heritage, in order to enhance its quality of life and to face current challenges. These foreign architectural paradigms were chosen so that they represent appropriate low technological answers to the current architectural challenges. Hassan Fathy was also interested in training Old Gournia's traditional community in order to convert the newly introduced foreign construction skills into traditional skills. According to Hassan Fathy's ideas, the attempt to revive Old Gournia's heritage should not result in the establishment of a stagnant architectural style, since Old Gournia's rich and diverse traditional craftsmanship should generate endless architectural permutations. Nevertheless, Hassan Fathy did not examine whether Old Gournia's traditional community will be able to absorb the newly introduced foreign architectural paradigms or not. Hassan Fathy also aimed at maintaining and enhancing the sustainability qualities of the traditional community's dwellings by designing New Gournia so that its buildings respond to their socio-cultural and environmental contexts.

The previous preview indicates that the conservation of New Gournia according to Hassan Fathy's ideas should aim at preserving and enhancing the traditional qualities of New Gournia's local community in order to improve their living conditions, regardless of the specific architectural details designed by Hassan Fathy. The previous aim agrees with Feilden's general objective of conservation (Feilden, 2003). Enhancing the local community's traditional qualities might be based on adopting other compatible traditional paradigms that should be accepted by the local community, whether they agree with Hassan Fathy's wide range of borrowed traditional architectural paradigms or not. Furthermore, the local community's

historic qualities associated with Old Gournā as well as their present-day qualities and needs should be taken into consideration. The World Monuments Fund's study has emphasized the historic association of New Gournā's present-day community with Old Gournā (World Monuments Fund, 2011). The previous finding emphasizes the significance and relevance of the previously recommended approach to the conservation of New Gournā. This recommended approach applies mainly to the heritage of the traditional community that is associated with Old Gournā, particularly the remaining peasants' houses (Fig. 1). However, different approaches should be adopted for the conservation of the village's heritage that is historically associated with Hassan Fathy, particularly his house (Fig. 1), and the construction of the uncompleted section of the village's original layout (Fig. 1). The approach that should be adopted for the conservation of Hassan Fathy's house in the village should focus on restoring the house according to the architect's original design and to the condition that emphasizes its association with Hassan Fathy. On the other hand, the completion of New Gournā's original layout should focus on using traditional paradigms and construction technologies, training the local community, adopting sustainability principles, and might also depend on borrowing foreign paradigms that should be accepted by the local community. The construction of this section should take into consideration the present-day qualities, values and needs of the new generation residing in New Gournā.

The study recommends undertaking all the conservation measures that are required to stop the decline of the condition of New Gournā. The previous measures should be undertaken throughout the village, whether the adopted conservation approach is the preservation of the village according to Hassan Fathy's ideas or the accurate preservation of the earthen buildings according to their exact original designs. These measures should involve undertaking the necessary consolidation works to the earthen buildings, upgrading the infrastructure networks, and designating the entire village under the Act No. 119 as an Area Enjoying a Distinctive Value.

Appendix A. Glossary

Term	Definition
Claustra	Moldings and tracery in mud used to decorate doors and windows (Fathy, 2000; p232).
Heebah	A traditional earthen render used in Luxor to plaster earthen buildings. The heebah render is usually prepared by heaping into a rounded pile of the silt that has been previously extracted from the mountains outside Luxor, after mixing the silt with wheat hay and water. The mixture should be left to set for about seven to eight days. Small quantities of white cement might also be added to the mixture. When the mixture finally sets, its color turns black and can be used to render walls (Abdel Rady, 2011).
Iwan	Recessed area of room (Fathy, 2000; p232). A shallow hall with a pointed vault serving as a portal or closed at the back and facing a court. The form originated in C4-6 Sassanian palatial architecture, most notably the palace at Ctesiphon, Iraq, and became an important element in Islamic architecture, first palaces (Samarra, Merv), then mosques (in Iran at Ardistan and Friday Mosque, Isfahan). From the C11 the cruciform disposition of four axial iwans around a courtyard was conventional for mosques, madrasas and caravanserais in eastern Islam, later Egypt, Syria and Turkey. The arched opening was usually enclosed in rectangular frame and from the C13 the vault often decorated in muqarnas (Fleming, Honour and Pevsner, 1999; pp 299-300).
Khan	Inn for foreign merchants arriving in town (Fathy, 2000; p232).
Maziara	Alcove for water jar (Fathy, 2000; p232).

- Qa'a** Main hall of a house, comprising a durqa'a and two iwans, usually reserved solely for male guests (Steele, 1997a; p206).
- Sabras door** Door constructed by nailing together many small boards in an original pattern (Fathy, 2000; p233).
- Sheikh** Head of an Arab village or tribe (Hornby, 1974; p802). The mosque cleric responsible to lead prayers.

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الحفاظ على قرية الجورنه وفقا لفلسفة وأفكار حسن فتحى

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قدم للنشر في ٢٤ / ٨ / ١٤٣٧ هـ؛ وقبل للنشر في ٢٤ / ٥ / ١٤٣٨ هـ

ملخص البحث. مدفوعة بالحالة المتأخرة التي وصلت إليها قرية الجورنه، قامت المؤسسة الدولية المعنية بالحفاظ على تراث المعماري حسن فتحى بمخاطبة العديد من المنظمات الدولية المعنية بالحفاظ على التراث ملتزمة المساعدة في الحفاظ على قرية الجورنه. استجاب مجلس التراث العالمي لذلك الالتماس وشرع في إعداد دراسة عن القرية والإعداد لمشروع الحفاظ على قرية الجورنه. أوصت الدراسة بتبني مدخلين مختلفين للحفاظ على القرية يعتمد أحدهما على الحفاظ على القرية وفقا لأفكار حسن فتحى المعمارية. لخصت الدراسة أفكار حسن فتحى بالعمارة التي تعتمد على التكنولوجيا الملائمة والاستدامة. الهدف من هذه الورقة البحثية هو مناقشة أفكار المعماري حسن فتحى الخاصة بقرية الجورنه، والتي من المفترض أن توجه أعمال الحفاظ على التراث في القرية. تم تناول الموضوع عن طريق القيام بمراجعة نظرية للعديد من المراجع التي تناقش وتبحث في أفكار حسن فتحى، والتي اشتملت على كتاب حسن فتحى بعنوان «عمارة الفقراء». كما أن الدراسة قامت بتحليل ومناقشة أحد المبادرات الفردية للحفاظ على أحد المباني السكنية التي صممها حسن فتحى في قرية الجورنه الجديدة، والتي تعكس فهم واضح لأفكار حسن فتحى. ولقد تم تدعيم الدراسات والتحليل النظري للمراجع المختلفة بمجموعة من المقابلات الشخصية التي أجريت في مصر وفي الولايات المتحدة. أوضحت الدراسة أن فكرة حسن فتحى الرئيسية في تصميمه لقرية الجورنه هي تحقيق استمرارية الخصائص التقليدية لمجتمع قرية الجورنه القديمة عن طريق تقديم عمارة تستجيب للأطر المتعددة المرتبطة بها. تقترح هذه الدراسة تبني مدخل للحفاظ على مساكن القرويين في الجورنه يعتمد على تحقيق استمرارية الخصائص التقليدية لمجتمع الجورنه وتحسينها بدلا من استرجاع التفاصيل المعمارية المفقودة وفقا لتصميم حسن فتحى الأصلي.

الكلمات المفتاحية: الحفاظ الحضري؛ نظريات الحفاظ الحضري؛ نظريات العمارة؛ التراث المبني بالطين؛ حسن فتحى؛ قرية الجورنه الجديدة؛ مناطق التراث العالمي.