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MARDİN ARTUKLU ÜNİVERSİTESİ
FEN BİLİMLER ENSTİTÜSÜ
MİMARLIK ANABİLİM DALI

Yüksek Lisans Tezi

THE SOCIAL ARCHITECTURE AND THE IDEAS OF HASSAN FATHY

Ashraf NASSAB

Tez Danışmanı

Doç. Dr. Pelin TAN

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TEZ ONAYI

Enstitümüzün Mimarlık Anabilim Dalı 15201006 numaralı öğrencisi Ashraf Nassab'ın hazırladığı **"THE SOCIAL ARCHITECTURE AND THE IDEAS OF HASSAN FATHY"** başlıklı YÜKSEK LİSANS tezi ile ilgili TEZ SAVUNMA SINAVI, Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliği uyarınca 14/03/2019 perşembe günü saat 10:30 yapılmış, tezin onayına OY BİRLİĞİYLE karar verilmiştir.

Başkan_____

Doç. Dr. Pelin TAN

Üye_____

Doç. Dr. Serdar TOKA

Üye_____

Doç. Dr. Tolga İSLAM

ONAY:

Bu tezin kabulü, Enstitü Yönetim Kurulu'nun.....tarih ve .....sayılı kararı ile onaylanmıştır.

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ABSTRACT

Master Thesis

THE SOCIAL ARCHITECTURE AND THE IDEAS OF HASSAN FATHY

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Mardin Artuklu University

Graduate School of Natural and Applied Sciences Architecture

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Architecture is one of the branches of art that deals with daily human life, which can not be separated from social, economic and political conditions. From a general perspective, all works related to the architectural field, from the smallest design product to the most gigantic skyscraper building, is a reflection of the social life of the individual. The concept of social architecture is a trend that emphasizes the social role responsibility of the designer or architect, in addition to enhancing the potential of design and architecture in order to achieve social changes.

In this thesis we tried to looks and discuss Fathy's works through five parameters: Users, Scale, Cluster, Material, Environment that we believe to navigate within the practice of social design and architecture. Furthermore, this work aims to put the architecture of Hassan Fathy and his ideas into the center of the discourse of Social Architecture that recently became an important field through the acute problems of urbanization, natural disaster, refugeehood and emergency architecture. As a reference, we believe that this thesis will contribute the discourse and practice of Social Architecture in Turkey and will remind Fathy's practices.

Keywords: Hassan Fathy, Social Architecture, Rural Vernacularism, Participatory Architecture, Emergency Architecture

ÖZET

Yüksek Lisans Tezi

THE SOCIAL ARCHITECTURE AND THE IDEAS OF HASSAN FATHY

Ashraf Nassab

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Mimari; günlük yaşamın merkezinde olması nedeniyle sosyal, ekonomik ve politik koşullardan ayrılamayan, insanların yaşamlarıyla ilgilenen sanat dallarından biridir. En küçük tasarım ürününden en büyük gökdelen binasına kadar mimari alanla ilgili tüm eserler, bireyin sosyal yaşamının bir yansımasıdır. Sosyal mimari kavramı, toplumsal değişimlerin gerçekleşmesi için tasarım ve mimarlık potansiyelini artırmanın yanı sıra, tasarımcı veya mimarın sosyal sorumluluğunu vurgulayan bir eğilimdir.

Söz konusu tez çalışmasında Fathy'nin çalışmaları beş parametre üzerinden incelenecek ve tartışılacaktır. Kullanıcılar, ölçek, küme, materyal ve çevre parametrelerinin sosyal tasarım ve mimarlık pratiği içindeki yerleri ele alınacaktır. Çalışmada ayrıca Hassan Fathy'nin mimari anlayışını ve fikirlerini; son zamanlarda kentleşmenin, doğal afetlerin, mülteciliklerin ve acil durum mimarisinin akut sorunları nedeniyle önemli bir alan haline gelen 'Sosyal Mimari' söyleminin merkezine yerleştirmek amaçlanmaktadır. Çalışmanın, Türkiye'deki Sosyal Mimarlık söylemi ve uygulaması ile Fathy'nin uygulamalarını tanıtmaya önemli katkılar sağlaması hedeflenmektedir.

Anahtar kelimeler: Hassan Fathy, sosyal mimarlık, yerel mimarlık (argo), katılımcı mimarlık, acil mimarlık

1. Introduction

Today more than half of the Earth's population live in cities. Nearly three billion people, half of them live below the poverty line! By 2030, they will be five billion, will also be half of them below the poverty line. Where do all these poor people live? ... This theme has become the focus point of many global books such "Rethinking Society for the 21st Century" and its fifth chapter "Cities and Social Progress" that focus on the particular challenges that confront today's cities "in order to understand how cities can be enabled to become more viable and just."[1]

The world faces a terrible housing problem. Exacerbated by displacement and migration, from the countryside to the cities and from the old neighborhoods to slum areas. Due to unemployment and high rents. This is seen in many major capitals, such as Berlin, Paris and Cairo. This not only creates a housing problem but also ends the mixing of classes and causes social conflicts such as in Paris, where residential neighborhoods with a predominantly immigrant population have emerged and Monbeque district of Brussels, where terrorists lived.

This requires finding new forms of housing. The world faces the challenge of responding to all these phenomena and the challenge of providing houses for all these poor people at affordable prices. Not just a roof over the head, but also taking into account social and cultural aspects. According to the Chilean architect Alejandro Aravena, The world needs to build a city for one million people every week, or a new house for every two people every second, with a budget of $10,000. Many architects feel responsible for this challenge, they employ their talents and experience to create new designs for the houses of the poor.

The theme of designing buildings for the poor or low-income is not new theme. We have a global model launched from Egypt by the architect Hassan Fathy (1900-1989), the famous for his design of the New Gourna Village on the western bank of the Nile in Luxor, Started in 1946 inspired by traditional Egyptian rural vernacular architecture, natural raw materials and in harmony with the

[1] Gautam Bhan, Max Hirsh, Ana Falú, Hiroo Ichikawa, Luis Riffo, Pelin Tan, Doris Tarchopulos, "Cities and Social Progress." Rethinking Society for the 21st Century, Cambridge University Press, Cambridge,2018, P.187

environment, as the Egyptian peasants built their houses. He also inspired by Islamic architecture, Characterized by an architectural style based on domes rather than flat ceilings. In 1973 Fathy published his book `ARCHITECTURE FOR THE POOR` in English that explain his theory and experience in the New Gourna village in southern Egypt. Years later, the book has been translated to French under the name `Construire Avec Peuple` which mean `construction with people` and to Arabic 'عمارة الفقراء' which hold the same meaning of the English edition. In Turkish, the book was published under the name 'katılımcı mimarlık'. The book has been used in this search as a main reference to the ideas and theories of the architect. It illustrates Fathy's interest in the housing problem of the poor and explains the aspects of the housing problem and how to deal with it. It also describes the New Gourna village project as a study case and practical application of Fathy's ideas. In spite of the importance of Fathy's thoughts and several international awards in architecture that he won. His experiment has failed, the poor did not live his buildings, and his village was turned into ruins. Years later, the province of Luxor, which is followed by the village built cement buildings as a stark challenge to the architecture of Hassan Fathy. It was interesting that the rich imitated the architecture of Hassan Fathy in their houses away from Luxor, in Cairo and Giza and others cities. Poverty is an eternal problem and the architects' imagination has not stopped designing a building for the poor, but no one in the world has thought of building the poor as Hassan Fathy thought, either in perception or in a design solution.

The complexity and significance of Fathy's philosophy was the theme of several monographs. Ismail Serageldin, Darl Rastorfer and Sir James Richards, in their book `Hassan Fathy` which published in 1985, focused on evaluating the architecture of Fathy in the scope of Arab and international architecture. The book also included a good descriptions of several examples of the architect's works. The monograph by James Steele, 'Hassan Fathy' 1988 gave a more detailed description with extensive chronology of the architect's works. In his book, he draw attention to the influence of Fathy's architecture on the younger Arab architects who followed him.

Another two Egyptian authors, The Arab Architects: `Hassan Fathy` by Abdulbaki Ibrahim which published in 19 and the series of the international famous architects `Hassan Fathi` by Mohamed Maged Khlosi which published in 1997. The two books were restricted to a limited number of Fathy's buildings and villages. They completely ignored the evolution of his career

philosophy, design ideas and his place in modern architecture. Several master and Ph.D. thesis have been written about Hassan Fathy, but the most comprehensive was written Abdel-moniem M. EI-shorbagy that contains a clear analysis of the evolution of Fathy's ideas and architectural theories. The thesis discusses these ideas in conjunction with the evolution of Fathy's career. It also discusses the principles of village design and community projects.[2]

After the Second World War, planners and architects found themselves facing a difficult task that required new concepts within social architecture. New ideas and applications have emerged in the framework of social architecture such as participatory architecture or participatory planning, which means the participation of the user, who is the final beneficiary of the project in the design process. It will be mentioned in the second chapter of this research. The same chapter will also refer to the vernacular architecture and rural vernacularism as a term and application. The Egyptian vernacular architecture that inspired Fathy to revive the heritage and avoid international style of architecture with its imported forms from Western architecture. The purpose of the third chapter of the thesis is to refer to the approaches that meet contemporary architectural needs. The need of post-disaster housing projects will be one of the topics of the third chapter under the title of 'Emergency Architecture'. The terms and phases of the post-disaster housing projects will be mentioned here. On the other hand, the third chapter will refer to famous international projects as examples of the socially engaged architecture projects.

Review and discuss the examination of the Fathy's career, in order to understand the evolution of the principles of dealing with the design process. The aim of the forth chapter is to examine Fathy's projects in terms of the principles that the architect derived from the researches that he made before every project. It explains the ways behind these principles in every aspect of his approach to design. Fathy's book 'architecture for poor' is the subject of Chapter five. The second chapter of the book, which holds the title of "Chorale, Man Society & Technology" that discusses a set of concepts that relate to the quality of daily life of the peasant and its reflection on the design of the house.

[2] Abdel-moniem m.El-shorbagy, "THE ARCHITECTURE OF HASSAN FATHY: BETWEEN WESTERN AND NON-WESTERN PERSPECTIVES", PHD thesis, university of Canterbury, 2001

It is not possible to say that the concept of Social Architecture did not exist at the time of Fathy that is because although it has not been dıscussed as a concept but it is possible to see the results through the architectural language of Fathy. This concept is embodied in two parts: Theoretical aspects in his writings, especially in his book "Architecture For Poor" where the name expresses its content and practical that appears in his many experiments by designing housing copleses in the poor rural of Egypt.

The thesis evolved from the highlight the contemporary approaches that focus on the concept of social architecture, which is concerned with respect for human needs during the design process. It is also concerned with architecture for low-income people. This approaches contained in the first three chapter of the thesis. A second related aim is to highlight the principles that Fathy worked on during the design process for low-income communities.

2. Social Architecture and Modernism

After the industrial revolution, the economic level improved through economic and political changes that helped the economic openness and movement of individuals in the society. Food, housing and public services have improved and the population has increased as a result of increasing of the living standards. "The Intellectual and political currents that that accompanied with the industrial revolution: The emergence of the workers' class, the bourgeois class who are the capitalists and the aristocratic class which was related to man and money". Industrial areas have developed into urban areas. Laws that specify the uses of workers and minimum wages have been introduced in the year 1800-1840, taking into account the specificity of children and women. In 1830-1850, modern planning was born in England and later in Europe because of the need for new urban areas, where planned areas were few compared to new immigrants. The Industrial Revolution led to the suffering of the population of urban congestion and the unhealthy polluted environment. There was a need to contain the effects of the industrial revolution and to reconstruct urban areas. [3]

3 Sabah muhammad abdul Mashab, "Post industrial revolution architecture" http://engineering.uobabylon.edu.iq/lecture.aspx?depid=4&lcid=45429 , 17 October 2015

World War II (1939-1945) and its aftermath was a key factor in driving innovation in building technology and thus in architectural possibilities. Wartime industrial demands led to a shortage of steel and other building materials, leading to the adoption of new materials, such as aluminum. War and the post-war period have brought considerable use of prefabricated buildings. The unprecedented destruction that caused by the war was another factor in the rise of modern architecture. Large areas of major cities, from Berlin, Tokyo and Dresden to Rotterdam and East London. All the port cities of France, especially Le Havre, Brest, Marseille and Cherbourg, were destroyed by shelling. All this has led to the emergence of new architectural currents that concern the human being as the most important factor in the design process. Ideas have emerged to involve the user in the design process and ideas that call for reviving the local architectural heritage and many more.[4]

2.1 Participatory architecture:

"One man cannot build a house, but ten men can build ten houses"

Hassan Fathy

Although the term "Participatory Architecture" more comprehensive than that but Fathy summed up in this concept as a cooperative building system. In a broader sense, Participatory means stakeholder participation, especially users, developers, and planners, to adjust or modify systems and techniques in ways that suit the needs of those who will use them more appropriately. It has emerged for the first time, in the field of information and communication technology design.

Participatory Design is the act of the resident engaging in the project proposal, establishment of project plans, and implementation processes. "If project planning and implementation can secure rationality and democracy by engaging residents in the processes, then they cannot only heighten the sense of community among residents but also contribute to the revitalization of local autonomy".[5] It allows residents directly Participation in the project. Furthermore, residents, as members of the local community, are the ones who determine the basic

4 Hisour, " POST-WAR MODERN ARCHITECTURE" https://www.hisour.com/ar/post-war-modern-architecture-28038/ , 2006

5 YanHong. "Resident participation in urban renewal", Frontiers of Architectural Research, vol 7, 2018, p. 198

needs of the new architectural or urban design. Thus, their participation in the planning and implementation of the project is very important because it strengthens the relationship between them and their own community and increases their responsibility and trust in the project.

According to Hurst, the participatory design is defined, as the effective contribution of end users in the design process.[6] The achievement of this contribution puts main users at the deep of the user-led innovation process. On the same framework, Guia described this approach as an approach that involves engaging all stakeholders to improve design processes and procedures, better understanding of needs, and achieve ease of use.[7] He emphasized that participatory design helps designers to empathize with potential users of the product and to understand the functional, personal and social contexts in which they work, especially during the creative design process. Ehn also considered that this method attempts to direct a path between traditional and mentality, that is between the implicit knowledge of participants and researchers, in a more abstract and analytical way.[8] In view of the fact that user participation has become the main requirement in designing and development processes, the levels of participation of users have ranged from: passive (participation in design) or target-oriented that the user tell the designer what he want in the final product, to the positive participation of (support in achieving their goals) which known as process-oriented, the user is actively involved in activities, participates in formulating development plans and creative decision-making responsibilities.

"Due to the increasing frequency of use of concepts that reflect the participation of users and customers in the literature of the design, it is possible to clarify some of these concepts as follows:

1. **End user:** It is the most effective component for identifying and extracting ideas and concepts for new products. End-users often contribute significantly to innovation in products and processes.

[6] Felicia Hurst, "Architectural Participatory Design Methods", Master of science research with a major in management technology, the Graduate School University of Wisconsin-Stout, USA, December 2000 P.4

[7] Guía, L.S., Cazorla, M.P. & Molina. "Terms and meanings of participation in product design. From "user involvement" to "co-design", The Design Journal, vol 20, Published online: 06 Sep 2017 , P. S4545

[8] Pelle Ehn. "Participation in Design Things". Proceedings of the Tenth Conference on Participatory Design. PDC 2008. Bloomington. Indiana , USA October 2008, P.3-4

2. **User participation:** Active participation is realized when the user plays an active role as an innovator and developer. The inclusion of end-users in design activities has positive effects on the efficiency and speed of the design; it also has positive effects on product matching, user preferences and satisfaction.
3. **User innovation:** is achieved when the user employs his own tools to develop a new product in an innovative way. Many innovations have been developed by users, and any company that seeks to generate new ideas usually collects information from users as feedback because some of their ideas may become an innovative product.
4. **Co-creation:** (Collaborative Creativity) Refers to creating an environment where users can engage in active dialogue, build personal experiences, create valuable creativity, and create new products.
5. **Co-design:** (Collaborative Design) A process of collective creativity that applies throughout the design process, allows users to identify what they want, understand and interpret their needs, and allow them to work as co-designers if they have the necessary level of experience, passion and creativity."[9]

Butaro Hospital which designed by MASS Design Group in January 2011, It can be discussed as an example of participation architecture, the hospital was built in Rwandan, Butaro one of the poorest region in the country that had very poor health indicators. In 2008, MASS Design Group was asked to help design this hospital. The design process was a kind of creating of "a more holistic model of architecture" with an attempt to involve the local community in the construction process. Regardless of the design concepts of the hospital, the project was used as a way to motivate the local community to participate in excavation, construction, and management process. In order to increase the number of people working in construction, construction teams were organized into six teams with a two-week shift.

[9] Ahmed El Maallawi, Mohamed Radwan. "Utilizing of participatory design as methodology in creating and enhancing competitive advantage of metal furniture systems" 5th International Conference of Applied Art, Helwan University April 2018 . p.6

Figure 1Participation of local community (Butaro Hospital)

Participation of the laborers was the best and cheapest option to save time and cost. In addition to providing creating jobs and engendering community investment in the project. Volcanic stone used as a basic material for the construction of the walls which gave a harmonious space of dark gray porous walls. The builders get excited about the product that was appearing. Out of their sense of pride, the builders offered to work for free. “These masons are now sought after in other parts of the country by contractors seeking to replicate the `magnificent stone walls of Butaro.`” [10]

[10] Archdaily, “Butaro Hospital / MASS Design Group” https://www.archdaily.com/165892/butaro-hospital-mass-design-group 6 September, 2011

Figure 2Participation of local community (Butaro Hospital)

Participatory planning is one of the urban planning trends that are used in contemporary planning processes. This collection of contemporary ideas like Participatory planning, the network society, governance, and communicative planning emerged when traditional planning theories failed to be an alternative that change the relationship between the user and designed space. According to Lang, in order to understand the harmony between the user and the space, it is necessary to interpret the relationship between the designer and the user.[11] The effects of the industrial revolution after the world wars and its impact on the rebuilding of cities were the reasons of the appearing of the participation design. The rapid increase in the growth of cities to create environments that do not fit with the conditions of healthy life for humans. This prompted human rights organizations to demand that the user be involved in the design process to ensure that his requirements are met.[12]

[11] Jon Lang, "Creating Architectural Theory, The Role Of The Behavioral Sciences in Environmental Design." Van Nostrand Reinhold Company, New York 1987 p.60

[12] MERVE BAŞAK, "participatory urban design: the case of düzce hope homes project", middle east technical university, june 2016, p.11

Sanoff argued that the objectives of participation can be effectively achieved through the creation of different forms of participatory process as long as the task and purpose of participation are precisely defined. He sets the goal of participation through a set of points[13]:

1. The importance of identifying individuals or groups who should participate in the activity of the planned participation
2. The purpose of the participation program. For example, is the participation designed to generate ideas, to identify positions, to disseminate information or to resolve specific conflicts?
3. The appropriate methods of participation must be identified to achieve the desired objectives. The methods must match to the purposes.
4. It is necessary to determine where participants should participate, that is, in development, implementation or evaluation, or a combination thereof.

Therefore, it is important to determine the goals, expectations, the amount of the participant, the quality of participants and methods of participation, whether in the process of design or design and implementation together.

The parties involved in the process of urban design are categorized in three general groups[14]:

1. Designers (consisting of planners, surveyors, demographers, sociologists etc.)
2. Local government agencies such as: Municipa1ity, Urban land Organization, Housing and Town Planning Bureau, etc.
3. users (inhabitants of the neighborhood with various economic and social backgrounds, different perspectives and individual needs)

The concept of cooperative building system as a parallel concept to the system of participatory architecture was an important theme which occupied Fathy's thinking at that time. He argued that this cooperative building system can work "if a man's work can be recorded as a loan to society and repaid in the form of a building". He also explained that when we build houses in a large quantity,

[13] Henry Sanoff. (2000). “Community Participation Methods in Design and Planning”. John Wiley & Sons, New York, 2000. P.9

[14] Amir Hossein Afrassiabi Design Participation in the Context of Urban Renewal. Design Coalition Team: Proceedings of the International Design Participation Conference, April 1985, P .98

we must build without money, People should work without resorting to a contractor system that relies on money and factories. This can be seen in Nubian rural villages, which were based on the participation of local residents in the building process, Fathy did not apply the cooperative system in the New Gourna village project because it was a housing project supported by the government. The opportunity to use the system came in 1954 when a big fire burned a large part of Mit EI-Nasara village. The government planned to rehouse 2000 families by offering each family 200 L.E. Fathy was a consultant on the committee that was appointed to provide a solution for new houses. Fathy was able to convince people that the money is not enough, and the using of the cooperative building system and building with mud were the only ways to rebuild their houses. People were optimistic about the new system but as usual, the Ministry of Rural and Municipal Affairs was not encouraged by the cooperative system. The ministry gave this task to its engineers who built houses at a high cost. Fathy considered that the response of people to his idea means that the cooperative construction could be the solution to most cases of resettlement of villages in Egypt. [15]

2.2 Rural Vernacularism

The first recorded of the Vernacular term in 1940-1950 that means: "using a language or dialect native to a region or country rather than a literary, cultured, or foreign language." It also means: period or group. In the field of architecture it means the common architecture style of ordinary houses in a period or a place.[16] In Latin language "verna or vernae" means the slave who was born he house of his master, "vernāculus" refers to the slaves born at home.[17] Although there is no synonym for it in some languages but it can be interpreted as the architecture without architect that is scattered in a particular area.

The first who brought up the vernacular architecture term was Rudofsky in his book "Architecture without architect"[18] while he did not find a name for this type of architecture he prefer to call it "vernacular, indigenous, spontaneous, anonymous, rural". Paul Oliver, in his book "Dwellings: The vernacular house worldwide" Tried to define the term by saying that

[15] Abdel-moniem m.El-shorbagy, "THE ARCHITECTURE OF HASSAN FATHY: BETWEEN WESTERN AND NON-WESTERN PERSPECTIVES", PHD thesis, university of Canterbury, 2001 P.56
[16] Cambridge Dictionary https://dictionary.cambridge.org/
[17] Sina Kabaağaç, Erdal Alova, Latince-Türkçe Sözlük, Sosyal Yayınlar, İstanbul, 1995, s.630.
[18] Bernard Rudofsky, Architecture without Architects, A short introduction to non-pedigreed architecture. Doubleday & Co. Inc., New York: 1964. P. 5

> "It may be defined, as it was in the world encyclopedia of the subject, as ` 'comprising the dwellings and all other buildings of the people. Related to their environmental contexts and available resources they are customarily owner- or community-built, utilizing traditional technologies. All forms of vernacular architecture are built to meet specific needs, accommodating the values, economies and ways of life of the cultures that produce them."[19]

It could be added that is the architecture, based on the societal needs that built in a certain period by the people, it could be changed or adjusted continuously as required by the method of use. Some archıtects studied the vernacular archıtecture before Rudofsky publication, as Fathy who had studied the features technologies and architectural ideas of the Nubian settlements during the process of designing the New Gourna village which was a kind of experiment to develop the vernacular architecture in order to improve the socio-economic status of the inhabitants.[20] When Fathy joined Doxiadis after 1957, they worked on project of building a new village settlements in desert areas of Iraq, as part of the preparation of a five-year plan for the whole country to control growth and provide housing. The major of Fathy was to design Greater Mussayib villages, south of Baghdad. The beginning of work on the project was a report submitted to Doxiadis Associates prepared by Fathy. The report contain "exhaustive analysis of local resources and social conditions with his own fascination with local architectural heritage…. it focused on mud brick construction methods in the regions of Hilla, Kerbala, and Najaf."[21] The photographs attached to the report show the interest of Fathy in the construction of mud-brick buildings and the patterns and manufacture of this material, which is the main element in the formation of vernacular architecture of Iraq.

[19] Paul Oliver, Dwellings: The vernacular house worldwide. Oxford: Phaidon, 2003. P 7
[20] Lino Bianco. "Rural and Urban Vernacular Architecture of the Mediterranean." The 5th Electronic International Interdisciplinary Conference. August 2016, P 126
[21] PANAYIOTA I. PYLA, "Hassan Fathy Revisited Postwar Discourses on Science, Development, and Vernacular Architecture", University of Illinois at Urbana-Champaign Journal of Architectural Education, 2007 P31

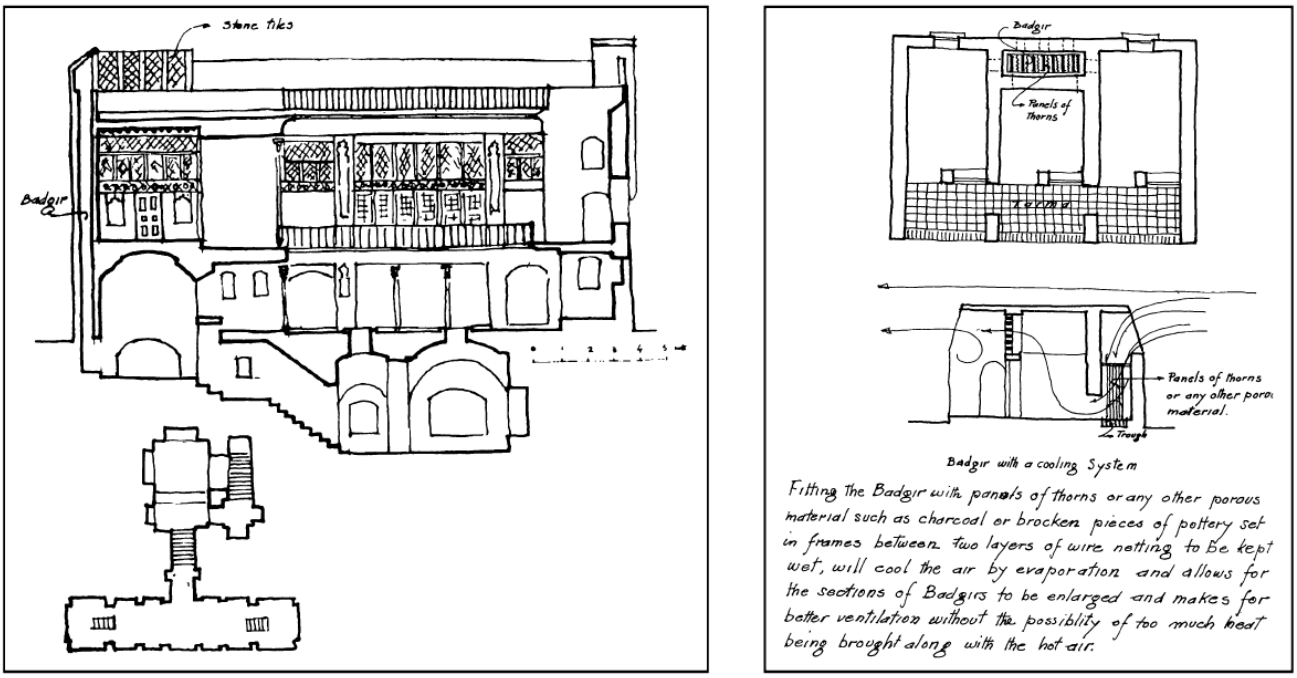

Figure 3 Fathy's studies of the Badgir and his proposed improvement.[22]

Bianco concludes that Rural Vernacular Architecture is a humane, pragmatic language separate from the theories of architecture and its philosophy. It's a kind of sustainable architecture with low maintenance features, energy sensitive and organized according to human needs. It`s an unintentional consequence forms followed by function, developed as needed. He also argued that the existence of architectural designs and contemporary urban planning inspired by vernacular models, leads to a sustainable solution in terms of culture and economy. [23]

3. Contemporary Approaches

A group of contemporary concepts discussed topics that were close to the works of Fathy in the direction of architecture for society, especially the poor. In most cases, the name or reason is not the same, but the common ground is the simple housing process. But the cause of the project is different. Emergency, post-disaster architecture, Socially Engaged Architecture which is concerned with the integration of society into the architectural project, are the topics that will be the focus of this part of research.

[22] Ibid p31
[23] Lino Bianco. P 130

3.1. Emergency Architecture

Before starting to discuss Fathy's work we should discuss the meaning of the term "Emergency Architecture". Although the twin words "Architecture" and "Emergency " are seems to be unrelated but O. Murao[24] in his paper that discusses some post-disaster cases urban design and architecture post-disaster cases. He argued that the history shows the connection between its, Depending on the words of Marcus Vitruvius Pollio [25] who said that the structure should be consist of three qualities of Strength, Usefulness and Beauty. He adds that the safety is an important element of the Strength factor for maintaining a high quality of life, consistent with suggestions of the World Health Organization. So he explains that post-disaster architecture and urban design must take the necessary measures to resist these disasters, whether earthquakes, fires or anything else.[26] Unlike the normal housing project, the name of the emergency architecture can be applied to the housing process in these special cases. Fathy's work was often concerned with the housing of communities, especially poor ones. In the case of The New Gourna Village, the mission was to inhabitant nearly seven thousand people from the old Gourna village to the new village- which we can call it an emergency architecture project- will be discussed in detail in the fourth chapter.

> *"A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources"- UNISDR Terminology*[27]

Post-disaster housing as a part of emergency architecture unlike the normal housing project, it`s a kind of complex process includes Socio-economic and technological factors with four consecutive and complicated phases "The pre-disaster, immediate relief, rehabilitation, and reconstruction periods"[28]. It's defined by UNDRO as "housing policies and applications following a disaster for meeting the urgent, temporary and permanent sheltering needs of the survivors of the

[24] Associate Professor, Dept. of Risk Engineering , Graduate School of Systems and Information Engineering, University of Tsukuba, Ibaraki, Japan

[25] Roman architect in the 1st century BC

[26] O. Murao, "case study of architecture and urban design on the disaster life cycle in japan" The 14th World Conference on Earthquake Engineering October 12-17, 2008, P.2

[27] United Nations: "International Strategy for Disaster Reduction.. UNISDR Terminology of Disaster Risk Reduction." Geneva: United Nations. ,2009, P 30

[28] Berna BARADAN, ANALYSIS OF THE POST-DISASTER RECONSTRUCTION PROCESS FOLLOWING TURKISH EARTHQUAKES Faculty of Architecture, Izmir Institute of Technology, Turkey, 1999

disaster"[29]. If we want to summarize the phases as they came in the O. Murao's research; pre-disaster phase is the phase of determining principles, policies and strategies, in the same time it`s the phase of planning the organization of housing process. Immediate relief phase is the phase that focuses on restoring the psychological and social status of disaster survivors. Furthermore, it`s effect on the later stage`s actions and decisions that's because the other stages' based on the early data of the Immediate relief phase. Rehabilitation phase is the time period where all the detailed plan are made. In this phase, the data of damage and need are analyzed, then the types, quantities of the houses, and regions are decided. Reconstruction phase is period of construction the permanent post-disaster houses. As well as the preparing of the next pre-disaster period. This period depended on the resource of the affected community.[30]

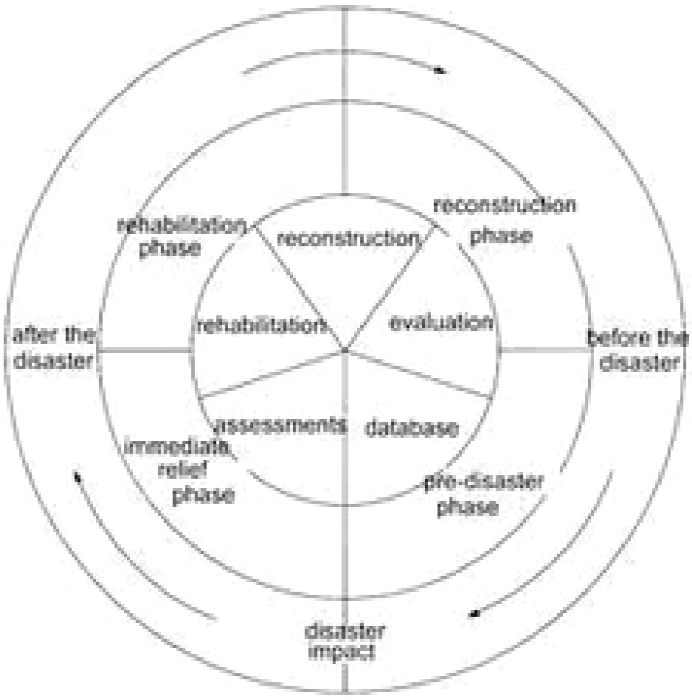

Figure 4 Post-Disaster Reconstruction Cycle[31]

Some emergency architecture projects were doomed to failure due to several factors like political economic and ignoring the user factor. In paper of three authors that prepared for a conference on post-disaster housing, Authors argued that the post disaster projects that lack with a

[29] University of Salford "Module Handbook: Principles of Disaster Mitigation and Reconstruction" UK. April 2014, p.50.
[30] Berna BARADAN, 1999 P.1-5
[31] Ibid p.3

strategy compatible with the socio-economic requirements, the culture of community, environmental condition fail to respond to the needs of the affected population. Furthermore, they discussed the factors for failure of those housing projects. Some of these factors intersect with Fathy's community housing ideas; one of this factors is the lack of community participation which was confirmed by Fathy in his projects and especially his book "the architecture for poor", which specialized in this subject. They argued that the post-disaster projects without local component or community involvement have a high probability of failure. For example, after the Indian Ocean Tsunami in 2004 the non-governmental organisations tendered the reconstruction works to large construction companies which were non-participatory companies, these companies did not pay attention to the needs of the local community, because of that the built houses were structurally defective, culturally inappropriate and did not meet the requirements. The lack of community participation in this project has caused many families to refuse to live in these.[32]

Another factor could be the reason of the failure which is the Problems associated with community participation where in some cases, the neglected community participation could be the reason of long term negative impacts on the development of community. Authors gave an example of this factor that when community participation was used in reconstructing the African cities Netreg, Freedom Park and Mfuleni, it caused to urban fragmentation and limited opportunities for economic growth, they also argued that some principles of community participation need revision, in order to not fall into the problems of balancing between the control of the project and leave it entirely to the participant.[33]

The relocation of disaster-affected communities is often a reason of the failure of post-disaster projects. In addition to political reasons, Relocation factor may be the reason why some residents do not accept the move to the new buildings of New Gourna Village. The little consideration to the significance of 'place' in the reconstructing of community identity after disaster is one of the factors which the same authors referred to in their paper.[34]

[32] Zabihullah SADIQI, Vaughan COFFEY, Bambang TRIGUNARSYAH. "Rebuilding Housing after a Disaster: Factors for Failure." Conference Paper. Queensland University of Technology, August 2012, P.2
[33] Ibid P.3
[34] Ibid P.5

When implementers ignore the post-disaster affected community needs and culture, in order to increase profits and reduce the project duration, this will lead to failure in the advanced phases of the project. For example, in Chennai city in India, the project implementers and developers ignored some cultural issues while designing houses, the toilet doors was near to the kitchens which considered a healthy problem. Another issue was the position of internal doors, each apartment had three interior doors which were aligned facing each other. The families at their own expense changed the position of one of those doors because they belief that positioning would bring bad luck.[35] Fathy also did not take into account the beliefs of Egyptian peasants when he was designing their houses with domes. The belief in Egypt was that graves were covered with domes, but he interpreted it as a symbol of the concept of the open universe "When the Arabs moved to the stage of stability, they began to drop their philosophy in architectural metaphors. Thus, the sky appeared as a dome supported by four columns, - their vision of the universe- This concept gives symbolic value to the home as a reduction of the universe." The use of domes was the reason why some families refused to move to the new houses.

3.2. Socially Engaged Architecture

The social architecture says that the designs is the product of human thought that uses these designs. Therefore, we must not allow monomania and capitalism rule design because if we allow it, we will be forced to live in this hell of high rise buildings. Thus, the society that is used for these designs will lose its social habits and cohesion. The idea of social architecture is based on the involvement of man, which is the actual user of design in the process of architectural design.

The participation of the community in the design process helps in obtaining an architectural product that suits the social needs of the users. It can reduce project costs if used in a way that achieves this and also addresses the challenges of the 21st century. It can bring economic opportunities to less fortunate people and mitigate the effects of natural disasters and Helps to provide innovative and distinctive designs.

The architecture that meets the social engagement was the title of the two of the biggest architectural prizes- Pritzker Prize and Turner Prize of 2016- Alejandro Aravena was awarded 2016 Pritzker Architecture Prize Laureate for the social architecture projects that he made before the

[35] Ibid P.7

prize. The 48 year old architect becomes the 41st winner of the Pritzker Prize. The most famous project is the Quinta Monroy Housing ın Chile. In 2003, Chilean government commission Aravena to design about 100 low cost housing units. Each family had to cover the cost of her house at $ 7,500 was given by the government. Elemental's solution was the system that adopted by the architect, each unit was built with the most fundamental infrastructures, allowing families to move to the new houses, it also allows for future expansions and developments. For the future, families were able to their houses with their own choices and gradually invested. The project has become a model of popular housing on a global scale. Aravena developed this project with Harvard University students. It was a building design of two houses each of 30 square meters. The architect took into account the external influences in architectural work such as social structure, political channels and economic constraints. With several similar projects this project was presented in the exhibition of that hold the title "Small Scale, Big Change: New Architectures of Social Engagement".[36] The eleven projects that presented in the exhibition represented the social responsibilities of architecture. Projects range from a hand-held school in Bangladesh to several housing projects around the World.

Figure 5 Before Expansion, Quinta Monroy Housing

[36] Small Scale, Big Change exhibition: https://www.moma.org/interactives/exhibitions/2010/smallscalebigchange/index.html

The biggest challenge was for Aravena in Constitucion, a five hour drive south of the Chilean capital of Santiago. The earthquake and tsunami in 2010 destroyed the coastal city of 40,000 people. Aravena has laid out plans for the reconstruction of new earthquake-resistant neighborhoods that rise 100 meters above sea level. He repeated the idea of the project he had designed before, that the first half of the house will be built with government support funds and then expansions continue at the expense of the resident. [37]

Another example of social architecture in London, where the high buildings overwhelmed the city and social housing being scrapped. Rowley Way, Camden project was response to the high tower blocks that meet the needs of the city. By this low-rise building with play areas, balconies, parks and a school, the architect try to create a safer and more communal environment in order to mitigate the crime rate and improve the living standards. He believes that in the high buildings residents lose control of the common space and this is the reason of disregard and the increasing of the crime levels.[38]

Figure 6 Rowley Way, Camden London

[37]Projexity, "Architecture Meets Social Engagement in 5 Awesome Projects" https://medium.com/projexity-blog/architecture-meets-social-engagement-in-5-awesome-projects-af283bba616b , Feb 2016

[38]Dojo, "Socially Engaged Architecture: A Tour" https://www.dojoapp.co/story/social-architecture-spotting-london , 2016

4. Hassan Fathy's Ideas and Proposals:

In order to understand the social aspect of Fathy's architecture it is best to give an overview of the life of the man himself, his career as a pioneer architect of his time, his experiment of breaking the modern architecture and going back into the heritage architecture of Egypt. If we want to discuss the works and thoughts of Fathy as an Egyptian architect and master builder, we will discover that he is completely an architect who is well suited to the requirements of his time, as a nationalist architect who defends the Egyptian way of building against westernized architecture.

Fathy was born in Alexandria on 23 march 1900 into a rich and respectable family. He was one of seven children. His father, Ahmad Fathy, was a senior police officer in Alexandria but because his position required him to arrest poor people who had breached the law simply to keep themselves alive, he abandoned his job. Ahmed Fathy worked as a French language teacher and at the same time studied law to become a judge in Alexandria Public Court. When Fathy was eight years old, his father moved the family to live in Helwan, a suburb near Cairo, where he lived until he died on 5 February 1933.[39]

Fathy's love for the country and the peasant life led him to apply to the School of Agriculture in Cairo, believing that he would be able to serve the villagers, but he failed its entry examination. In 1919 Fathy decided to study architecture in the High School of Engineering, Architectural Section, University of King Fuad I, now University of Cairo. He graduated in 1926 at the age of 25 from high school engineering, architectural section, University of king Faud. Fathy's education in the Architecture Section of the School of Engineering at Giza was modelled on the 'Ecole des Beaux Arts of Paris' with no references to local traditions or history and was influenced by the principles of classical architecture. [40] "We never studied classical Egyptian Islamic architecture at school. Of course we studied it in the History of Architecture course, as exotic architecture in four or five pages of a history book"[41]. However, He spend the first few years (after completing his education) discovering spatial forms of the residential architecture of the 'Mamluk and Ottoman'. He also

[39] Abdel-moniem M.El-shorbagy, 2001, P.14

[40] Hassan Fathy, "Architecture for the poor:an Experiment in rural Egypt", The University of Chicago Press, Chicago 1973, p. 2.

[41] Attilio Petruccioli, Hassan Fathy: Inseguendo il Poeta dei MattOID Crudi (Tracking Down the Poet of Raw Bricks). Spazio e Societa, no. 17, March 1982, p. 57.

discovered 'prevailing concepts' of Egyptian architecture, and experimented with mud-brick, married with an ideology he had of 'Natural Architecture' that relates to place and culture.[42]

The first period of Fathy`s career and his works that was between 1928-1937 shows a philosophy in dramatic state of transition, with the a huge evolution of his ideas during that period twelve year period constituting a compressed personal parallel to the general change in architectural thought itself during the last half century.[43] Fathy`s first contact with the rural architecture was when he designed Talkha school, at this point his interest of rural architecture had begun. Some works after that, The Villa Hosni Omar, the Sada El-Bakreya apartment house and "La Giardiniera" Kiosk, Each of them shows a similar tendency to eradicate all historical references in both form and detail through the use of flat roofs, plain wall surfaces and industrial materials. All show the diverse threads of influence such as Olbrich and the Vienna Secession, Adolph Loos, the Bauhaus, Art Deco and many other trends that were then in fashion in Europe at the time.[44] After 1937 when he designed Villa Hayat, it had the same flat roof and Corbusian curves but while the similar works continues and until recently of that time something new in his projects start to appear such as projecting mushrabbia windows, intricately carved wooden balcony railings, arched doors and windows, projecting fin walls, and even claustra-work masonry. At this same time some public building, which had been designed demonstrate the same transitional ideas which seen in residential buildings.

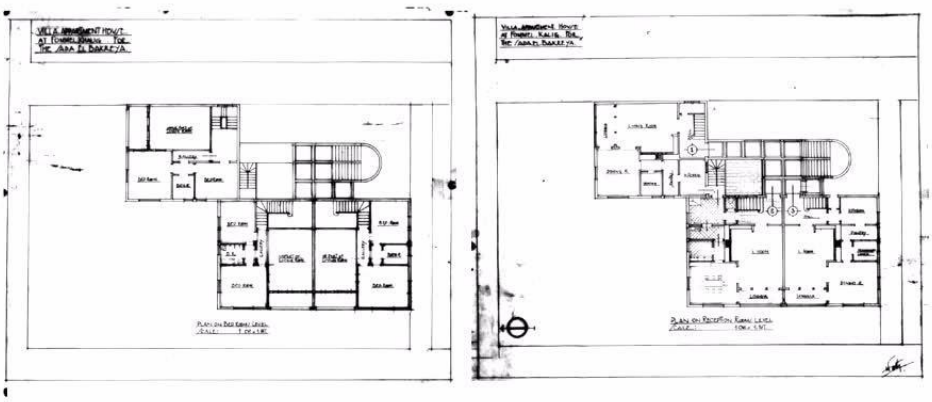

Figure 7 Villa Sada al-Bariya Cairo, Egypt

[42] Neil O Rourke, "Hassan Fathy(1899-1989) " cultural context of architecture V P.11

[43] James Steele, "The Hassan fathy a catalogue of visual documents at the aga khan award for architecture" ,Geneva, Switzerland, 1989, P. 2

[44] Ibid. p 2

The second period (practical experiments period) of his career which was between 1937 and 1957 represented a crucial period in Fathy's career. During this time there is a profound reversal in the direction of Fathy's work, as it can be seen in the design of Ismail Abd El-Razek Villa, which designed by him in 1941. This project has not been implemented but four years later, as second alternative the same plan was reworked and presented to Hamdi-Seif Al Nasr house. The new changes featured in this design are

> "...which can be attributed to more than the use of domed forms, results in an obvious shift in theoretical principles as defined in his basic approach to space planning. While still not fully developed, there are vestiges of a dorqa'a with flanking iwans here, and initial attempts at a direct connection between this formal areas with an exterior courtyard space formed by the intersection of the two wings of the house. In addition to this critical space relationship, which becomes so basic to all of Fathy's work in later years, circulation areas are also effectively used as a buffer between the public areas in the interior and the six family bedrooms which line the perimeter of the plan."[45]

The same ideas were used with little development in subsequent projects and over fifty years.

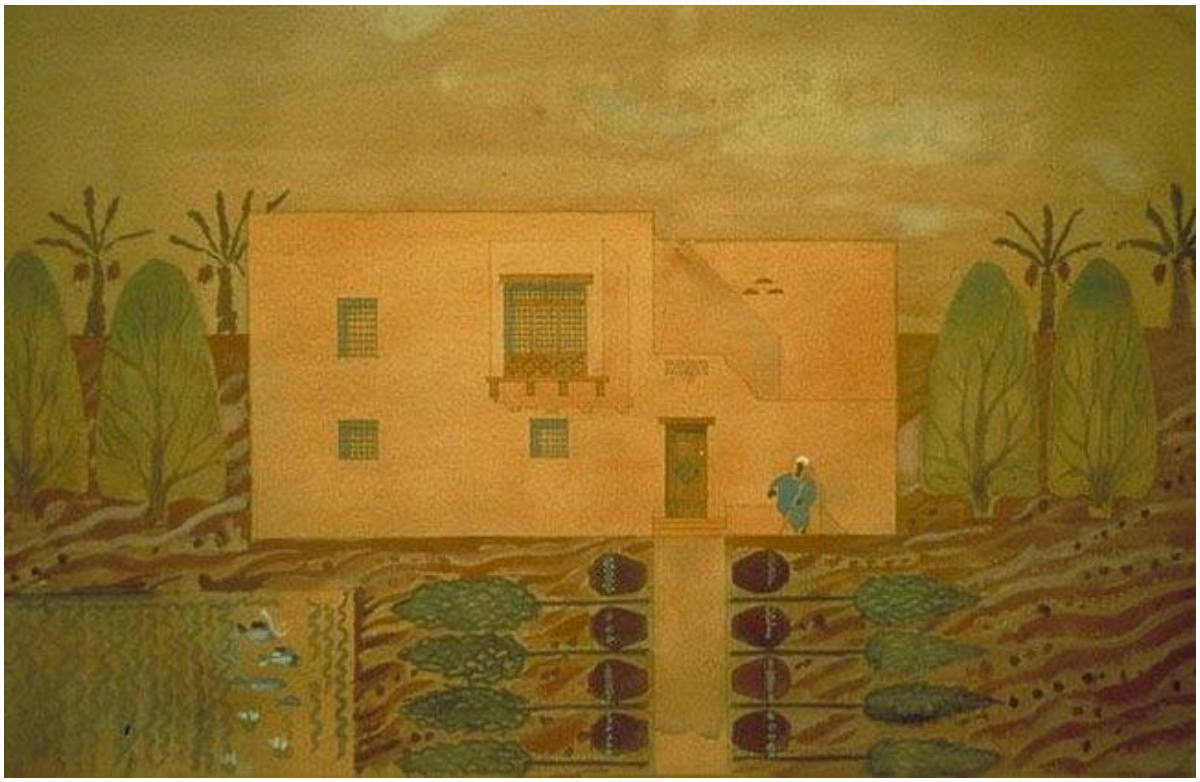

Figure 8Villa Ismail 'Abd al-Razik Abu Girg, Egypt

[45] Ibid. p 4

By virtue of ideas of the cheap rural architecture which contained in his projects and researches, Fathy was deeply involved in several projects such as the Royal Society of Agriculture Farm in Bahtim and a prototype house that would form the building block for new units to be used in replacing homes destroyed in a flash flood in Ezbet Al-Basry.[46] these two projects which forced him to deal with the tectonic realities of actually building which are considered as new designs at Mansouria and compatible with his desire of making a new inexpensive architecture accessible to everyone. In addition to this desire there was a lack of construction materials after the war, All of these were reasons to influence the architectural style of Fathy and led him to use mud-brick and the Nubians architecture.

The first documented application of mud brick construction which was built in 1942 and still standing until now is the Hamid Said house, it consists of simply a studio and sleeping space for the artist and his wife, the project was "the first attempts at using mud brick by following Nubian structural techniques at Bahtim, Ezbet El-Basry and Marg, still betrays a somewhat tentative approach to both the system itself and the material used in it,"[47] For the house`s plan it was as follows "Repetitive living units on the ground floor, which is raised nearly 85 cm. above grade, are linked by thick adjoining party walls. Each have front and rear entrances with steps, a main vaulted combination living-dining area with a fireplace, and a service kitchen, bath and sleeping alcove. A separate stair from the outside leads up to the first floor and into a long hall which separates service functions such as food and linen storage, kitchens and bathrooms, from a series of bedrooms on the northern side of the building. All of these adjoin a common arcaded terrace, while a major communal space is intentionally separated out as an individual wing of the building and is also used to visually anchor the repetitive line of living units on the other side."[48]

[46] Ibid. p 5
[47] Ibid. p 6
[48] Ibid. p 7

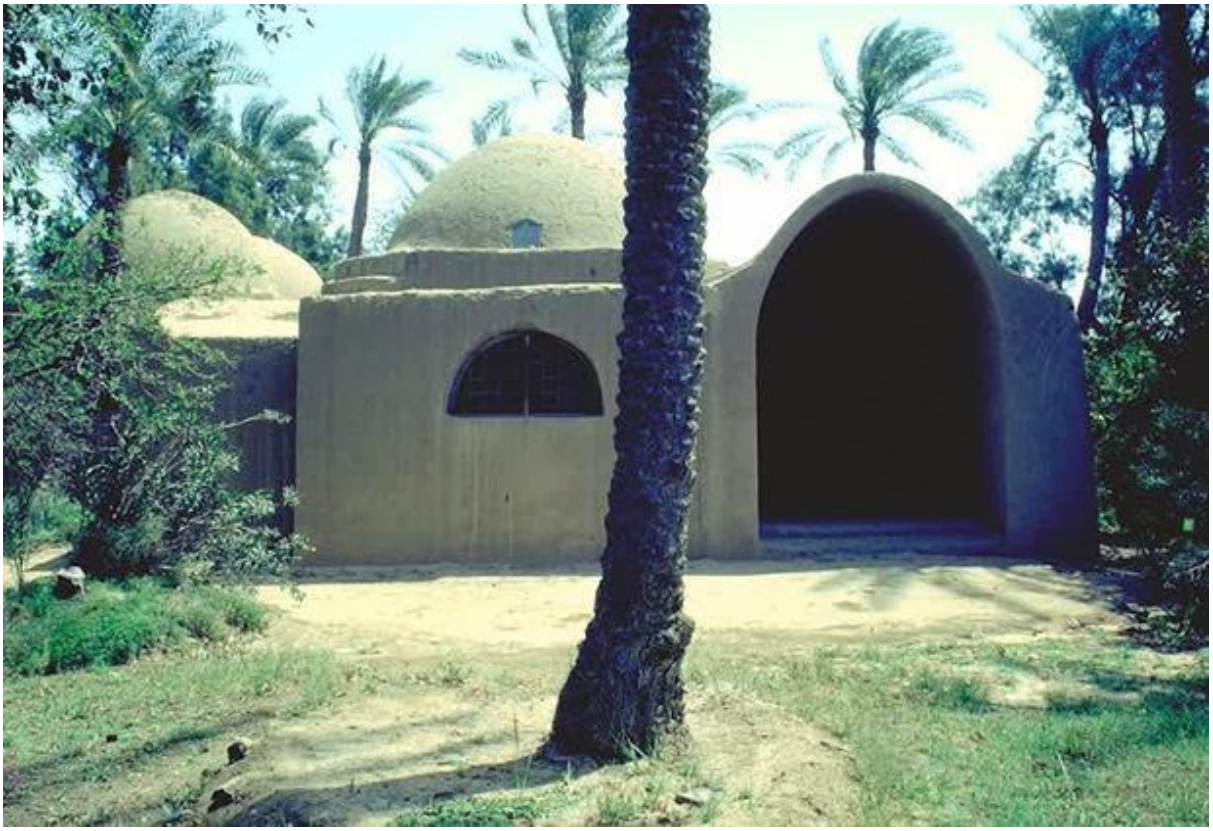

Figure 9 Hamed Saïd House Cairo, Egypt

New Gourna Village which is built between 1945 and 1948 is the most significant project of Fathy for the questions it raises and the problems which tried to solve. The project was launched by the Egyptian Department of Antiquities as a low cost solution to solve the problem of relocating a village of tomb robbers that had established itself over the royal necropolis in Luxor. It was the best experience to apply his ideas that offer a viable solution to the rural housing problem in Egypt, which included in his book "architecture for poor". For Fathy, it was a very attractive project and it give him the opportunity to achieve his dream of building a whole village for a poor people. But it was a difficult task to be presented with fifty acres and seven thousand Gournis. In Fathy's writes he has argued the difficulty of this mission when he said "All these people related in a complex web of blood and marriage ties, with their habits and prejudices, their friendships and their feuds a delicately balanced social organism intimately integrated with the topography, with the very bricks and timber of the village this whole society had, as it were, to be dismantled and put together again in another setting."[49] As we see in "Architecture for poor" the book included the obstacles that

[49] Hassan Fathy, 1973, P. 17

contributed to the failure of the project - From the bureaucracy that faced his work and his ideas to the refusal of the villagers to move to the new village because they considered that he was taking away the land of their ancestors- despite these pressures he wanted the new Gourna to be an extension of the Nubian architecture. Every house in the village has been designed to satisfy the individual needs of the family that own the house rather than using a limited number of unit types. "Fathy approached his task of building the village from two distinct perspectives. The first concerned the socio-economic problems involved as well as the health of the community. The other was an architectural one, in terms of producing housing appropriate to the life style of its occupants. Despite Fathy's good intentions and enormous effort over three years to realise this project, it did not come to fruition and the village was only partially built. In Architecture for the Poor, Fathy described in detail the obstacles and frustrations he faced from both the authorities and the villagers."[50] The concept of "Participatory Architecture" –which emerged during the process of building the village– is the belief of Fathy that client, architect and craftsman, each in his area, should make decisions concerning the project. And when we lose an element of this system "the design will suffer and the role of architecture in the cultural growth and development of the whole people will be diminished"[51]. When Fathy went to Cairo to report on its progress to king Farouk the Gournis found a chance broke the dikes and flooded the village. However, with enormous effort Fathy was able to drain the water away and to restore the foundations of his buildings. Again there was increasing obstruction from the Department of Antiquities. After that the village had been transferred to the Department of housing and Fathy returned to teaching with relief. But with the feeling that teaching brought little reward, "I was trying to teach something I had failed to do myself, and grew increasingly anxious and impatient"[52]. Although the project failed for the reasons we mentioned earlier, it was a way to enhance its understanding of the problems of rural housing.

[50] Abdel-moniem M.El-shorbagy, 2001, P.43
[51] Hassan Fathy, 1973, p. 40.
[52] Hassan Fathy, 1973, p. 183.

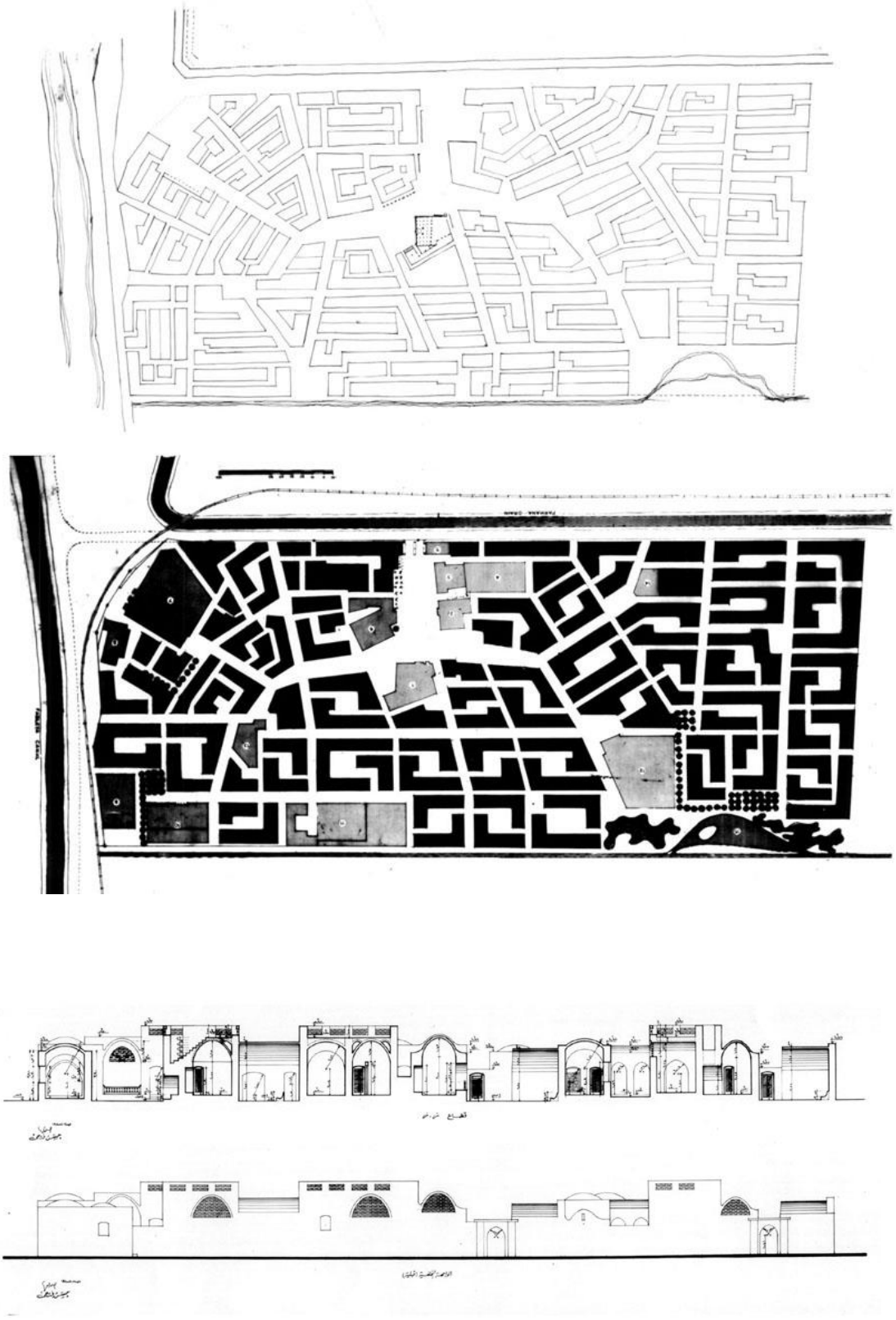

Figure 10 New Gourna village Loxur Egypt

In 1946, when his brother in law Ahmed Hassanein was killed in a car crash, Fathy worked for designed new type of building, He worked to design a mausoleum as a memorial for Hassanein. The previous literature on Fathy did not include any documented photographs of the tomb. The tomb was photographed in 2000.this photograph allowed to describe its physical characteristics.

The Hassanien mausoleum was similar to the Mamluk`s mausoleums which Fathy was influenced by its style. The only mausoleum which designed by Fathy during his career was this mausoleum. Fathy's design was simple and consisted of a cube crowned with a cupola, which gave the mausoleum a highly visible exterior profile. The transition between these two parts was mediated by an octagon. The exterior of the dome is carved and its corners are chamfered, incorporating features introduced in the Fatimid period. The windows are arched with rounded openings above.[53]

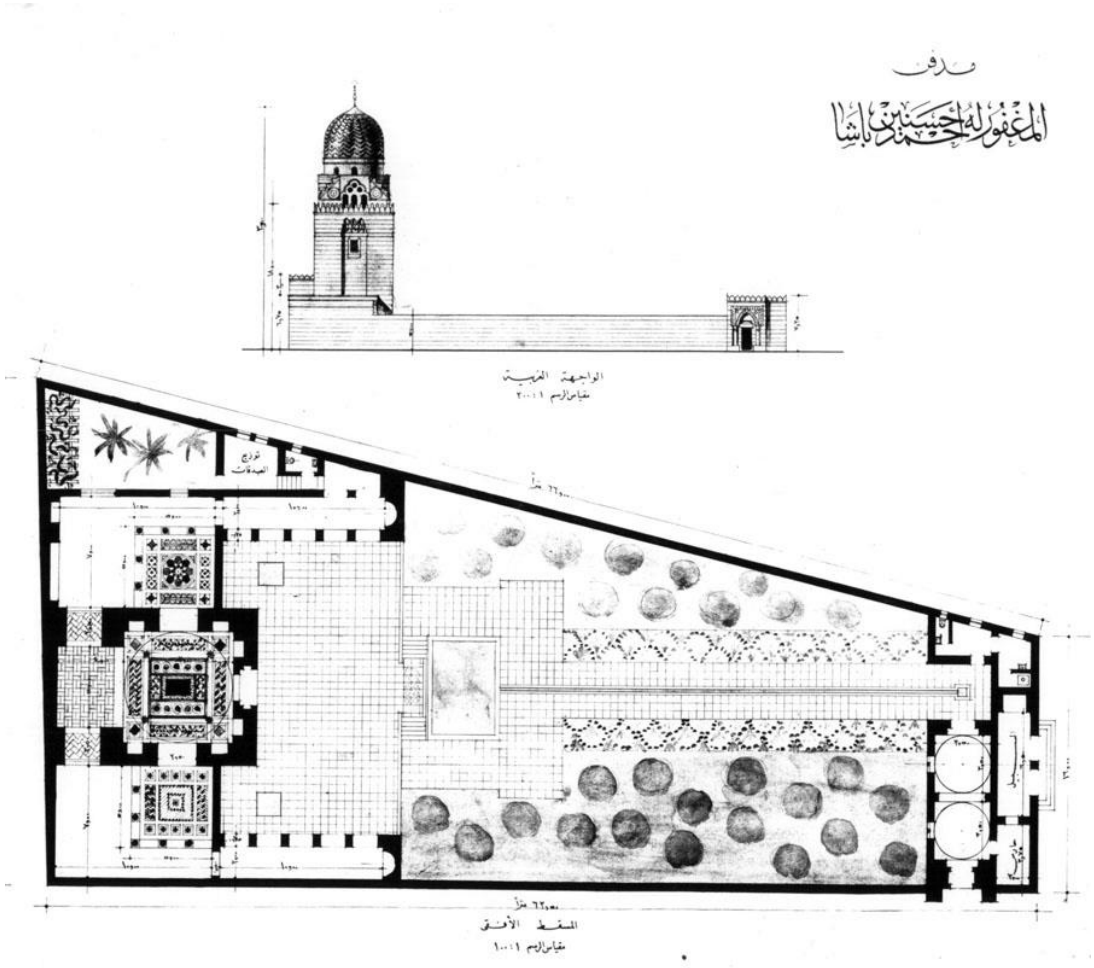

Figure 11 The Hassanien mausoleum Cairo Egypt

[53] Abdel-moniem M.El-shorbagy, 2001 s.47

In 1950 in order to improve the standard of living of the people in Garagus which is a small craft-based rural village in Upper Egypt which relied solely on agriculture for its livelihood by a Jesuit Mission. Father Montgolfier -who impressed by the architectural style as well as the low cost of New Gourna- want to build a crafts-based factory to produce ceramics in order to broaden the economic base of the village. The design of the workshop was clear and expressed the ceramic process from the starting with the raw material until the firing and storage of the products. Although of the changing of the plans and the elevation concept during the building process without consulting the architect, Fathy's creative force is still visible with his concern with natural ventilation was obvious in the use of vaults as a wind catch.

After the work stopped at new Gourna, Fathy designed some of houses for people who were influenced by his ideas. Some of these houses which were designed during the 1950's; the Stopplaere house, the Monastirli house and the Lulu 'at AI-Sahara (The Pearl of the Desert), his second community-orientated project near Cairo. Stopplaere was an archaeologist and there was a kind of relationship had been established between him and Fathy while he was working in Gourna project. That was the reason of asking fathy to design a building that could be used as a guest-house for the Department and an apartment for himself. "The surviving drawings of this house are for the preliminary sketches and provide insight into the creative thought of Fathy and how his ideas began to evolve according to the site conditions."[54] The external appearance of the house shows the skills in integrating the elements of the house with both Egyptian and Islamic architecture.

[54] Abdel-moniem M.El-shorbagy, 2001 s.51

Figure 12 Lulu'at al-Sahra Giza, Egypt

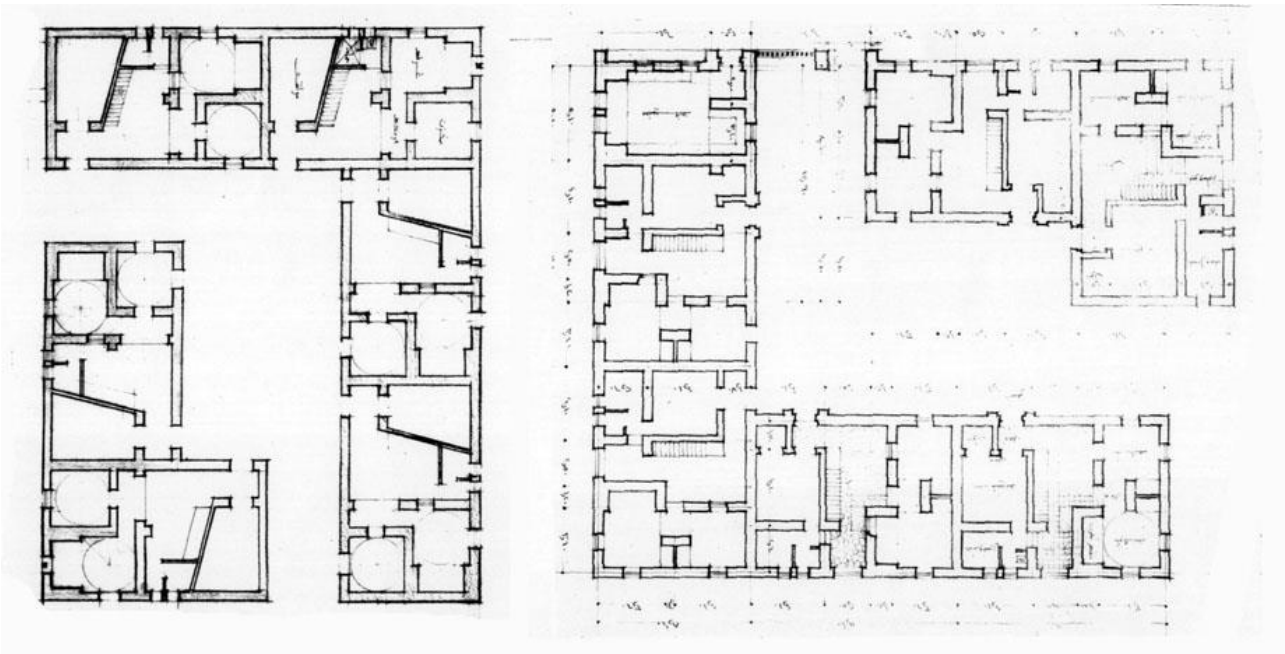

Figure 13 peasant houses, 1 and 2 Giza, Egypt

In the same year Fathy designed a house to Mrs. Attiya Monastirli, then the wife of the Egyptian Ambassador to Turkey. The house located on Roda Island in the middle of the Nile river near the Nilometer. The site of the house take a triangle shape that bordered with a highway on one side and the river on the other sides. Monstarili admired the architecture of the Turkish palaces and houses along the Bosphorus in Istanbul. Therefore, she arranged for Fathy to visit Turkey for several months in order to study the architecture of this group of houses and palaces. The result of this visit not only influenced Fathy's design but also meant a great deal to him because of his own Turkish background on his maternal side.[55]

Figure 14 Monastirli House Giza, Egypt

After the fame gained through his widespread preoccupation with New Gourna village as the most elaborate community project in Fathy's career. In 1950 he was asked by Hafez Afifi Pasha to design an addition to his large farm complex near Cairo. Lulu'at AlSahara (Pearl of the Desert). In addition to the buildings that existed as a worker's housing, workshops, animal shelters, grain storage, pigeon towers, clinic and a hospital he asked Fathy to build n six more housing units and a new mosque. All buildings exhibited Fathy's typological language such as domes and vaults.[56] There were no other important residential projects for Fathy in the period between this farm project and his moving to Greece in 1957 after 4 years of teaching at the Faculty of Fine Art in Cairo.

[55] James Steele, 1997, pp. 93,193.

[56] Abdel-moniem M.El-shorbagy, 2001 P.53

Before he went to Greece, two projects marked the end of his career as important projects, the first project was The school at Fares and Edfu, which consists of ten classrooms, a large library, a large multipurpose room, an open-air stage for theatricals, a crafts room, administrative offices, two teachers' apartments, toilets and a mosque. And the other project was his involvement in a prototype for temporary housing for the Arab refugee of Gazza in Palestine in 1957, as part of a United Nations team.

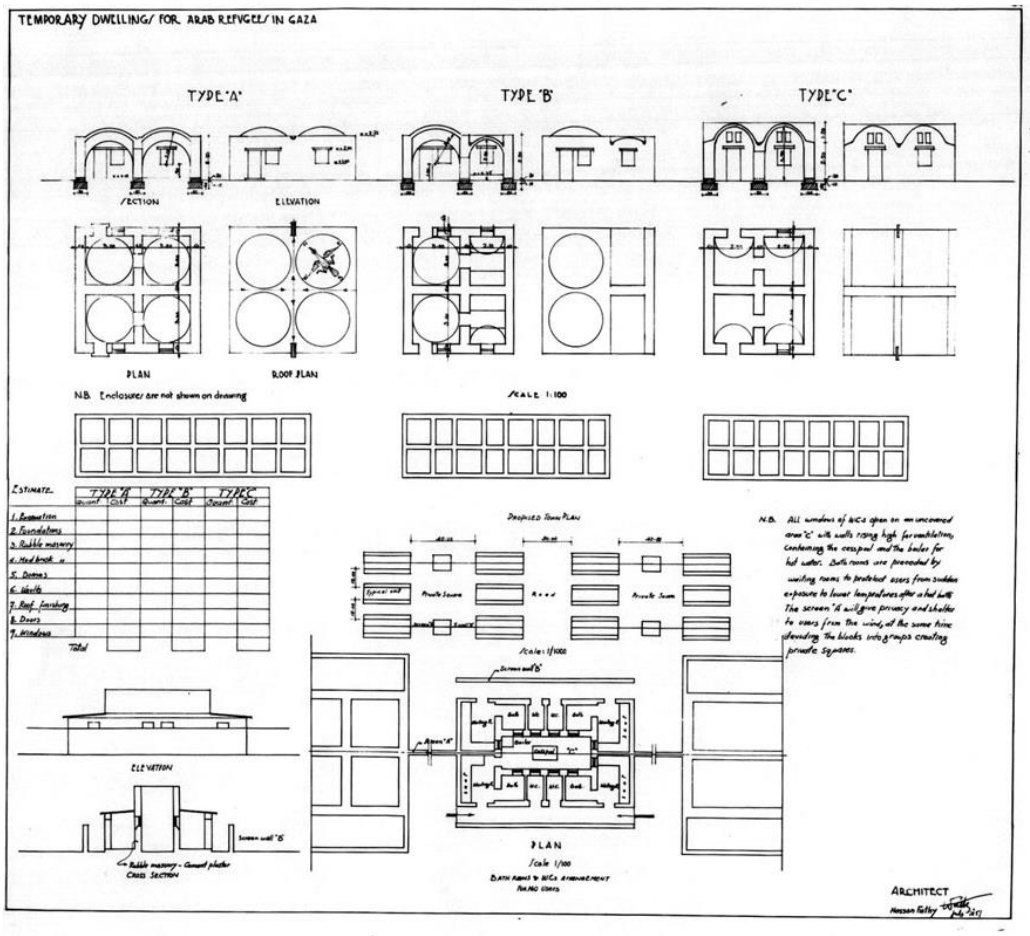

Figure 15 Arab Refugee Housing Gaza

The third period of his career was between 1957 and 1962. A number of reasons prompted to leave Egypt. Fathy traveled to Greece by the Doxiadis` invitation to join his organisation in Athens. Fathy's first work with the Doxiadis was in the new cities project in Iraq. In the order of this project, Fathy proposed for a training course for masonry work in rural areas. Similar to what was going in the building process of New Gourna, he want to train those who would work to build the village. As for building materials, it has identified a set of buildings to understand the used

materials and construction techniques.as he found that in the south and middle of Iraq, the main building material was the earth bricks, burnt or stabilized for the walls and vaulted roofs. The climate aspect was the most important in this project and Fathy presented several suggestions and drawings in this regard. His proposals for of the artificial lake, which has never been realised in Egypt, was appreciated by the government of Iraq which adopted the idea and decided that every village in Iraq should have one.[57] The ideas and suggestions presented by Fathy for the village of Greater Mussayib, like using the Grid system, the necessity of keeping a system of modules in order to achieve generalization and the separation between the movement of pedestrians and the movement of cars. Doxiadis recommended the implementation of these ideas; however, Doxiadis sought a combination between his views and Fathy's ideas in order to achieve a national conception in the spirit of Ekistics.[58] Although Doxiadis believed that Fathy's work was important as a research and design work he also regarded the concept of Fathy's design as inadequate to provide solutions to be carried out in large numbers.

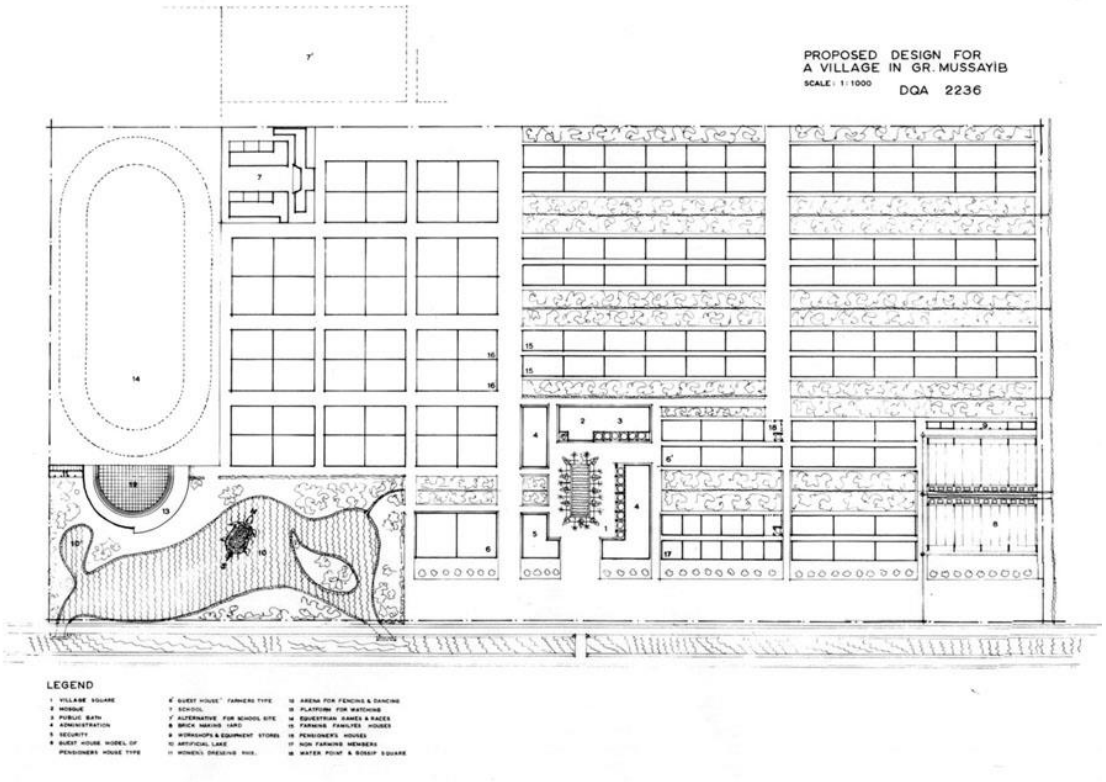

Figure 16 Iraq Housing Programme Musayyib, Iraq

[57] Hassan Fathy, 1973, pp. 109-110.

[58] Ekistics: "the Science of human settlements" as defined by Doxiadis. This term come from the Greek words "oikos" (home) and "oiko" (settling down).

The Iraq Housing Programme had also included the design of high-rise blocks, which were intended to house officials, non-farming families and artisans. In his design Fathy followed the International Style in both plan and elevation. The remaining drawings, dated 17 March 1959, included a master plan for the new city, a detailed design of one of its quarters, elevations, plans of the blocks and plans of the units. The general layout consisted of repetitive, four and eight-storey high-rise residential blocks of concrete frame construction. While the four-storey block consisted of duplex three bedroom flats, the eight-storey block contained one-storey flats and duplex two bedroom, three-bedroom or four-bedroom flats. Each neighborhood included housing, primary school, kindergarten, shops and cafe-restaurant. While a network of walkways and green spaces linked the housing blocks together, the whole quarter was connected to the larger urban design with vehicular streets and divided highways. Fathy's colleague, Myrto Antonopoulou-Bogdanou, confirmed that some of these high-rise blocks were built in Sulimania and Mosul cities to house people before the Iraq Revolution in 1959. Afterwards, their inhabitants left these multi-storey blocks to live in their original sarifas (mud houses). This pattern of houses contradicted all Fathy's previous design philosophy and ideals and was totally out of character.[59]

Between 1961-1962 the idea of "City of the Future" started to appear in Athens Center of Ekistics by a team of experts including Fathy. The reason of the project is to help the understanding of the human settlements and solving the urgent problems of cities. The manager of the project in 1964 was the Greek architect and planner Myrto Antonopoulou Bogdanou who was the reason of development several aspects of the project`s theory. The included important names of historians, architects and city planners like Dr Meier, an American environmental planner, Professor j. Tyrwhitt, a British architect, Panagis Psomopoulos, a Greek architect and planner, who went with fathy in 1959 in a mission to Syria to negotiate projects in Horns, Hama and Selemiyah.[60]

In order to development of the project, The reports presented by Fathy in the framework of the project dealt with the many of the topics that enriched the projects and showed the great effort that made for the success of it. Such as the report that submitted in 1960 before visiting the African cities that he was supposed to visit in his mission, He argued that all the research staff should be

[59] Abdel-moniem M.El-shorbagy, 2001 P.64
[60] Ibid s.65

acquainted with each others` views and ideas about the project before undertaking their research. Another suggestion was about the problem of population growth of the "City of the Future" and the dealing with this problem, he used the example of the African and Middle East cities with its rabid changing of the population number. Which is the reason of the fast process of urbanisation. He also talked about the harmonious growth of the urban environment which could be achieved at successive stages during the growth of the city.[61]

Another report hold the title "Plurality and Unity in the City" which submitted before his mission in Africa. In this report Fathy talk over that a city may look as if it is no more than a group of neighborhoods arranged next to one another, but there is a structural unity underlying this arrangement. He also argued that the physically, visually, economically and socially examination of a city leads to understanding and assimilation of its unified structure.[62]

During the period he spend in Greece, he had not made any project outside the framework of Doxiadis expect the house that he designed for Marrion carr, who was working in the same research team of "City of the Future". The house has been designed outside Athens, in Liodessi. The house is designed in a style of traditional Greek houses with a design of two linear variations, where both took advantage of a north-south ridge running through the site and overlooking a picturesque view to the east. The plan consists of a central courtyard, which divides the house into two wings, each on a different level to get full benefit of the slope of the site. The exterior was characterised by its pitched, red-tiled roof and whitewashed walls, a gesture of respect to the traditional construction techniques and materials of Athenian architecture.[63] During the same period in Athens, Fathy also designed some interesting projects for his country Egypt, like his brother house, the Attia restaurant where he used the *Malqaf*[64] and inner courtyard.

By observing his work in Greece, We can see that his traditional approach did not work well because of the interest of the modern forms and new building techniques and the ideas that prevailed

[61] Hassan Fathy, "the City of the Future: Exchange of Views on the Research Project". Internal Report to the Athens Centre of Ekistics, 12 October 1960. Ms., F AAUC, no. 37, p. 1.
[62] Hassan Fathy, "The City of the Future: Plurality and Unity in the City". Internal Report to the Athens Centre of Ekistics, 29 November 1960. Ms., FAAUC, 110.39, p. 1.
[63] James Steele, 1997, p. 119.
[64] Malqaf is a natural ventilation system for inserting and moving the air inside the building.

among the members of the Doxiadis's team of standardisation and building types. This can be well observed in the use of International Style in The Iraq Housing Programme. The differences between Fathy`s ideas and Doxiadis's rationalistic approach could be the reason of his decision to leave Doxiadis and return to Egypt in 1962.

The late period of his life which was between 1962 and 1989 which was the most productive period in his entire career. And this productivity also extends to the number of documents generated during that time. In addition to the large number of residential projects. The first residential projects after return was when Shahira Mehrez asked Fathy to try to work within the existing framework to create a more varied and individual series of spaces for her. The idea was to separate the private space from the commercial space to be used for the sale of traditional Egyptian arts and crafts, "Fathy turns the seemingly inflexible restrictions of exterior wall locations, structure and circulation space to his own advantage. By using variations in vertical scale." In addition to using level changes in order to particularize each zone. This private apartment is consists a Majlis-type living room with a small library and fireplace, there is a similar living space reproduced on an outdoor courtyard, and a stair with another fireplace, a kitchen, a master bedroom with a Japanese bathroom [65]

Figure 17 Shahira Mehrez Apartment Cairo, Egypt

[65] James Steele, 1997 P.22

According to Steele, The next period of his career was called the “stone period” houses. While the government banned the use of mud-brick, the first design of this period was Fouad Riad house, which designed to solve of the needs of the client. In an attempt to integrate house with the surrounding environment, the house is designed under a wall that protects the building

Figure 18 Fouad Riad House Giza, Egypt

A series of socially oriented important works emerged during that period, like commissions for the Social Centre of Boulac in 1968, the Khoronfish Nursery in 1969, Aboul-Eichre`s laboratory of natural medicine in 1971, a redesign for the Souk al-Silah.[66]

Between 1973-1975, Fathy worked on several residential projects in the Kingdom of Saudi Arabia, one of these projects was the one that designed for Dr. Abdul Rahman Nassief, who has long been a strong supporter of his country's traditional architecture. This house was a boom in a city dominated by the international style. In this period, Fathy designed prototypical housing unit for Dariya village under the cover of United Nations Rural Development Project. “The Dareeya prototype is not only a masterful interpretation of one of Saudi Arabia's most symbolic regional styles”[67]plans explain how Fathy handled the privacy of spaces, show how each of the rooms relates

[66] James Steele, 1997 P.27
[67] Ibid P.27

to the courtyard. One of these prototypes that designed for this project was actually built, but the traditional architectural approach was not welcome, which prevented its recurrence which prevented its recurrence.

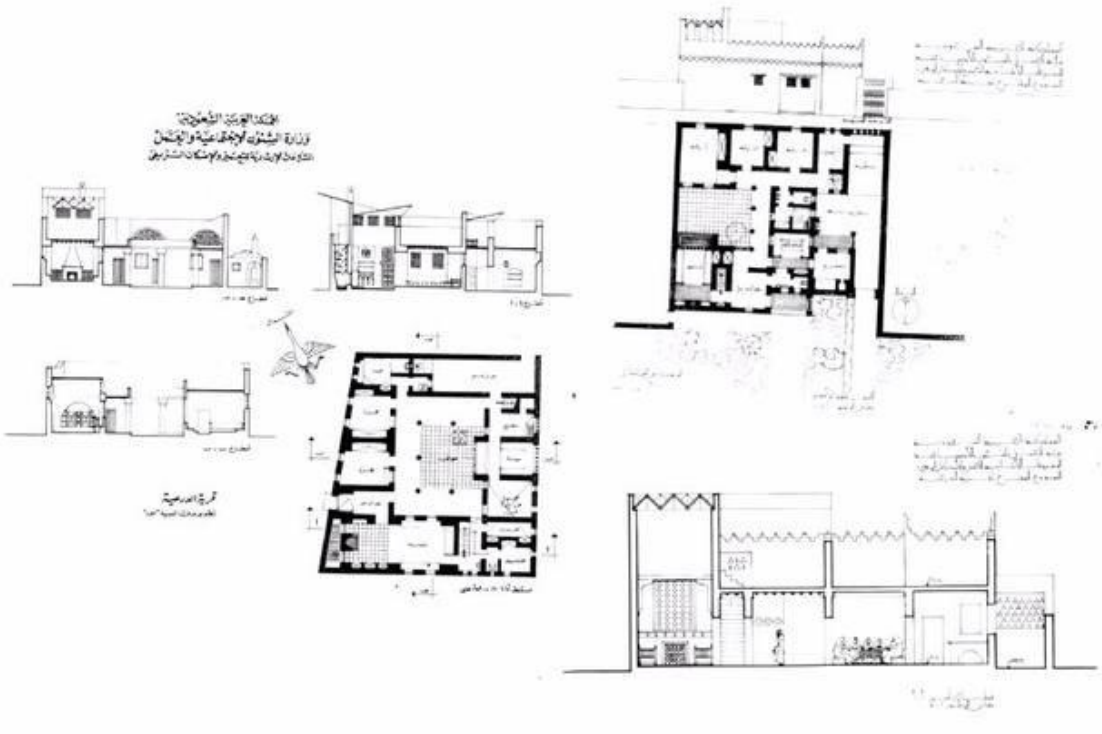

Figure 19 Dariya Housing Dariyah, Saudi Arabia

The village of New Baris which followed the New Gourna project after 20 years, is the project that dominates this mature period. The Organization for Desert Development, in 1963 proposed an agricultural community, sixty kilometers south of the Kharga Oasis after the discovery of a large water well in that area, this settlement was supposed to include 250 families, more than half of them intended to be farmers and the rest of the service personnel. Fathy's experience in such projects and his ability to build it at the lowest cost made Fathy the best choice for this project. Fathy faced some demographic problems with this project in addition to the physiological problems caused by high temperature. He relied on natural cooling and ventilation systems to help with the storage process. The goal was temperature reductions of up to 15C degrees. The quarters of the village "are organized along relatively linear north-south streets to take advantage of the shading that the buildings can cast on the streets throughout the day."[68] the houses are clustered around

[68] James Steele, 1997 P.28

courtyards in order to provide continuous airflow by using a combined convective system. These ideas were not tested because the village was not built[69]

Figure 20 Workshop, general view, New Baris Village Kharga, Egypt

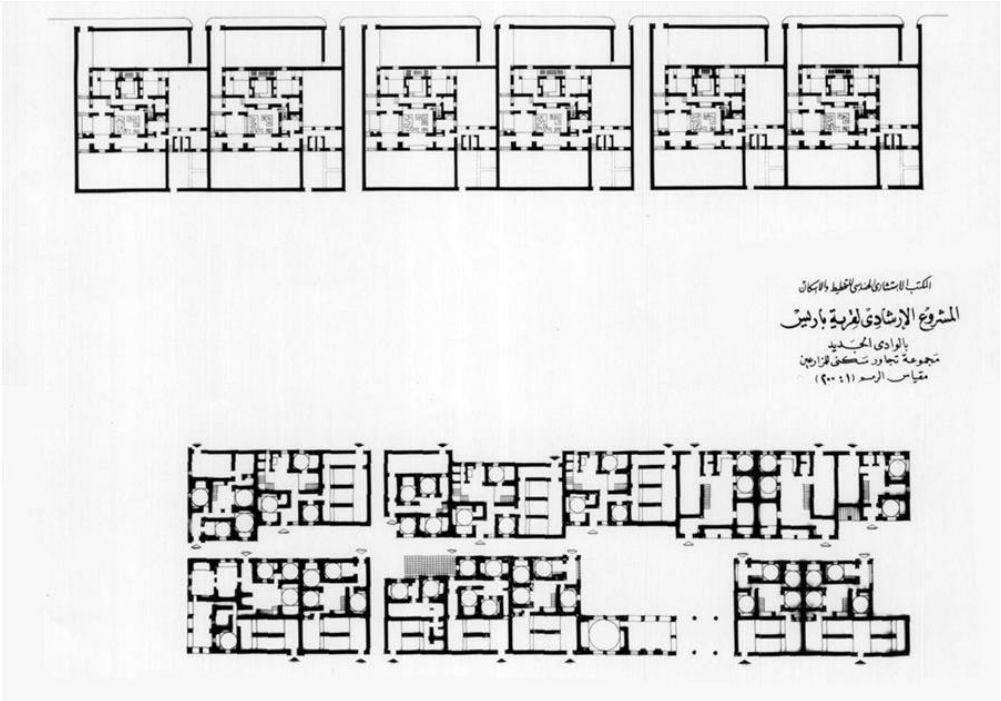

Figure 21 Farmer, non-farmers residences: design drawing: ground plan New Baris Village Kharga, Egypt

[69] James Steele, 1997 P.30

Subsequently, Fathy designed two community projects, one of them was in 1978, in Wadi Zarga area of Tunisia. The other one was in 1980 Minia, Egypt. These projects was a good chance for Fathy to "refine the ideas" that launched with the New Gourna project. The Minia project was a valuable lesson in Methods of separation between the vehicular and pedestrian circulation within a high density residential blocks.

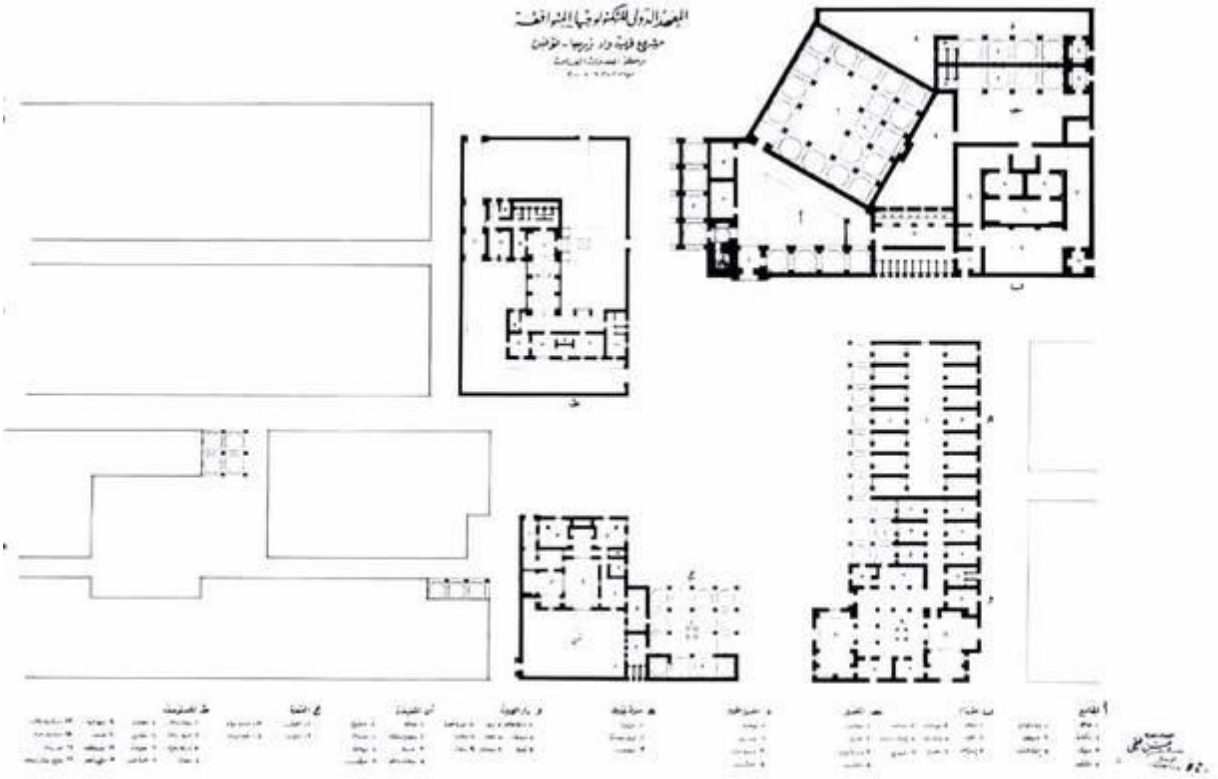

Figure 22 Wadi Zarga Village Wadi Zarga, Tunisia

Fathy was also involved in rich projects as well as projects for the poor. The Nile Festival Village Project was a tourist related project. It was intended to be sited in an island in the middle of the river near Luxor. In a report presented to the Ministry of Tourism, Fathi referred to the importance of the project to the surrounding rural community and the development of the region.[70] it was decided to implement the project in three phases during a six-year period. The first dated May 1976 which was the landing between the islands. The second finished in August of 1977, a

[70] Hassan Fathy. Report presented to the Ministry of Tourism 1982

band extends over the entire width of the island, Includes public facilities for tourists such as theatres, reception, restaurants…etc. the third design done in March of 1982, The aim of this phase is to make the entrance from the boat to the reception area more ceremonial. This phase changed the features of the island significantly[71]

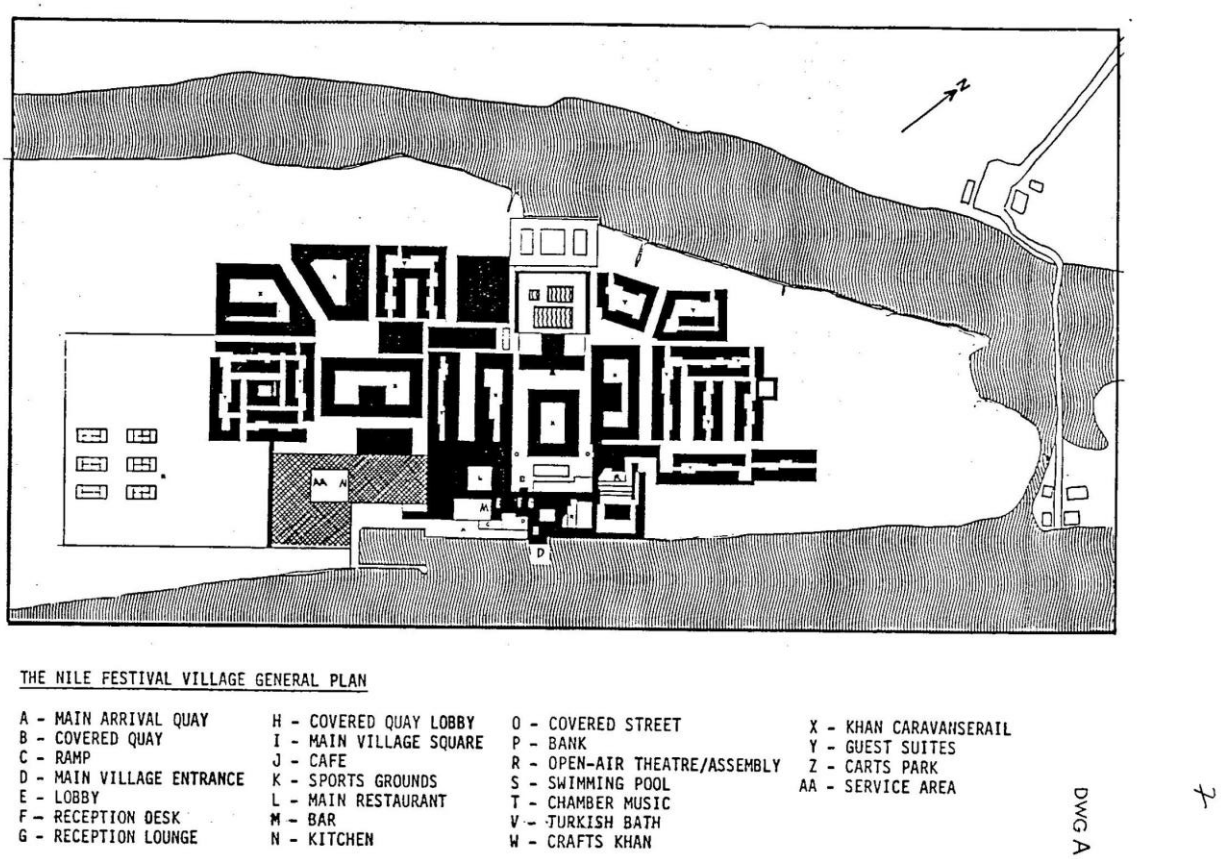

Figure 23 the Nile Festival Village general plan

Late works of Fathy between 1980 and 1988 are significantly different from those previously designed.it shows the ability of the architect to reflect differences in the personality of each client. Murad Greiss House is the first Project of the man`s last period of his life. The design of the house Offers many clear concessions to a fast-paced lifestyle.

[71] James Steele, 1997 P.31

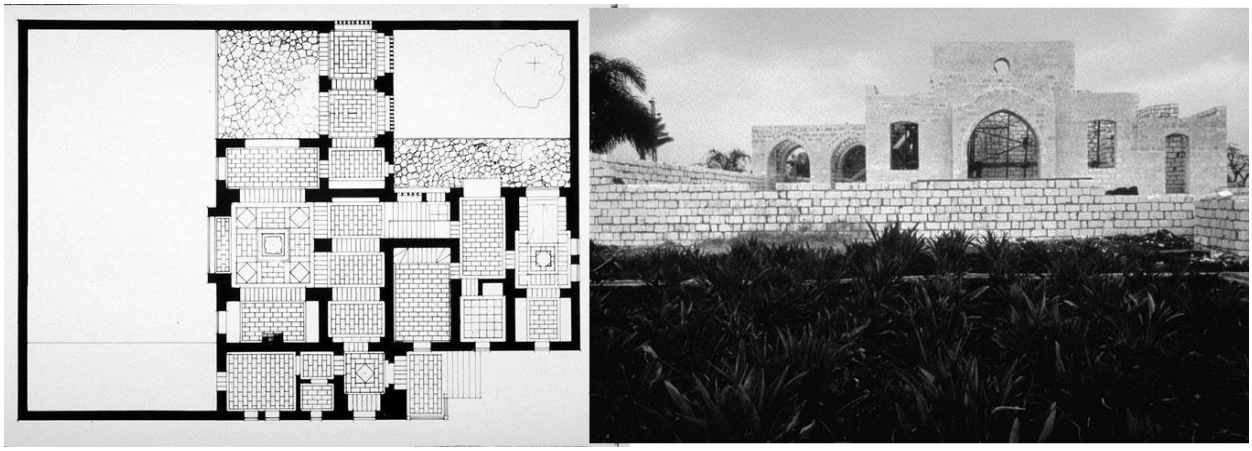

Figure 24 Murad Greiss House Giza, Egypt

He had the opportunity to design a number of houses like the Sadat resthouse, which is a resthouse to be used on the trips to the isolated area around Lake Nasser in Nubia. It's made up of three separate buildings which organized according to their function. This project was followed by a series of projects that were the conclusion of his career, like the house of Master Mason Alaadin Mustapha in 1981, the Andrioli house, The Hasan Rashad and Khaleel al-Talhouni residences.

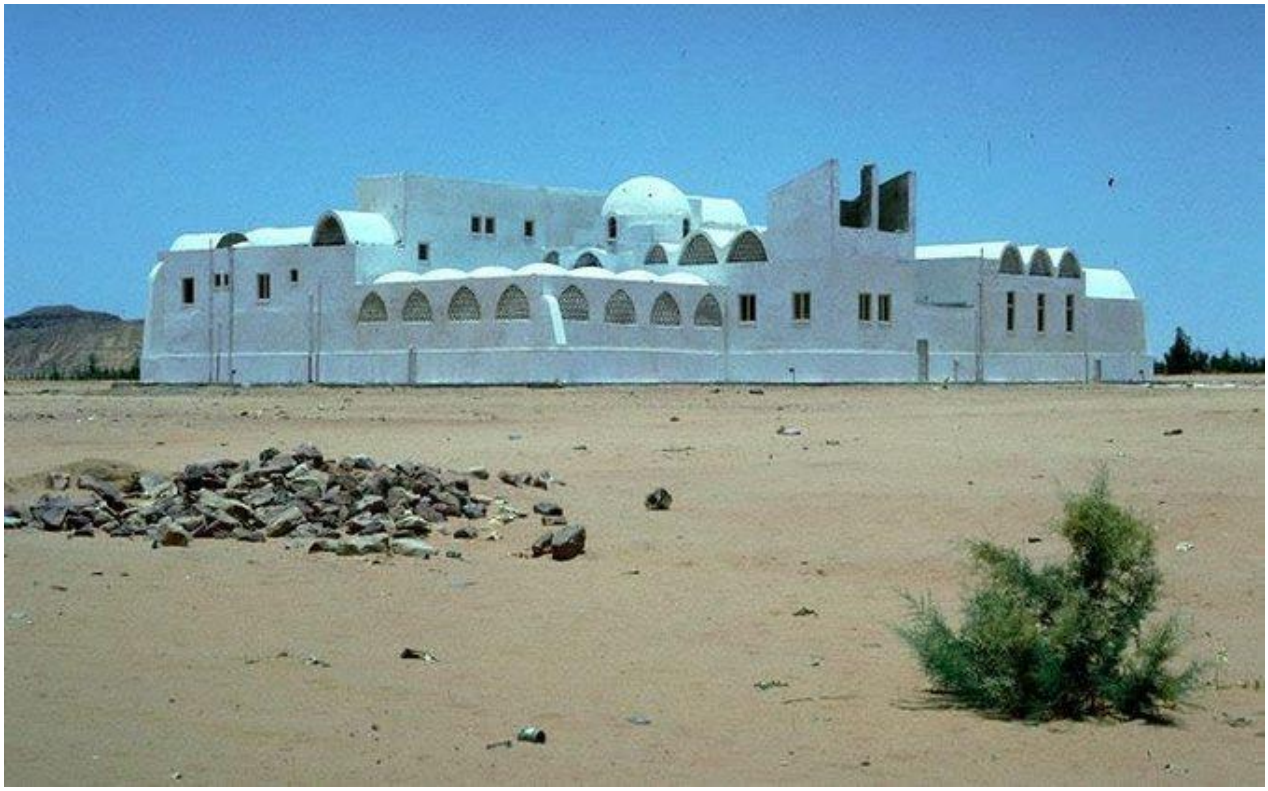

Figure 25 Sadat Resthouse Garf Hoseyn, Egypt

The Dar al-Islam Village, which designed in 1980 in New Mexico was the last community project of Fathy and it was supported by Saudi Arabia. The landscape, which resembles many of the Islamic lands, was the reason for choosing the Abiquiu area. He brought the Nubians masons who were professional in the mud-brick construction. In 1982 the community opened and by 1986, 30 families (out of 150 families who were supposed to join the community) has been joined. in 1989 Steel described Dar al-Islam as follows, at first, the mosque was built entirely with mud brick, by the team of Nubians masons, it has load bearing walls that carry arches and domes that covering the prayer hall, the neighborhood clusters of 150 families were relate to the main square in the middle of the community. The mosque was located in the secondary square that called piazza. It had a nearly square plan with a forward prayer space for men and Closed area for women.

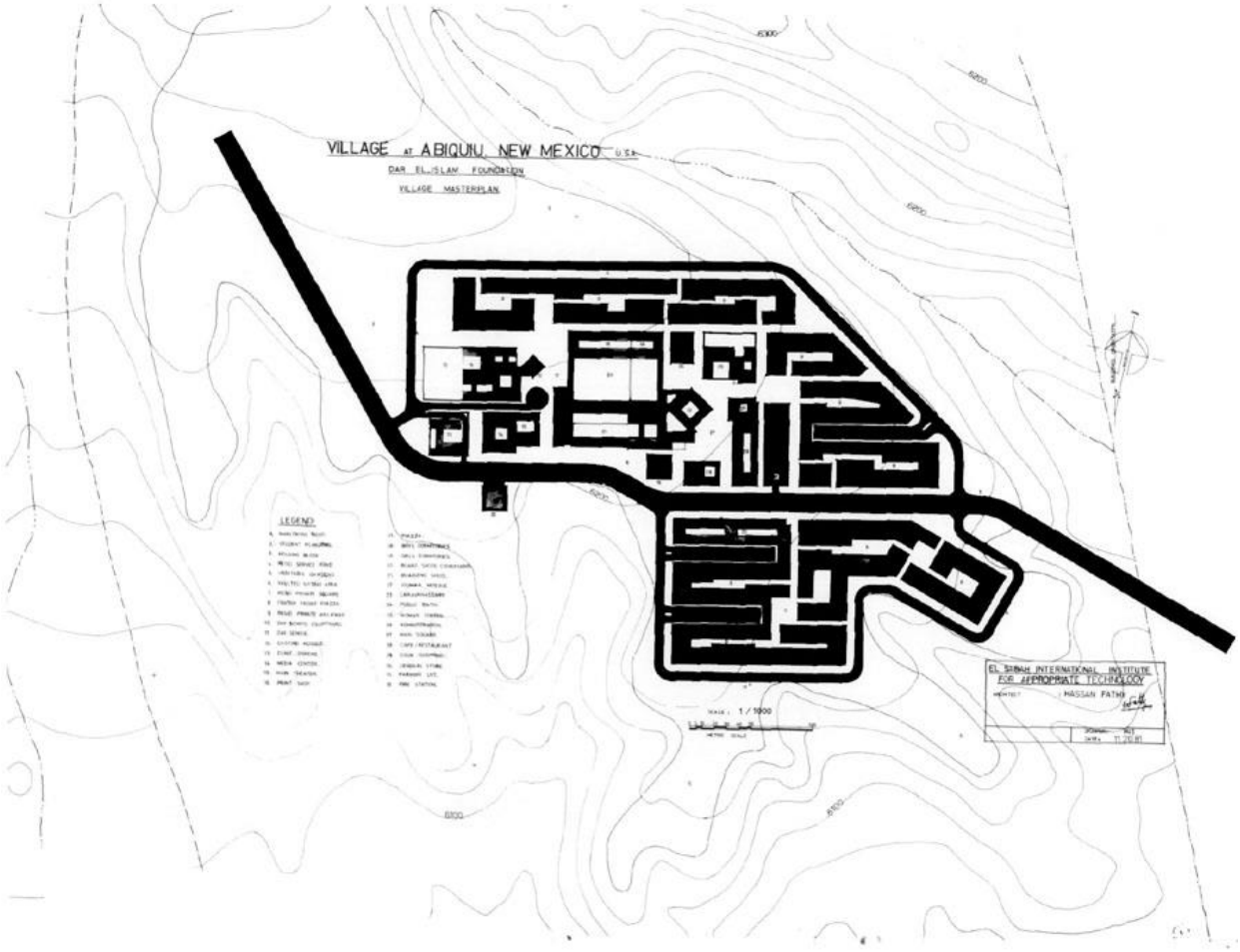

Figure 26 Site plan Dar al-Islam Abiquiu, United States

Fathy explains that the design lines of a building or a city does not determined by only complex mechanical laws. It's also but it follows other important sciences that concern the human being such as sociology, geography, climatology, physiology and economics. He deals with the design process through a variety of aspects which he referred to in his research and reports as follows.

4.1. Users:

During his life, Fathy was preoccupied with the housing problem of the poor. His aspiration was reflected in four important community projects which were mostly targeted the farmers or the rural population in general. These community projects were the New Gourna village Fathy`s best-known project which build between 1945-1948, the Lu`luat Al Sahara village which build 1950, the New Bariz village 1967 and the Dar Al Salam village 1980. There are some other community projects have not been built like the Greater Mussayib village 1958, the Harraniya village 1964 and the Sohar village 1973. We should not forget villages which Designed for other purposes like the Nile festival village 1977-1982 and the Journalists' Association Resort Village 1989.

In order to understand the successful rural communities in different countries as a part of his work with Doxiadis, Fathy worked on statistical analysis of these rural communities. He used statistical data from Iraq, Palestine and rural districts in England and America. Like in New Gourna, He argued that the formation of new communities of people does not know each other leads to lose the data of the social status hierarchy of the planning process. Therefore, According to his opinion the leaders of the old communities -which called *sheikh* in Arabic rural communities- are the only candidates for the task of restructuring the communities.[72]

In a Paper Submitted in Rural Habitat in the Arab Countries Symposium 1977, Fathy discussed the value of communities consisting of one kind of occupation that it not made up of an organic community. He argued that to secure all necessary services and an adequate living standards, the Society should be made up of diverse professional groups.[73] In this context. One of the difficulties he faced was when he worked in New Gourna village, while he was dealing with

[72] Hassan Fathy, Comments on the Draft Dox: The Regional Plan for the Ekistic Development of Greater Mussayib, Doxiadis Associates, 24 JlUle 1958. Ms., FAAUC, no. 35, p. 1.
[73] Hassan Fathy, Bariz: A Case Study in Rural Housing (New Valley - Kharga Oasis). A Paper Submitted in Rural Habitat in the Arab Countries Symposium, 6 -11 November 1977. Ms., FAAUC, no. 159, p. 3.

seven thousands of Grave thieves. Most of them were employed as labourers on the excavation of these tombs and the rest of the population used to serve the antiquities trade.[74] Fathy believed that the population of the village will shrink because of the difficulty of the life after moving them away of the resource of their source of income and that what happened, so his hypothesis was to find other possible ways to Maintain population growth by making the Gournis a craftsmen that will support the general economy of the village. This can be summed up in the idea of Socio-Economic Planning.

On the other hand, the user can be considered as a part of the design process of architect\craftsman system or what Fathy called it “cooperative Architecture” which was a collaborative between the architect and craftsman who was often the last user of the building, especially in New Gourna Village. "The idea that each of nearly seven thousand people should have a voice in the design of their new community was virtually unheard of at the time, when uniform architectural solutions to complex problems were felt to be compulsory"[75]

Figure 27 Old Gourna village

[74]Hassan Fathy, 1973, p. 15.
[75] James Steele, 1997, P.64

Another example in Greater Mussayib village 1958 in Iraq which contains only farmers, he sorted out the people who would live in the new village into non-farming families and farmers. His intention was to establish well-mixed occupational groups to cover all life requirements to stop the draft to major cities and ensure the success of this farming community. As he said "will bring the social life to the standards sufficient to keep the people on the land and stop the drift to the towns."[76] According to Fathy the life conditions of the rural areas of Iraq were not enough as a basis for planning a new population centers, so he suggested evaluating the services and goods which needed to be provided to the whole area of Greater Mussayib and working out the corresponding number of professionals, tradesmen and artisans necessary to fulfil these services. His ideas were a proposals flowing into the regional planning for the region as a whole.[77]

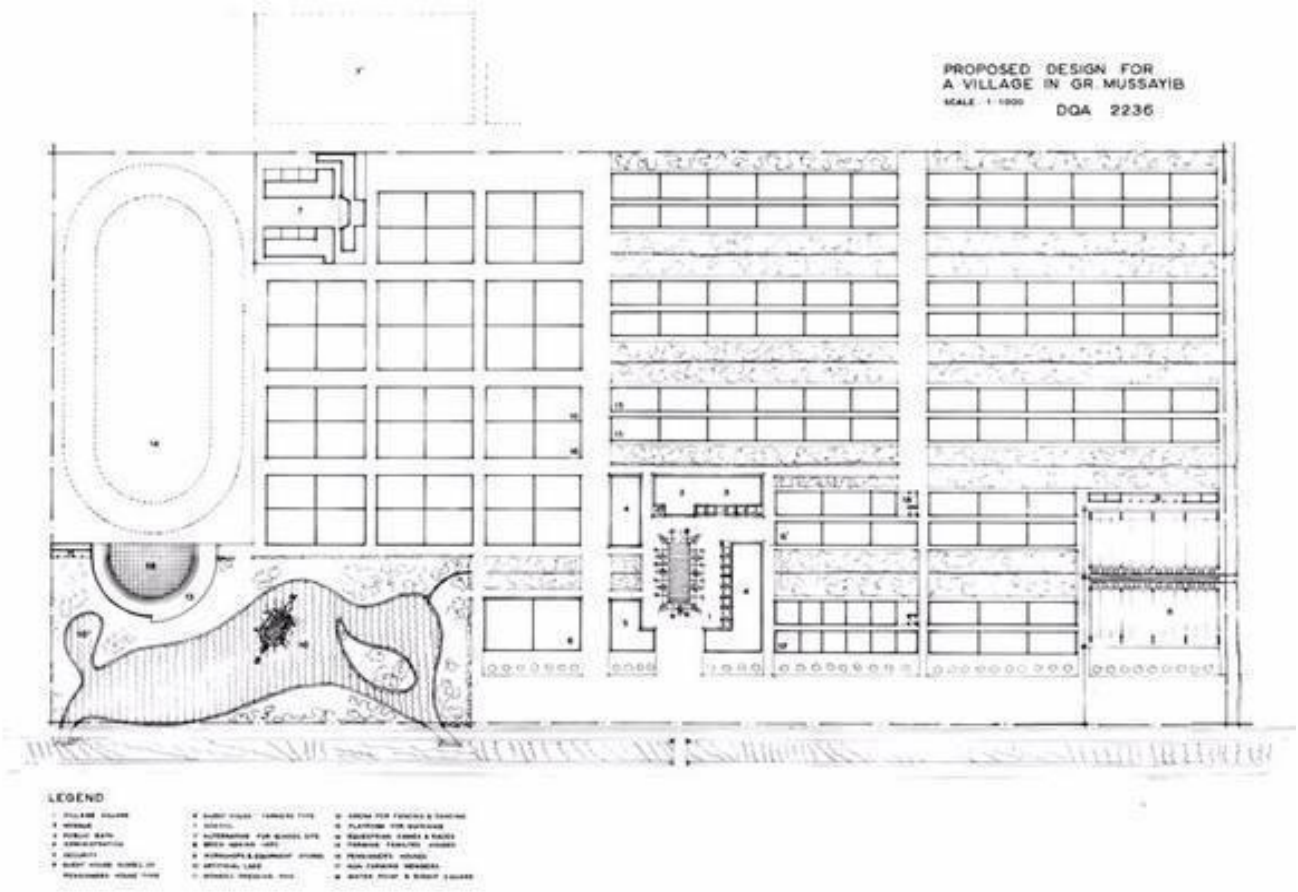

Figure 28 Greater Mussayib village Iraq Housing Programme Musayyib, Iraq

[76] Hassan Fathy, "Comments on the Draft Dox: The Regional Plan for the Ekistic Development of Greater Mussayib", Doxiadis Associates, 24 JlUle 1958. Ms., FAAUC, no. 35, p. 1.
[77] I, p. 2

It is possible to discuss other difficulties that faced Fathy in this field, as while he was designing the New Bariz 1967 village as a new proposed community that were unknown; and the isolation of the Dar AI-Islam village 1980 that was so far from other neighborhoods, all what he known about the users of the village were the demographic facts, the climatic information, the geographic facts, some numerical indication of professional class. The village was designed for 150 families of farmers and 100 families of the various other professions, which was chosen based on the international standard classification of occupations of 1958. It was also suggested to distribute them in the region in proportion to demographic composition with regard to culture, professions, habits, sex and age. Therefore, the Users factor is considered as one of the most important elements of social architecture of Fathy, where it appears as his means and methods in order to achieve the organic balance between the architecture and user.

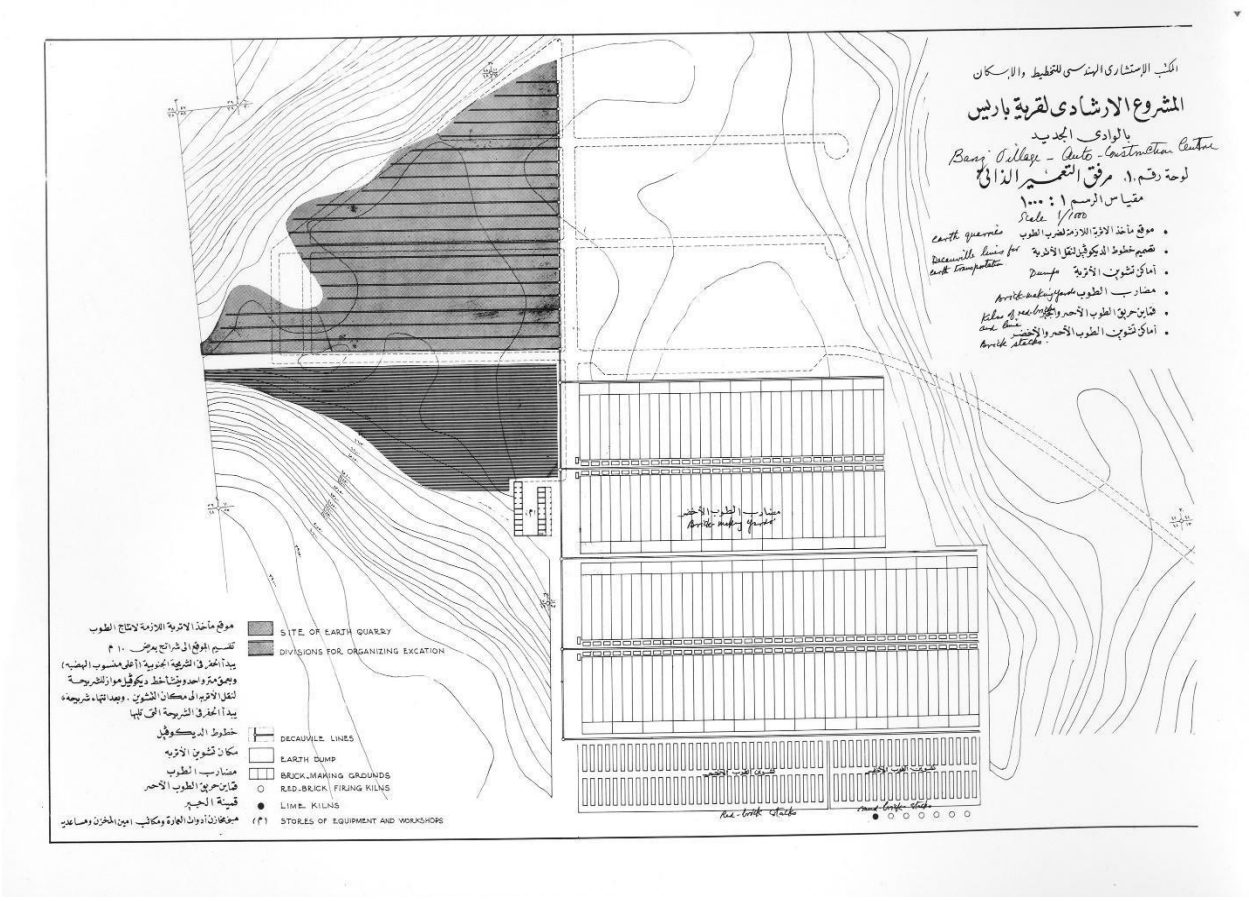

Figure 29 site plan, "Bariz Village - Automated Construction Center"

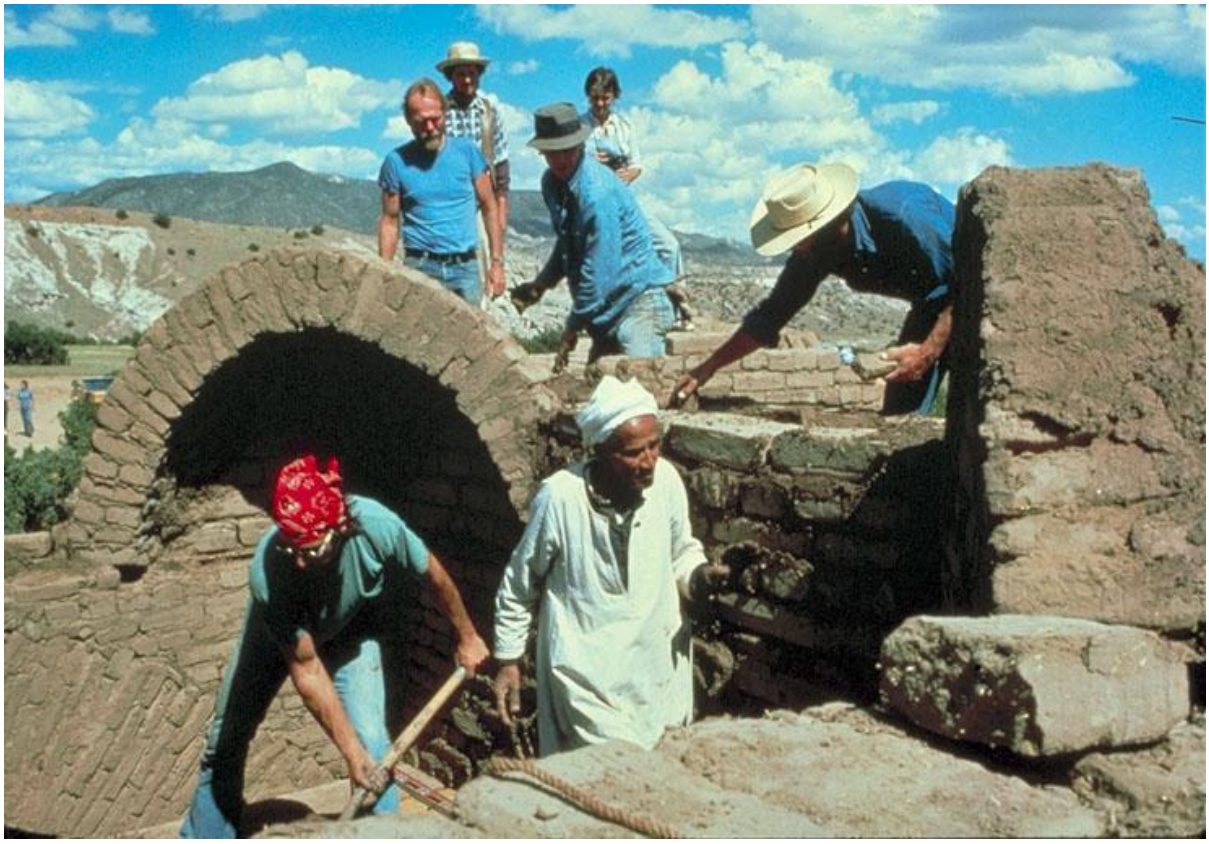

Figure 30 Dar al-Islam village

4.2. Scale:

One of the most important principles of Fathy`s architecture is using the human scale when he designed for human. Fathy in his Documentary film (Dafater ALayam): "As long as we have enough lands for building in Egypt, there is no need for high buildings, Especially when we are talking about residential building "in addition "so when we build a building we should know who we are building for, like when we design a building for human being, we must know that this man is made up of a biologic physiological and ecological mixture. We must respect these aspects of human. But if the building is for other than human like a commercial or industrial building, in the case the designer is free to use the scale that want. "[78]. In the same film Fathy argued that the new technology should use to help the human to improve his life rather than control it. According to Fathy; Architecture, like other arts, is one of the products of human civilization. If the architecture disrespect the human reference and human scale it would not add to the culture of the humanity. So he argued that architect shouldn`t lost the touch with human scale that's to make an opportunity for

[78] Dafater ALayam ,Interview with the architect Hassan Fathy, https://www.youtube.com/watch?v=jVM-DYm7CrQ

human to express himself in the building that he inhabits. All of that is achieved when the architect work to rebuild the human architecture by respecting "human scale, human needs, and human tradition". Fathy said in the fact of architecture "beautiful architecture is an act of civility towards the man who comes to the building. It is as if the building were bowing to you at every corner, as in a minute. Every building should add to the culture of man. But how can it do this when it does not respect human reference and human scale? We should reintroduce man into our architecture; we must reintroduce human scale, human needs, and human tradition. Culture is more than what goes into construction, and this is why we cannot simply import methods and materials that may seem, scientifically, to be efficient. Culture is the unique response of man to his environment in his attempt to answer both physical and spiritual needs. Because both needs and environments vary in different parts of the world, culture, necessarily, is variable, too."[79]

Figure 31 Courtyard of New Goourna village

[79]Holod, Renata and Darl Rastorfer. "HASSAN FAT H Y. Chairman's Award" New York: Aperture, 1983. P. 243

If we want to reflect his philosophy on what he suggested to the peasant's houses of New Gourna village, In the chapter "The Peasant House"[80] Fathy explained the difference in kind and life style between a peasant's house and the house of a townsman "Whereas in the town a house is meant to accommodate just the people who live in it, in a village the houses must hold a large variety of bulky stores and the owner's cattle as well." He analyzed and studied the spaces of the Peasant house based on his daily needs "So we had to allow generous storage space and large cattle sheds in the houses for Gourna. We thought of various alternatives."[81] Everything was designed based on the need of the peasant's life in terms of spaces, functions and the relationship between them.

Some elements which he used in his rural architecture like the internal and external Mshrbiye, small openings and thick walls as a contemporary version of a human scale architecture, where we find successive of the interior spaces gradient with a visual relay of Spaces and many architectural elements that indicate the adoption of these architectural concepts.

4.3. Cluster:

The basic concept of Fathy architecture was the simulation of the Arabic house with all its details, especially the courtyard. This concept has been developed to include urban designing of the community villages. On the other hand, the climate was also a dominant factor affecting town planning. The ideas which extracted by Fathy from the analysis of the Arab House led him to achieve the optimal composition of the urban planning. It led him to find an integrated concept for the relationship of urban space including public, semi-public and private spaces in the planning process of villages. The architectural and urban elements of the cluster of Arabic old cities like the big mosque courtyard, the linear market space and the spaces of old lanes appears clear in his village`s cluster. At the same time, the climate factor of this elements can not be forgotten. In the same context, Fathy discussed the urban cluster created throughout the ages in the old city of Cairo, especially "Darb el Labana Street with its seventeenth- century houses leading to the gate of the mosque placed just in the corner where the street makes an L-turn" and "the group of mosques and

[80] Hassan Fathy, 1973, p. 46
[81] Hassan Fathy, 1973, p. 46

buildings round the Saladin Square, or the precinct of the Citadel itself." These streets were an inspiration for village planning.[82]

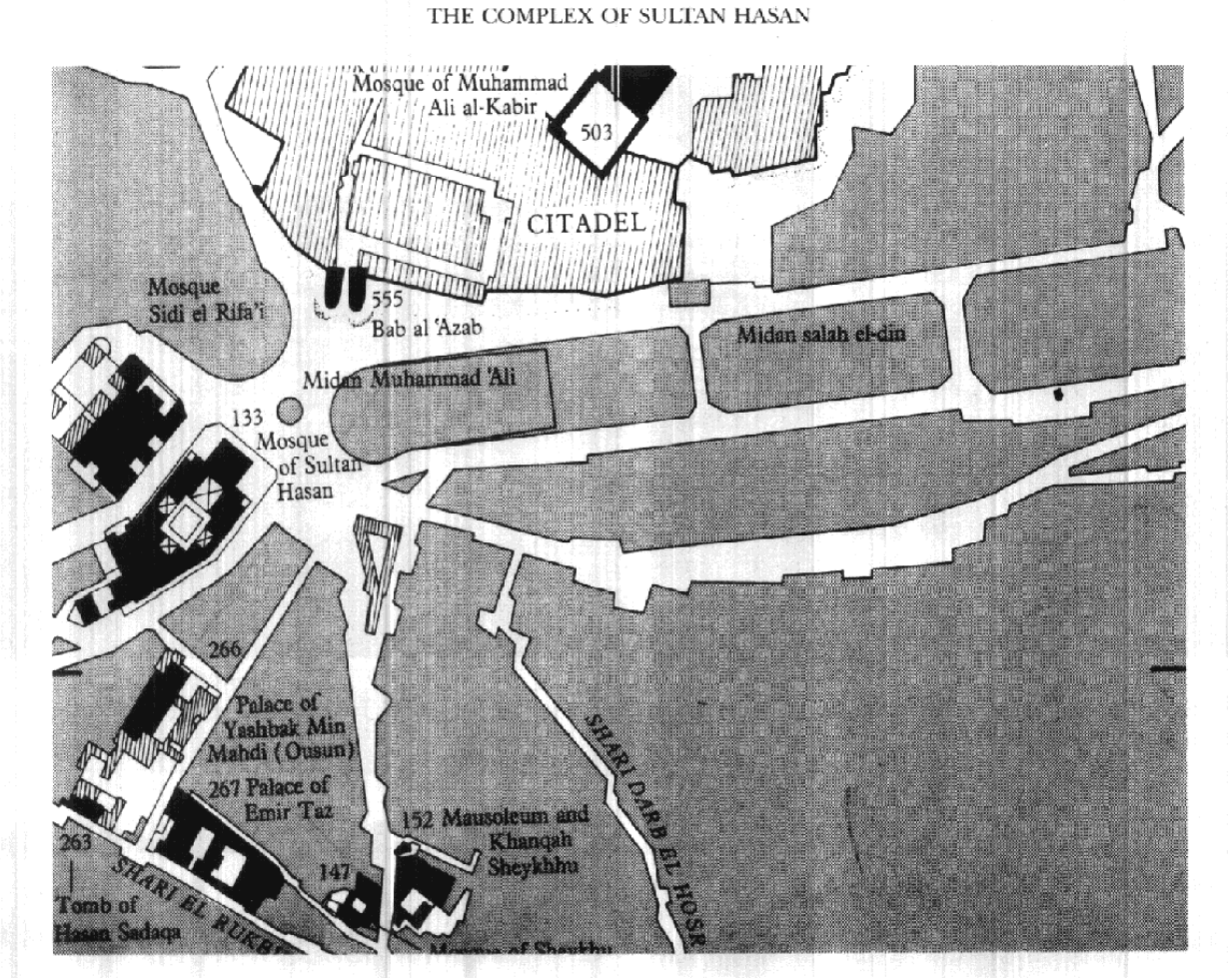

Figure 32 Map showing the location of the complex of sultan Hasan –Cairo[83]

In the New Gourna, the general layout of the village consists of two wide roads, north-south and east-west, at the intersection of the two roads constitute the village square surrounded by public buildings such as "the mosque, the khan, the village hall, the theater, and the permanent exhibition hall. The other public buildings were further away from the center" there is another two main roads that's forming a main connection between the north-east with the southwest corner of the village. In the north there is "Turkish bath, the police station, and the dispensary." The general planning of the village was a kind of simulation for the cluster of Islamic cities in the Arab region. These wide

[82] Ibid, p. 72

[83] THE COMPLEX OF SULTAN HASAN IN CAIRO:READING BETWEEN THE LINES(HOWYDA N. AL-HARITHY)

main roads which were all at least ten meters wide, divide the village into four main quarters which was inhabited by a demographic distribution similar to what it was in the old village. The roads giving access to the semi-public space of the different badanas (blocks of houses) with six meters wide which designed to provide shade, a feeling of intimacy and discouraging the strangers from entering those semi-public spaces with its corners and bends: "I did not give the streets this crooked plan simply to make them quaint or because of some love for the middle Ages. If I had adopted a regular plan like a gridiron, the houses would have been forced into a uniform design too. In long, straight streets, and even in symmetrical curves, the houses must all be exactly the same if the general appearance is not to be messy; yet the families who live in these houses will not be all the same."[84] Demographic Distribution System which was used in the village to transfer the inhabitants of the old village to the new one was a simple system, it depended on moving tribe into a specific residential block. "In Old Gourna the five-tribal groups that made up the population lived in four quite distinct hamlets. In the new village I planned to keep this physical distinction by settling the tribal groups into the four well-marked quarters"[85]

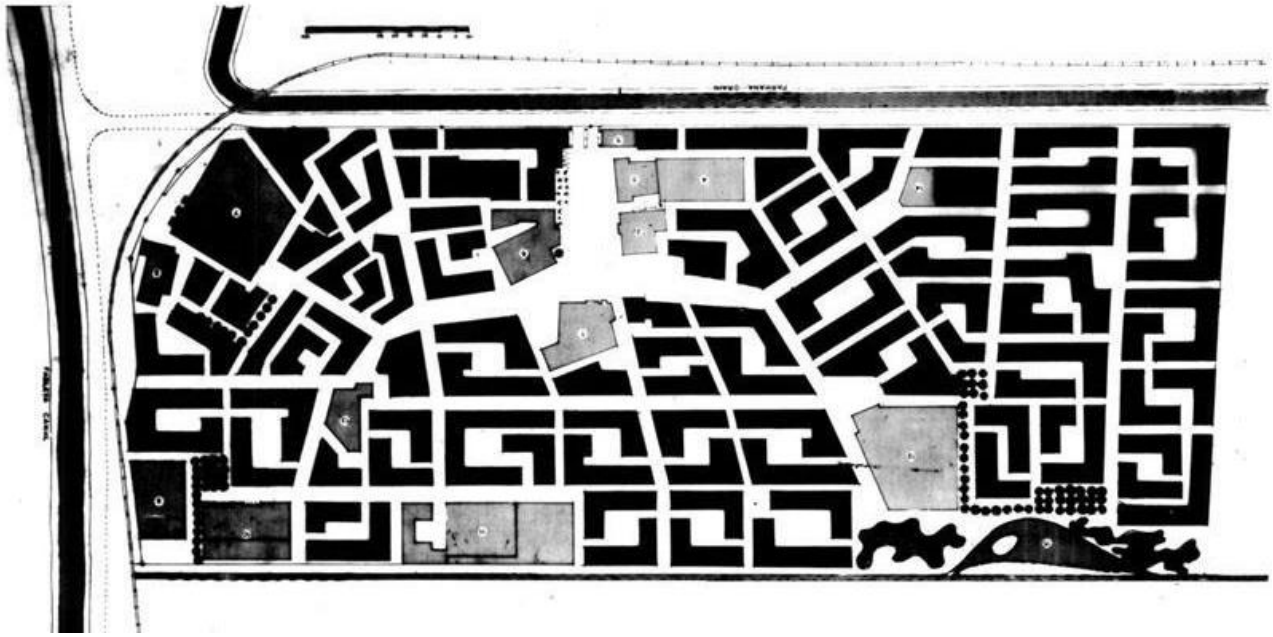

Figure 33 New Gourna village

In the Greater Mussayib village 1958, the spatial hierarchy ideas were evident moved to the design of the Greater Mussayib village in Iraq. The plan of the village consisted of a public area in

[84] Hassan Fathy, 1973, p. 71
[85] Hassan Fathy, 1973, p. 71

the center include the mosque, public path and periphery in the center, the houses of the village were on the outskirts of the village with a connection to the nearby fields.in this village The streets were planned in a homogeneous and standard manner. In the Journalists' village which build in 1989, Fathy also used the dimensional grid in this project without any comers or bends that's to ensure good ventilation and good views for the residential blocks. The traditional themes can be detected in the layout of the village such as the narrowness of the pedestrian streets which provide a degree of quietness and great opportunities for social relationships. The vernacular features in planning are also emphasised by the contrast between the individuality of scale and architecture of both the residential units and the public buildings such as the mosque and the market.

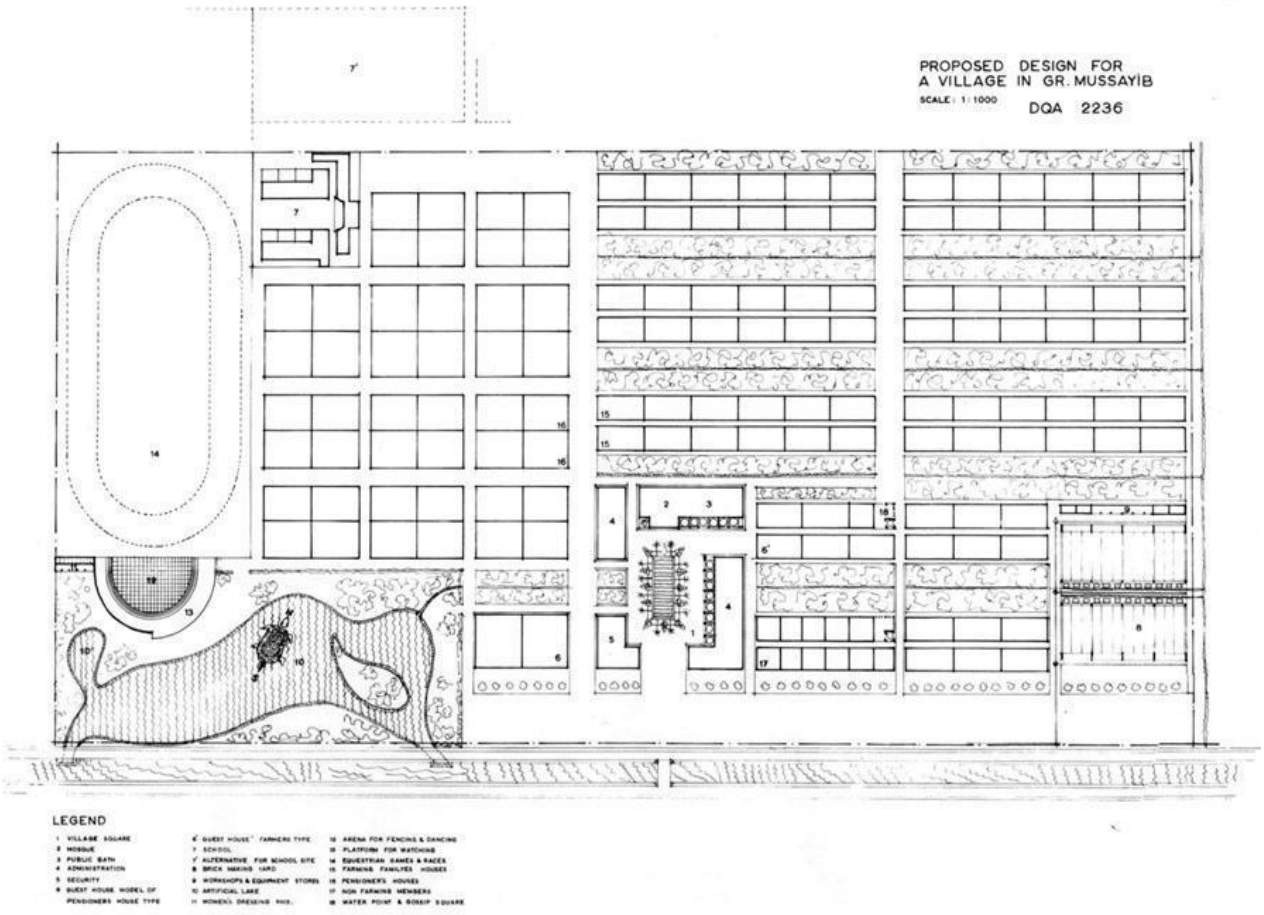

Figure 34 the Greater Mussayib village

4.4. Material:

Material of a house requires to be appropriate with the life requirements and suitable to achieve the beauty required of the building. Taking construction materials as the main criterion highlights the differences caused by climatic constraints. During his career, Fathy build with different types of building materials, it was near to twenty two mud bricks residence houses, one sand brick and eight stone houses. There are also about three or four villages which build from the mud brick. The idea of this materials was an attempt to keep pace with the climate and its requirements rather than a revival of the traditional architecture.

According to Fathy in his Documentary film (Dafater ALayam) [86] "...there is a simulation and revival of the spirit of man and building in the material used, when the sculptor sculpts the stone, he gives it from his soul." Fathy, while he was talking about modern construction techniques of his time, he tells about an argument between him and one of the masons about the use of stone in the construction of the Refaai Mosque and Sultan Hassan Mosque in Cairo. Therefore, in the traditional architecture, the mason took the stone used in the northern facade that overlooking the sea from the quarries in the north of the mountain and the stone used in the southern facade from the quarries in the south of the mountain that's because these stones were accustomed to the humidity and climate of the region that came from. This justifies the appearance of the old stone of one of the mosques for the other despite the use of the same stone material. In addition, Fathy argued that he is not against the use of the new construction materials like concrete at all, but it must be used in the place where it should be used. Thus, we need it in many buildings in the cities where it is often used in the foundations of buildings, high buildings and garages of cars, but not necessary to use or do not need them in housing.

As for the concept of dome in his thought; when Arabs moved to the stage of stability, they began to drop their philosophy into the architectural metaphors that reflected their vision of the universe. Thus, the sky appears as a dome supported by for pillars. This concept gives symbolic value to the house as a reduction of the universe.

[86]Dafater ALayam ,Interview with the architect Hassan Fathy, https://www.youtube.com/watch?v=jVM-DYm7CrQ

Figure 35 the Refaai Mosque and Sultan Hassan Mosque in Cairo

In the thought of Fathy, the use of mud-bricks evolved in construction of rural buildings, based on the evidences which proved strength and durability of this building material. After scientific research conducted in the same style of historic buildings dating back for more than 2500 years, concluded the strength of their ores and the suitability of their designs. These Buildings include the Ramessium wheat stores which located in the Egyptian city of Luxor and built of bricks and domed with domes.

There has been a period in which the building with mud-brick idea was attacked because this building material (mud-brick) was no longer exists after the construction of the Aswan High Dum in Egypt. There were also criticism that were opposing to Fathy`s ideas of helping poor people by building with the mud material in the countryside and they also argued that it's not a suitable material for building inside the cities. But according to Fathy: "When you want to build a house look under your feet" when he said that He was not only talking about clay, he meant all kinds of exist cheap building materials that suitable for the site and environment of the building. Even if he

found another local building materials like wood or iron he could use it. But all of these materials would still belong and subordinate to the environment where it exist in. as we see that Fathy had absorbed the material in his time and was able to understand the formations and configurations that can be produced from this materials and learn how to formulate it.

4.5. Environment:

Although the Arab House and Islamic Architecture is the primary factor behind Fathy's ideas, it was an attempt to match the climate and its requirements rather than to revive the traditional architecture, in addition to being a very influential factor in the planning process. His interest in human life leads to find a relationship between Fathy's organic architecture –if we can name it like that- and the sustainable architecture (in bigger scale Sustainable Urban Design which recently became a common term, that it stems from the attempt of urban designers to deal with the sensitively with the environment of the earth in order to preserve them fit for human life in the present and future)[87]

According to Fathy: "The contemporary human problem can be likened to becoming as if it has been given the responsibility of planning the growth of his body, after nature had taken it over at the biological level, while his knowledge in biology has not yet evolved to the level of new responsibilities"[88]. As we said, Fathy, shed his architecture from the traditional and Arab architecture in particular. He also was very impressed with the Turkish house and its advantages, where in most of his works he worked on its development and attempted to reach organic architecture that simulated environmental concepts to the maximum degree. In addition to the architecture of the villages of Egypt and western Aswan which was based on the mud, domes mainly. As seen in his works, the traditional ecosystems have been used in the design of his villages, Internal courtyard is one of the most important elements in the schematic content of these villages which led to the emergence of the closed planning system characterized by the broad streets and shaded alleys which designed to ensure the reduction of temperature, while the courtyard is the respirator of the houses.

[87] Mahmoud ahamd issa. "Renuable Energy and Sustainable Urban Development" KING ABDULAZIZ UNIVERSITY, Dec 2004 P. 5

[88] Abdulbaki Ibrahim "Arab architects-Hassan Fathy" urban and architecture studies center, Cairo 1987 P.31

Using this traditional type of planning leads to emergence this cluster, according to Fathy: "Today we observe the movement of the sun to direct our buildings, to regulate the radiation and heat or air movement to provide the greatest ventilation in it, we have introduced astronomical and terrestrial elements into architectural designs. When we take into consideration the human and his physical and spiritual needs in the design and planning process. We will combine the building with the universe at a higher level than what the directing process brought us to. Thus, we will have linked the building with the large universe represented by man himself, as a small universe. That is what the old Egyptians and the Indians did to achieve the problematic of the universe, through direct knowledge and symbol. They have reached the great universe through the human symbol as a small universe. They identified the measurements and forms of the elements of their temples and their stones by reference to the dimensions of this small universe."[89]

Perhaps Fathy meant the symbolic situation in setting regulating lines of architectural and urban formations, but with the same style that he used in his architectural works, he worked on developing environmental solution -within the cluster of his planned villages which derived from the ancient architecture- to create an environmental architecture that simulated the universe and use its power and influence according to what it wants. In his planning proposals, he always suggest a forest adjacent to the planned villages and a lake Such as the lake that was added to the New Gourna village design to combat schistosomiasis. At the same time used to produce mud and building materials, as well as its climate role in moisturizing the air of the village.[90]

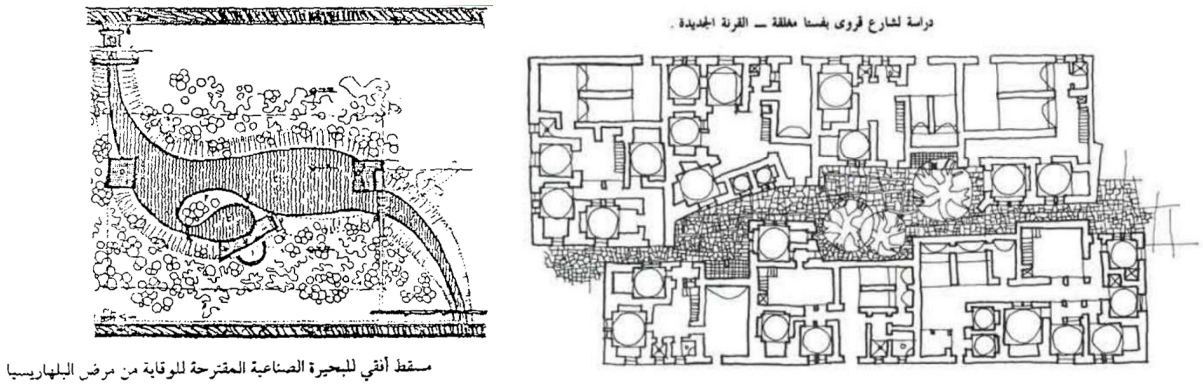

Figure 36 from New Gourna village

[89] Abdulbaki Ibrahim, 1987, P.35
[90] Ibid

In this example, one of the roads of the New Gourna village shows that the road paved with stones which a method of using the natural materials to receive solar radiation, thus reducing the amount of reflected radiation. In the same time a dirt road were used to allow rainfall to be deposited into the ground. In addition to planting trees in these roads, which help to shade roads and neighboring buildings. It also plays an important role in determining the character and identity in this street through the general scale which Fathy sought to establish it through horizontal expansion and the absence of high buildings that overwhelm the human scale.

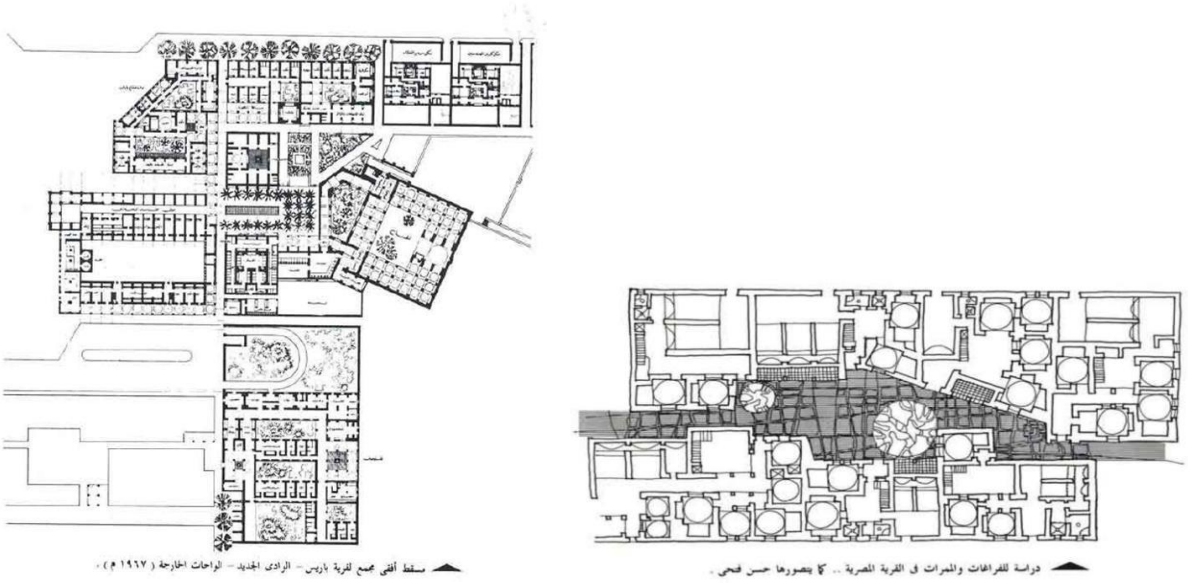

Figure 37 a slice from New Gourna and New Bariz villages

In the previous plan, the spatial interference is observed and the dense trees in these spaces within the built blocks, where trees play an important role in the process of shading, moisturizing and cooling the wind that moves from the exposed spaces to closed spaces, In addition to the role played by reverse solar radiation. In Fathy's works, the urban spaces are not only made up of the architectural blocks, but it is also interspersed with trees and lakes which interacts with wind and solar radiation with natural reflections, shading and heat relief especially in high temperature countries like Egypt.

The importance of Hassan Fathy's work lies in his attempt to deal with nature by all means, although limited to natural means without the use of modern technological concepts such as

photovoltaic cells, air fans and other ideas. His approach to environmental architecture is the closest to nature that's because is building is based on nature and does not carry on its facades technological elements that exploit nature while it is in its infrastructure is not derived from nature.

5. Fathy's Practice and Ideas in Social Architecture Discourse:

Fathy returned the human`s role and his right of formulate the special status of the house, which represents the views of its inhabitants. For him, the architecture is not a set of building roles, as much as a platform for the expression of heritage values, a part of the national conscience of the nation. Moreover the confrontation in order to protect the local character from the invasion of the western styles and the random imported forms. As we find in 1987 when he was awarded the best architect award in the world which awarded by "The International Union of Architects" he said: "I'm happy with this award because I feel that the world has begun to realize the importance of the thought I have advocated throughout my life, that thought which says that human must be the master of the machine that kept him away from his environment.

> *"You must start right from the beginning, letting your new buildings grow from the daily lives of the people who will live in them, shaping the houses to the measure of the people's songs, weaving the pattern of a village as if on the village looms, mindful of the trees and the crops that will grow there, respectful to the skyline and humble before the seasons. There must be neither faked tradition nor faked modernity, but an architecture that will be the visible and permanent expression of the character of a community"*[91]

These sentences which written in the Book of "Architecture for Poor" lead us to discuss this book in parallel with the analysis of The New Gourna project. Throughout his life Fathy was concerned with the housing problem of the poor peasant. The New Gourna village was the tool to realize his dreams and apply his social ideas.

The experience of the New Gourna project showed the integration of Fathy's architecture with the concept of human situation. The architectural forms he used during 1940s can only be understood by studying them in parallel with the social ideas that led to their emergence. The vernacular elements was not his only preoccupation, but it was a tool to express the Egyptian man as well as to preserve the lost national identity of his country Egypt. The benefits of brick material that are

[91] Hassan Fathy, 1973, p. 45.

represented in the low cost of materials and the equilibrium of shapes and masses of new Gourna buildings show the gained lessons that are supposed to be understood from this project. The architects of Egypt at that time were not interested in these benefits. On the contrary, they considered it poor and did not reflect appearance of good architecture.

The second chapter of the book, which holds the title of "Chorale, Man Society & Technology" discusses a set of concepts that relate to the quality of daily life of the peasant and its reflection on the design of the house. every people has a civilization that is civilization that reflect Fathy argued that has a civilization reflected in the form of actions such as clothes, traditions, food, poetry, literature and especially his architecture. Fathy argued that Egypt lost its "Architectural Character" by the departure of the Mamluks.[92] "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 cut off from our past ever."[93] He also refused to say that Egyptian architecture is the result of the development of Coptic architecture and Arab architecture. He justifies it that "Ancient Egyptian architecture is represented by the temple with its pylons and cavetto cornice, and Arab by clustered stalactites, whereas Ancient Egyptian domestic architecture was quite unlike temple architecture and Arab domestic architecture quite different from mosque architecture. Ancient Egyptian secular buildings like houses were light constructions, simple, with the clean lines of the best modern houses."[94] In the following picture we can see how Fathy tried to revive the Mamluks architecture by using the same architectural elements of their tombs after simplification and reformulation it, to fit the current home of peasant.

[92] The Mamluks ruled Egypt and Syria from 1250 until 1517
[93] Hassan Fathy, 1973, p. 45
[94] Ibid, p.47

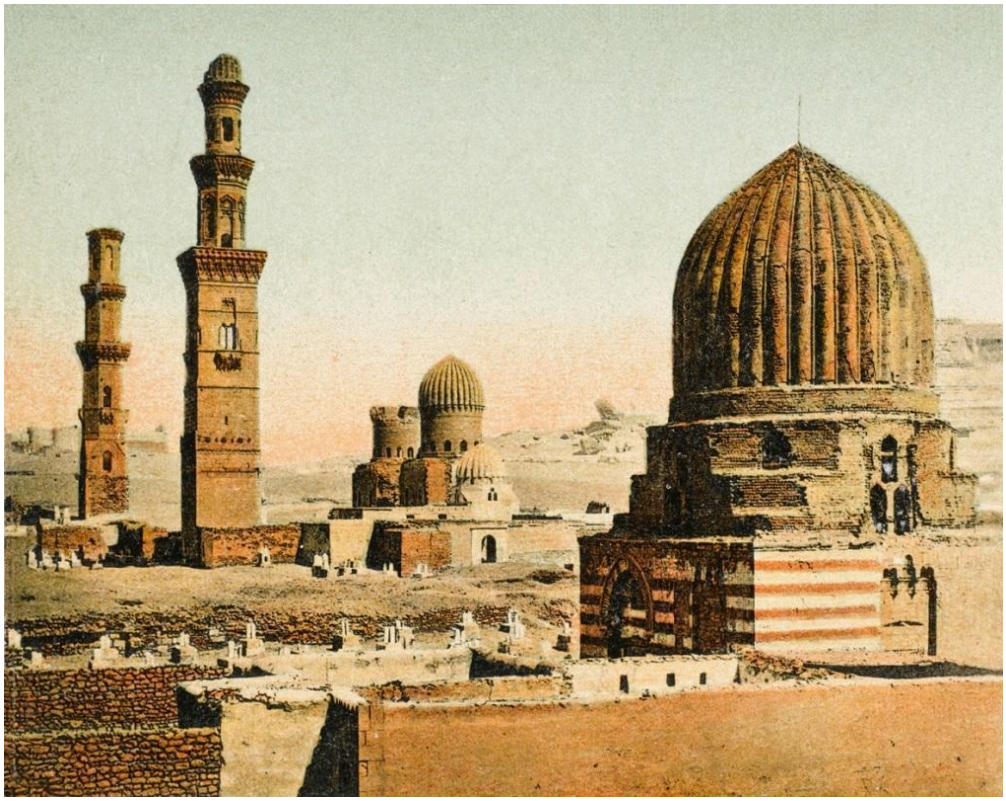

Figure 38 The Tombs of the Mamluks, Cairo, Egypt, 1910s[95]

Fathy describes the process of building a house in the past as a complex process starting with decision making and consultation with the family to the day when the last workman left the completed house, the owner would be a part of this process "working with the builders—not with his hands, perhaps, but suggesting, insisting, refusing—maintaining a running consultation with them and making himself responsible for the final shape of the house."[96] This process was devoid of the architect, who came up with the development of construction technology and its methods. If he came between the craftsman and owner, he will destroy the existing working relationship. This makes the owner deprived of making decisions for design ideas or choosing the right materials, while these decisions stemmed from his need. So he argued that the rural traditional building process-without architect- will save Individuality in the village. In this context it can be noted that the construction workers of the New Gourna village were themselves the owners of homes that know the social reasons behind the designing decisions of Fathy, this strengthened the relationship between the owner and the house that he worked for. In the same context, Fathy puts the government

[95]James Waterson, "Who Were the Mamluks?" https://www.historytoday.com/james-waterson/who-were-mamluks Sep 2018
[96]Hassan Fathy, 1973, p.55

plans and the peasant -with low economic status- under the assumption of two possibilities, the first is Reliance on standardize and prefabrication, which a peasant cannot afford, the second is that "we cannot house them with any semblance of human dignity unless we destandardize, which is said to be expensive."[97] Fathy argued that the alternative to these possibilities is to provide the potential for each family to build its own home. "Give him half a chance and a man will solve his part of the housing problem……., each family will build its own house to its own requirements, and will inevitably make it into a lively work of art. Here, in each private person's longing for a house, in his eagerness to make one himself, is the alternative to the disastrous mass housing schemes of so many governments."[98] To proof his words Fathy poses an example of the Republic of Peru, where about one hundred thousand people set up a settlement secretly during one night despite government repression. The settlement consists of four neighborhoods and each neighborhood has a church. Unfortunately, we cannot see this type of participatory architecture in the New Gourna project because it was a purely governmental housing project.

Figure 39 New Gourna, brick making, from the archive of Hassan Fathy AUC[99]

[97] Ibid P.61
[98] Ibid p.62
[99] Nevine El-Aref , "AUC shares Hassan Fathy archives to help restore New Gourna village" http://english.ahram.org.eg/NewsContentP/9/289047/Heritage/AUC-shares-Hassan-Fathy-archives-to-help-restore-N.aspx Jan 2018

Another aspect of social architecture which relates to the use of Mud Brick had been discussed by Fathy. He argued that "poverty forces us to use mud brick and to adopt the vault and dome for roofing… The situation imposes its own solution, which is—perhaps fortunately, perhaps inevitably—a beautiful one."[100] The weakness of the natural materials limits the size of vault and dome, without losing the human scale factor or sabotage of the harmony of blocks and architectural elements. As discussed in the previous chapter, Material of House requires to be appropriate with the life requirements and suitable to achieve the beauty required of the building. Taking construction materials as the main criterion highlights the differences caused by climatic constraints. Moreover, Fathy defends his initiative to use of mud brick by observing the remaining historical monuments that built of it. As we discussed previously, that the use of mud-bricks evolved in construction of rural buildings, based on the evidences which proved strength and durability of this building material. After scientific research conducted in the same style of historic buildings dating back for more than 2500 years, concluded the strength of their ores and the suitability of their designs. These Buildings include the Ramessium wheat stores which located in the Egyptian city of Luxor and built of brick bricks and domed with domes.

Figure 40 New Gourna village –Brickmaking

[100] Fathy, ترجمة مصطفى ابراهيم فهمي p.68

The construction speed of mud brick as Fathy descried could be faster than other materials if two important factors are achieved. On the one hand, the peasant understanding of the restrictions that will be imposed on him by the building material and the only big chance of his whole life to choose the sort of the house and furniture that he wants. In short "the decision-making process of the peasant" which depends on his economic situation.[101] On the other hand, the existing of the masons who became a master craftsman over many years. "For it was their own technique. They knew by heart the proportions of the various rooms and, given the height of a dome or vault, could tell immediately where to begin the springing."[102]

Figure 41 a construction of a mud brick dome[103]

Fathy believed that the design of a building has a special effect upon the inhabitants. Therefore, beauty is a normative subject that depends on what the design can achieve for the

[101] Hassan Fathy, 1973, p.68
[102] Ibid P.70
[103] New pueblo, "Repent! The Age of Adobe is Upon Us" https://sites.google.com/site/newpuebloadobe/home/hassan-fathy 1981

inhabitant. This means that the designs should be true to their environment, materials and daily tasks. This requires studying the daily life of the peasant before starting the design process. So before designing we have to study the individuality in a community which composed of a group of associated individualities. Which mean that the design of the house in the village could be considered as a reflection of this individuality.[104] Fathy argued that the village is a group of families, which consisting of a group of individualities. These individualities have characteristics must be studied in a way that allows design provides the needs of the family. The best design is the design stemming from these needs, to knowing these needs requires studies that go beyond asking families or traditional statistics such as those carried out by the planners. It requires to takes the village for months to be monitored, in addition to making a socio-ethnographic and economic investigation, which for Fathy has the same importance of the demographer.[105]

Usually villages in Europe are designed interoperate with the landscape, the houses like the trees and other elements are a part of this landscape. In the East, especially the Arab countries, the design of villages is a reflection of the needs of protection from the nature as well as the high cost of the farmland. All of that lead the villages and the houses to be open inwards toward the center and adjacent to each other and in most cases the houses are stacked on straight roads. Fathy argued that arranging the buildings around a small square has good economic consequences, as well as bringing some of the urbanity of city's rich man. He considers that the square and courtyard are important elements of the local architecture that characterize the Arab and Middle East cities. The symbolic factor of the courtyard can be added to the above to form the reasons why Fathy designed each house of New Gourna around a courtyard. "each group of houses is also arranged to enclose the larger, semi-public common courtyard or square." This complex called Badana which a tightly related knot of people, consisting of about fifteen families live in the same complex and follow a communal life. Fathy believed that this planning of homes around the courtyard which used in several social events as wedding, receive guests, etc.… This planning "will help to cement together the family group by a constant gentle emphasis on its oneness."[106]

[104] Hassan Fathy, 1973, P.85
[105]Ibid P.89
[106]Ibid P.94

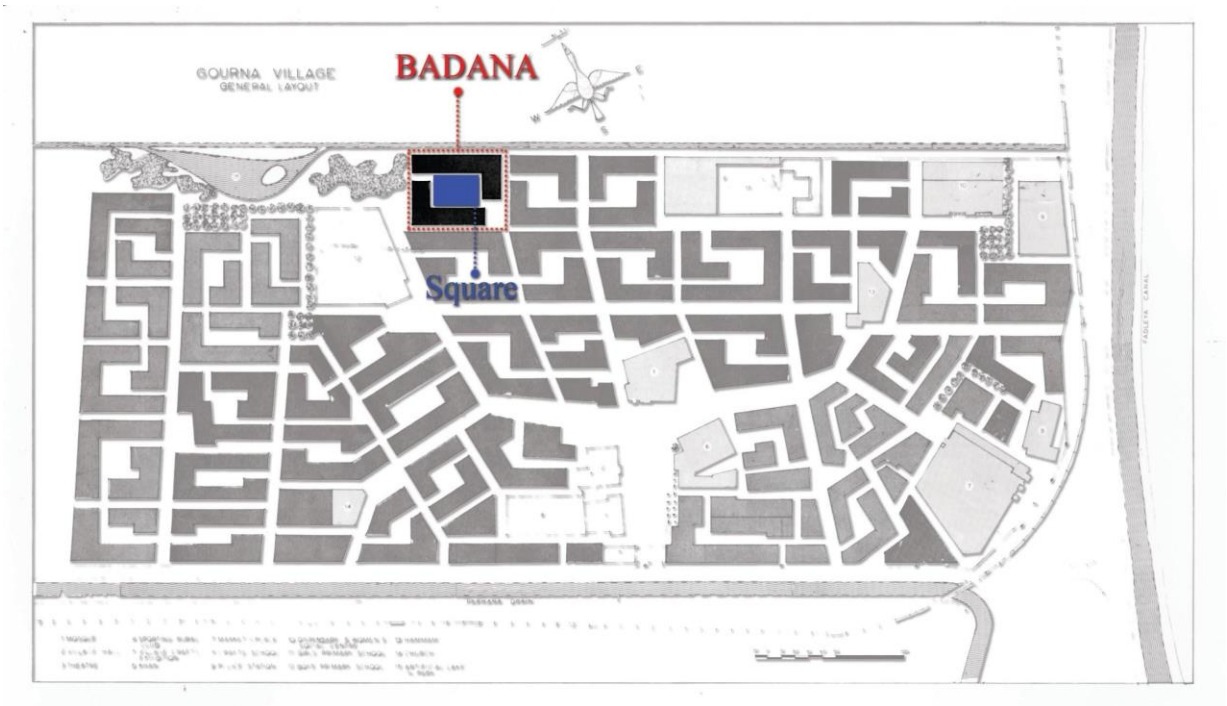

Figure 42 plan of new Gourna village(Badana and square)

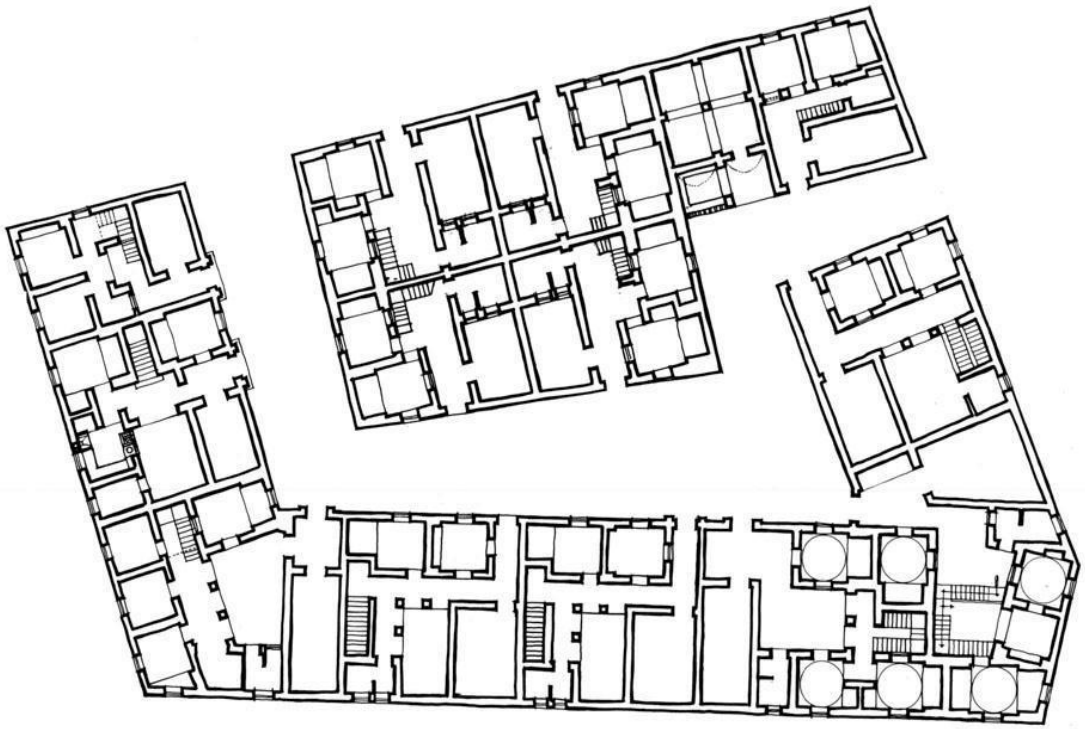

Figure 43 New Gourna-Neighbourhood no. 6: design drawing, plan

Fathy, in his socio-economic discourse on New Gourna village pointed to the need to understand the economic side of the peasants in addition to their social status "which we could gauge the effect of the move upon their ability to earn a living." In the case of New Gourna, Fathy knew that the amount of farmland of the village which was close to 2,357 feddans (a fed-dan = 1.038 acres), can support 3000 of 6,394 people of the village, which mean that there are about 3000 peoples who would have to support themselves in some other occupation. Fathy assumed that the population would be shrinking after moving to the new village that's because they would find it more expensive and more difficult to live. The two solutions Fathy has proposed to solve this problem are: "One was to replace the various occupations dependent on antiquities by crafts and to turn Gourna into a center of rural industry." In order to ensure economic stability and maintain population growth Fathy worked to establish a group of handicrafts as Textiles, Pottery, The Crafts Khan and The Crafts Exhibition Hall in the village. The second solution was dependent on the proximity of the village from the Luxor and to the antiquities zone. Fathy wanted the village to become a base for tourists who come to visit ancient tombs. This in turn will provide a great opportunity for employment.[107]

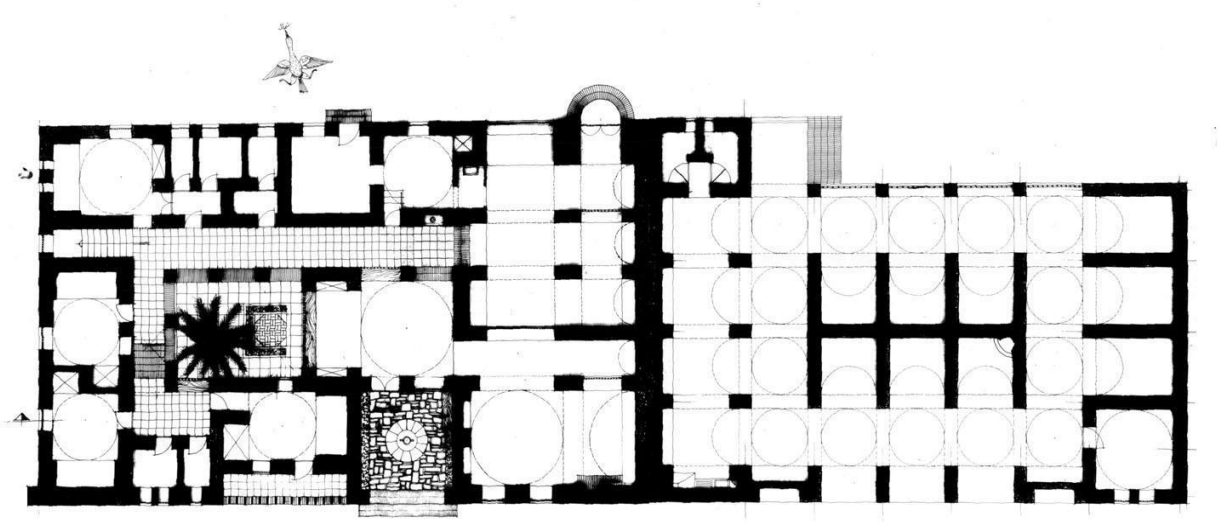

Figure 44 New Gourna Village-crafts exhibition: design drawing, plan

[107] Hassan Fathy, 1973 P.98

In the context of talking about social architecture, especially with regard to the life of the peasant, Fathy wanted to design a house to the peasant that fit the daily needs of him. The way of life of the peasant who live in the village differs from the life of the city's residents imposes a certain design for the house with “a large variety of bulky stores and the owner’s cattle as well.” In the town, the kitchen is a kind of small room with a small storage area and a stove, service areas in the village are distributed throughout the house, in the form of racks hanging from the roof for storage and Storage little holes inside thick walls. The function of courtyard cannot be as a place to breed some animals as well.[108]In the houses of New Gourna village, Fathy worked to provide large storage facilities for household and agricultural items. In order to protect the village from fires, it was better to store fuel and firewood in common public storage places far from the houses. On the ground floor next to the guest room, he distributed the services around the courtyard which contain a dining area. Fathy believed that a peasant cannot get modern equipments for their houses, so he proposed “simple homemade appliances must be devised to do the same job as the costly, factory-made ones of the city.” He believed that a small quantities of certain materials that are needed will help him to improve the quality of his surroundings. Some cement with a few pipes would help him to make an oven which not smoke the rooms. Alternatively, improvements can be made to the pottery industry would help the peasant to produce the tools that he needed, that the process of polishing and burning pottery make it a better materials for storage of liquids.[109]

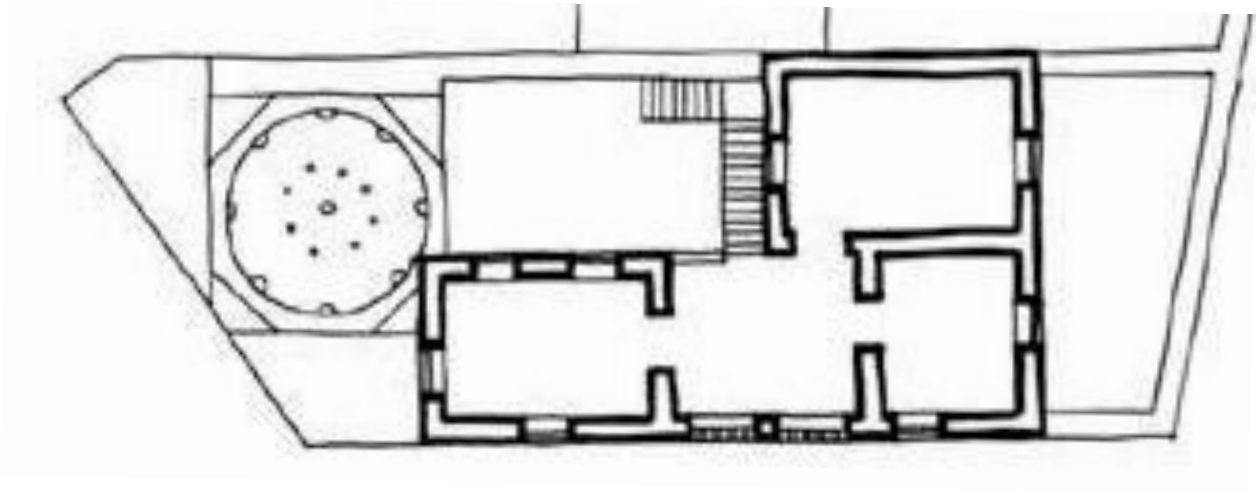

Figure 45 New Gourna- house plan

[108] Hassan Fathy, 1973 P.98
[109] Hassan Fathy, 1973 p.136-140

After many experiments by Fathy to propagate the thought of cheap rural architecture and the challenges he faced from the bureaucracy of the government departments and the existence of competitors relying on the system of contracting, which Fathy long life to end through the proposals of participatory architecture and self-supporting architecture. It was one of the fundamentals of Hassan Fathy's thought, as Dr. Serag Eldin said [110] "the participation of the population in the construction of their homes, while giving the farmer the opportunity to meet his needs and needs in designing all their lives." The architect should not deal with the house, which provides uniqueness in the design process. Bureaucratic and stereotyping in housing projects, which was similar to that the largest surgeon in the world if given 200 operations per day, it certainly will eliminate all their lives The architect should deal only with a limited number of units and beneficiaries of them." [111]

The principles of Fathy`s architecture according to Dr. Ismail Serageldin is people's participation in the construction of their homes, Provide the opportunity for the farmer to express his needs and aspirations when designing his home, which opposes bureaucracy and stereotyping in housing projects. He was simile it to the surgeon who cannot do 200 surgeries in one day because he could kill them all, like the architect should work on a limited number of housing units and beneficiaries.

For Fathy, the obtainable materials and the designed houses that are compatible with the needs of the peasant are lacking only the construction system. Pledges system cannot be applied in the villages that economic status does not allow it. The Cooperative System is the alternative system that was used before and can be used for the future of villages. In the past, when a new house will be built in the village, everyone is expected to lend a hand. He knows that the return of this process will give him the same service one day. This makes the construction process a social activity such as harvesting, wedding, funeral or even extinguishing fires. It's a kind of a system that depends on time-bartering rather than money. Fathy argued that making ten houses in the village within a year is not difficult but it will be difficult when we want to build a new village. Nonetheless, it will have advantages over the system of employing Professional builders. "a village built by its own inhabitants will be a living organism, capable of growth and of continuing life."[112]

[110] Architect and author lives in USA
[111] Abdulbaki Ibrahim, 1987, P.41
[112] Hassan Fathy, 1973, P.172

6. Conclusion

This thesis evolved from the highlight the contemporary approaches that deal with the theme of social architecture and other related approaches. The study pointed out that the emergence of the social side of contemporary architecture, especially after the industrial revolution and the Second World War produced a set of basic rules that resulted by previous experiments or research in the same field. It describes Participatory Design methods as described in previous literatures where it refers to the importance of the "User" in the design process because he is the last beneficiary of the designed object. In this field, Fathy's thought is clearly reflected in the approach of Cooperative Architecture as a parallel concept of Participatory Architecture when he said "one man can't build a house but ten men can build ten houses". It also focused on the importance of establishing social projects in the urban areas by presenting a number of examples in this context. Such projects could be the solution to contemporary some emergency housing problems. Moreover, as well in addition to its role in creating a safer and more stable urban environments.

This thesis look at the architecture and ideas of Fathy as the nucleus of the contemporary social architecture approaches. These approaches were used by Fathy with another formulations that expressing the same meaning for which the current terms are used. Generally, the term architecture for poor or architecture for community is a parallel term to the current concept of social architecture, although it has wider uses at present. In Turkey, there are some voices that called for an architecture that cares about people and their requirements. For example; Herkes İçin Mimarlık (Architecture For All), as an association which consists of volunteers students and professionals. İt focuses on social problems and tries to find creative solutions to these problems by involving the beneficiary in the design ann implementation of the project. İn summer of 2007 they worked on a project in Hacıibrahimuşağı Village of Kahramanmaraş. As part of the project, a housing complex for teachers was built next to the village school. The project received support from the Kahramanmaraş Provincial Directorate of National Education. Financial resources were created through sponsors and technical assistance was received from local authorities and firms for the construction process. The project was realized with the participation of İTÜ university students with the support of the local people throughout the project.[113]

[113] Herkes için mimarlık, Kahramanmaraş Hacıibrahimuşağı köyü ilkokulu öğretmenleri. https://herkesicinmimarlik.org/calismalar/olcek-1-1-hiu/ ,2007

Another example is Düzce Hope Housing (Düzce Umut Evleri) project which is one of most important ten housing project in the world. The project won the World Habitat Awards 2017 before it was finished. The project was the result of the participation of engineers and architects with residents who lost their homes and formed an association to claim their rights 15 years after the earthquake disaster. There were also volunteers from all over Turkey. All houses were built of recycled materials.[114]

As a global example we can mention the Italian architect Giancarlo de Carlo in this field. Who has always referred to the social responsibility of architecture in his writings in the Domus Ve Spazio e Societa magazine, where he worked as an editor and writer. İn his article that published in 1970, he explains a number of concepts in the same context, distinguishing between two types of design: dictatorial design and participatory design. He believes that participatory design is a democratic process that meets the needs of society.[115]

Fathy, as a pioneer in the field of social architecture, it can be observed that his works spanned between 1926-1989, are proof of the architecture in the service of society, especially the poor one. From the previous review of many of the ideas that contained in the writings of Fathy, which in turn embodies much of his own philosophy about heritage, rural vernacular architecture and his vision of contemporary Arab architecture. A set of focal points could be summarized and discussed in this theme. The observations that can be discussed are as follows:

First, Fathy's vision of the heritage and the reality of Arab architecture in the 1960s and 1970s reflects a deep understanding of an important era that can be called "the era of enlightenment and the Arab architectural renaissance" Because of its importance in the creation of a collective movement, theories and concepts that addressed by a group of Arab thinkers and writers in Arab countries or abroad. In conjunction with an academic and intellectual wave led by specialized seminars of the international universities, it moved the level of contemporary Arab architectural discourse to a qualitative level, led to the graduation of batches of young Arab architects and resulted in a difficult "birth" of what we know today in contemporary Arab architecture.

[114] Düzce hope workshop(Düzce umut atölyesi, https://duzceumutatolyesi.wordpress.com/), 2015
[115] Pelin Tan, Şevin Yıldız, The Social Role of Architecture: Giancarlo de Carlo and Critical Participation Betonart (2008)

Fathy’s vision of heritage can be seen as a "defensive return" to heritage in the face of the adventurous modernism of that important era. Fathy`s return to study and revive the ancient construction methods that prevailed in the villages and rural areas of Egypt was within his vision of the importance of the architectural heritage not only as architectural forms, but within a systematic approach that deals with the "foundations" that frames the heritage with social frameworks. It means the revival of the values of the original "virgin" rural society in the face of the modern "urban" and "urbanization" of the city and the repercussions of cultural alienation of society. Fathy’s attempts to revive the dialectic relationship between the Trinity (craftsman-architect- the user or resident or employer) are at the heart of reshaping the social, professional and controversial relations among the three important elements of the construction and architecture process, which are almost absent from the arena of practical application in contemporary Arab architecture. In addition to its absence from theoretical researches.

Second, Fathy relies on his methodological philosophy of studying the history and to take the advantage of the old heritage to adapt the foundations and experiences that transmitted through generations, without ignoring the present and its requirements, which is a logical and acceptable methodology. On the one hand, there may be a question about the metaphor of forms and the focus around a stereotype that is often associated with formation rather than taking account of changes in the current circumstance. On the other hand, some voices are skeptical about the effectiveness of this methodology and its accessories in providing the requirements of the modern Urbanism, which is accelerating with technological factors and rapid demographic increases. Which requires more than a simple presentation of a simple construction process prevailed at a time period for rural peasants in Egypt!

Third, at the Arab or local level, the tendency of "individualism" is observed in Fathy’s methodology, despite the years of practice, Fathi has not succeeded in transforming his theoretical thought and intellectual methodology into a "collective movement ". With the exception of some cases where some of the architects used forms from the Egyptian countryside or models from Mamluk Cairo, copied and pasted it in different places of the Arabian Gulf. Fathy’s conflict, which he mentions in his memoirs over many years, has only resulted in a "personal appreciation" that began with an appreciation of international architectural institutions, led to his appreciation at the Arab and local levels later.

Fourth, In spite of the social approach adopted by Fathy in his theoretical thought – The social approach of restoring the original of values of heritage, the active participation by the local community in the design and building process and the employing of many values that closely related to local culture and civilization- But the big question that posed in practice is: In view of the repeated failures described by Fathy in his memoirs where he talked about his inability to disseminate his theoretical ideas, as well as practical applications in various projects, notably the new village of Gourna; How can his methodology be assessed as being theoretically and practically linked to concepts employed to serve the community and dedicate community participation in reviving the heritage with its values and basic concepts, not as superficial formulations? In another words, How can we judge the success of Fathy's methodology in blending the theoretical thought with the active participation of society in light of the fact that it was theoretical concepts and remained so even thirty years after his death?

Fifth, it is noted in the writings of Hassan Fathy and his theoretical and applied thought, his tendency to activate a set of rules and methodologies that have emerged in his architecture and his thoughts. For example, he works to root the architecture in its abstract concept and link it to humanitarian principles before it takes on an ideological, national, regional or local identity. Fathy also praises a general "global" methodology that is not limited to local frameworks, which means activating the various factors that affect the formulation of architectural products instead of limiting them to values, determinants and "partial" factors. He also praises the necessity of dealing with "appropriate" technology in a way that preserves development, the necessity of not neglecting the social factor, the importance of the role of heritage, and the need to revive the national and local identity through architecture and construction methods.

In the thought of Fathy, there are a set of links between architecture and society that he employs to support this relationship, including: First, the privacy concept, separation between men and women, the isolation of some special spaces in the house depending on the particularity of culture, tradition and religion. This "isolationist" acquires a very special impress in residential buildings. Second, Fathy studied carefully Arab and local architecture in Cairo to analyze the characteristics of traditional buildings and extract a set of elements such as the courtyard and other elements that have been used in a "typically" have an environmental and traditional character

associated with social values as a purely philosophical or ideological element, as independent movement in the face of modernity or "globalism".

The relationship between architecture and society is evident in Fathy's thought by emphasizing the role of heritage and vernacular in meeting the needs of the community. Fathy believes that heritage is a natural reflection of the requirements of community. He uses examples to indicate the need to "adapt" heritage in order to reach this purpose. He argued that the existing heritage has evolved over generations as a result of their needs and traditions.[116] Therefore, Fathy believes that before the eradication of an element of heritage, alternatives should be developed for the same function or should take into consideration the current status requirements. At the same time, these alternatives must achieve the same benefit as the "replaced" heritage.

In Summary, in this thesis we tried to looks and discuss Fathy's works through five parameters: Users, Scale, Cluster, Material, Environment that we believe to navigate within the practice of social design and architecture. Furthermore, this work aims to put the architecture of Hassan Fathy and his ideas into the center of the discourse of Social Architecture that recently became an important field through the acute problems of urbanization, natural disaster, refugeehood and emergency architecture. As a reference, we believe that this thesis will contribute the discourse and practice of Social Architecture in Turkey and will remind Fathy's practices.

[116] He used the example of Indian girls that transfer the water from the spring to the houses in order to getting out of the house and be considered by the people to increase the chances of marriage

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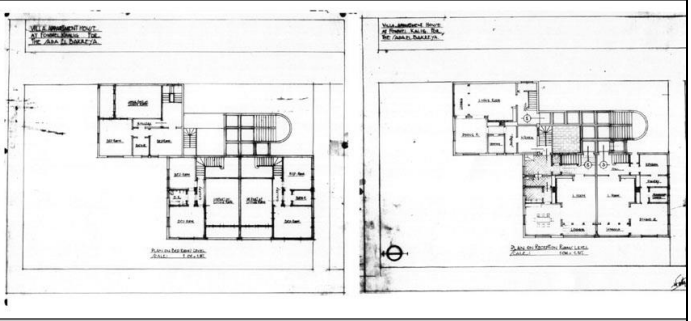
A.2.Followers

A.2.1. Hassan Fathy- Biography

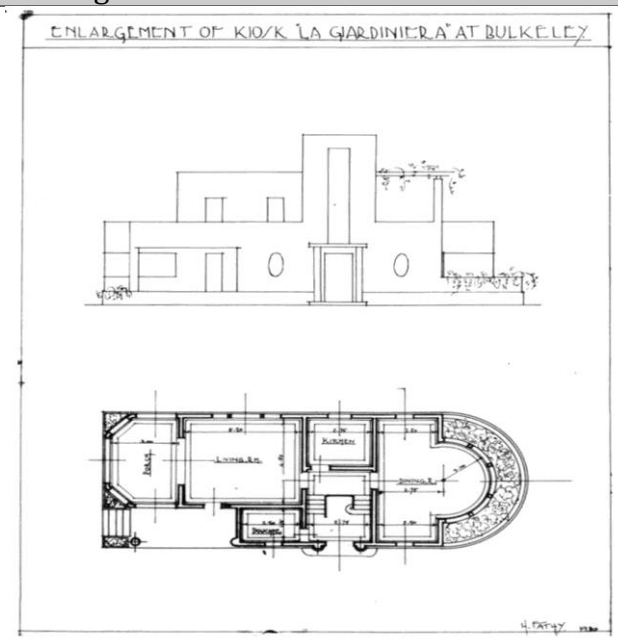
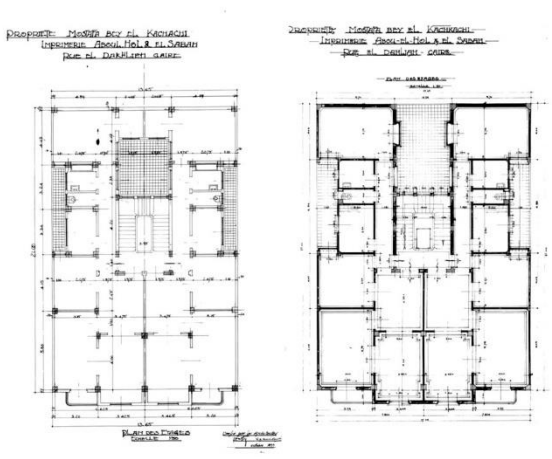
Fathy was born in Alexandria as a member of a high-class family. In 1926 He graduated from the School of Engineering of the King Fouad University (today Cairo University) as an architect. Between 1926 -1930 he worked at the Municipality of Cairo. In 1930 he started to work as a lecturer at the Academy of Fine Arts in Cairo. He built the first adobe building in the late 1930s. Between 1946 -1953, he designed and implemented the village of new Gourna, which was built to carry the old village of Gourna that was built on ancient Egyptian ruins. In 1949-1952 he worked as a design / planning officer at the School Construction Office the Ministry of Education. Between 1953 -1957, he started to work at the Faculty of Fine Arts in Cairo University. Starting in 1954, he became the head of the Department of Architecture of the same institution. In 1957, he resigned and moved to Athens to work with Doxiadis. He worked on new settlement area projects in Iraq and Pakistan. In 1962, he returned to Cairo. He settled in an old house in a traditional neighborhood near the old Cairo city and lived there for the rest of his life. In 1966, he taught at the Department of Urbanism and Architecture at Al-Azhar University. His book that made Fathy and his project of new Gourna village famous was published in 1969. The book found a wide spread after the US edition in 1973. In 1972, he taught at the Faculty of Architecture in METU (ODTÜ - Orta Doğu Teknik Üniversitesi) for one year. Since 1976, he has participated in the establishment of the Aga Khan Award for Architecture, which will reward successful architectural works in the Islamic world. He was a member of the "Steering Committee" of the award from 1976 to 1980. In 1980 he won the "Chairman's Award" of the same organization and the UIA's Gold Medal in 1984. He died in Cairo in 1989.

A.2.2. Hassan Fathy - Works List

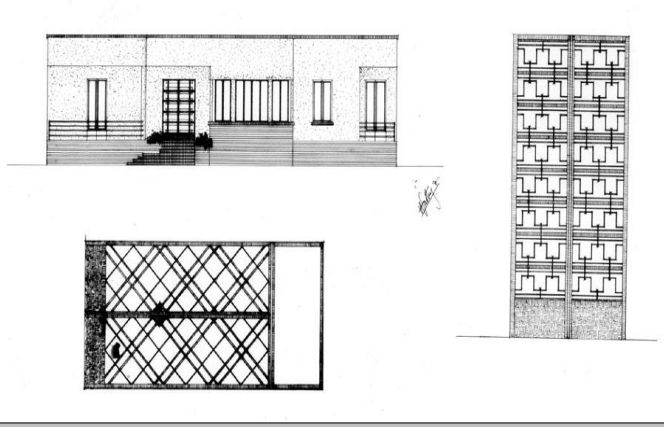
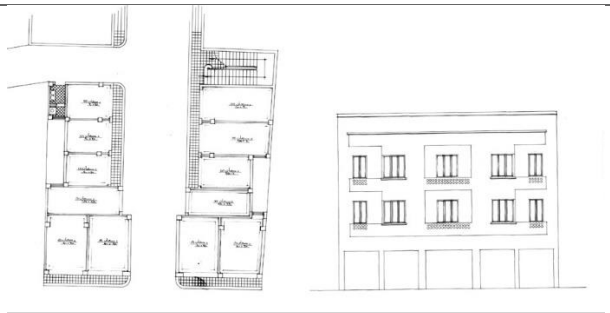
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1930	Giza	OmarVilIa (construction unverified)	private residence	
Husni Omar villa has been designed in modern style, with flat floors and roofs, white gypsum walls, and industrial windows . conjunction with Husni omar, who was connected to the architect , the villa describe one of several international villa designs at same time .				
1930	Fumm Al-Khalig , Cairo	AI-Bariya Villa	private residence	
"AI-Bariya Villa have been designed in Egypt, cario, for Fumm Al-Khalig, Villa is connect in practical way with two extra rent units . which make all units close fitting to each other , are independent with secluded internal stairs that make the two floor functional . In the same time the building had modernist direction reflects, which is still with vestigial central court that become so distinguish in."				

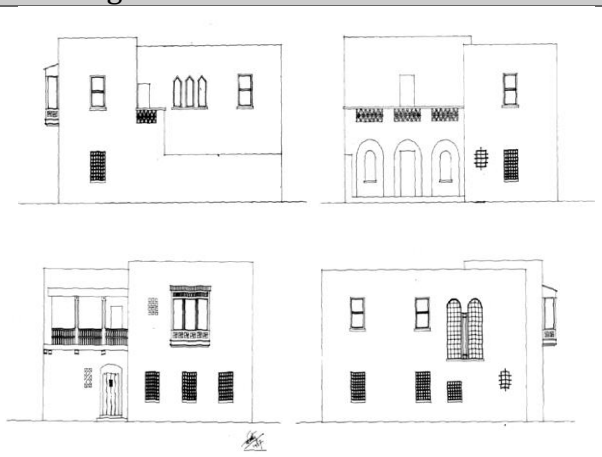
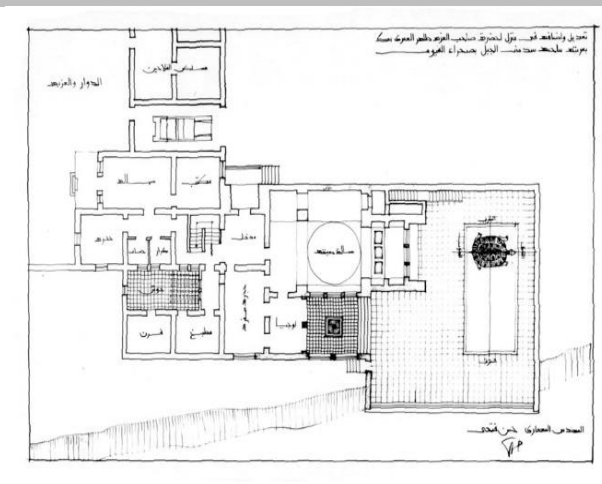
Domestic Buildings

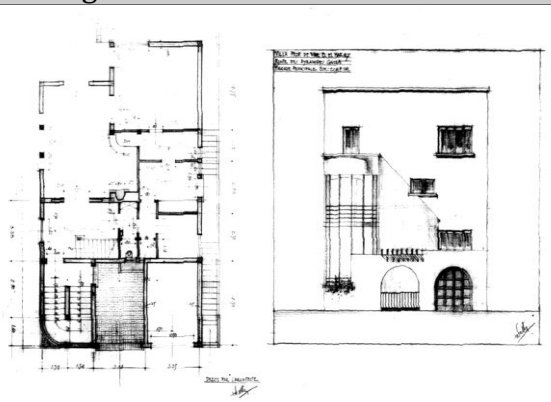
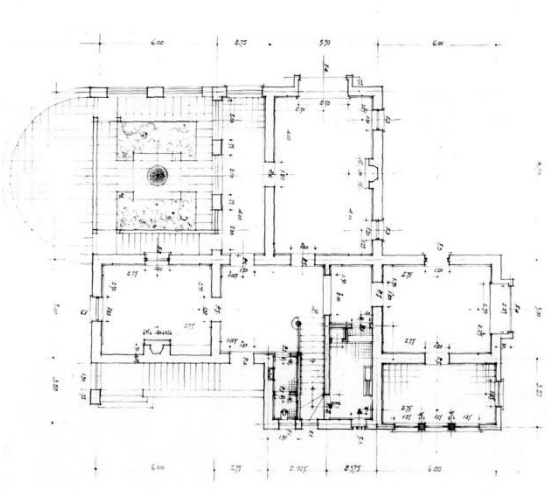
History	Place	Name	Function	Photograph Drawings
1930	Bulaq, Cairo	La Giardinara kiosk (construction unverified)	private residence	
"La Giardinara" Kiosk, reflect the architectural changes then taking place in Europe at the turn of the century.as the Sada El-Bakreya apartment house, Each of them shows a similar tendency to extirpate all historical references in both form and detail through the use of flat roofs, plain wall surfaces and industrial materials."				
1930	EI-Dakhliya Street, Cairo	EI-Kacbkacbi Building	private residence	
This six-storey building consists of a ground floor to be used as a printing workshop and five residential floors. Each floor consists of two identical apartments; each contains lobby, reception area, two bedrooms, toilet, bathroom and a kitchen. Because the ground floor was used as a printing workshop, this building has been designated by other researchers as a commercial building. However, in this catalogue it is also classified as a commercial building				

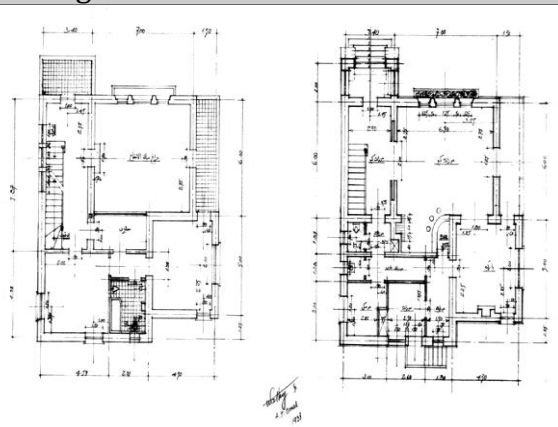
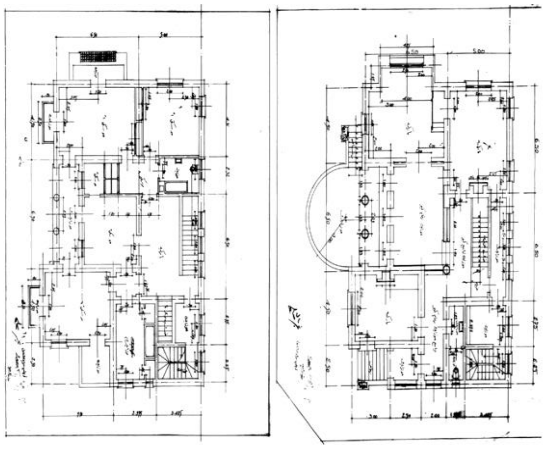
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1934	EI-Zeytoun, Cairo	Abd EI-Malik Villa)	private residence	
"Villa has been designed for Azmi Bey Abd EI-Malik Azmi in Shari 'al-Zeitoun, Cairo, al-Qahirah villa in square and rectangles by in and out interviews, villa have the same five point of hassan fathy architect system."				
1934	Cairo	Al-Beyli Villa	private residence	(NO)
1934	AI-Muski, Cairo	Madlmr Housing	private residence	
This modem style three-storeyed building was intended to accommodate shops in the first level and apartments in the second and third levels				

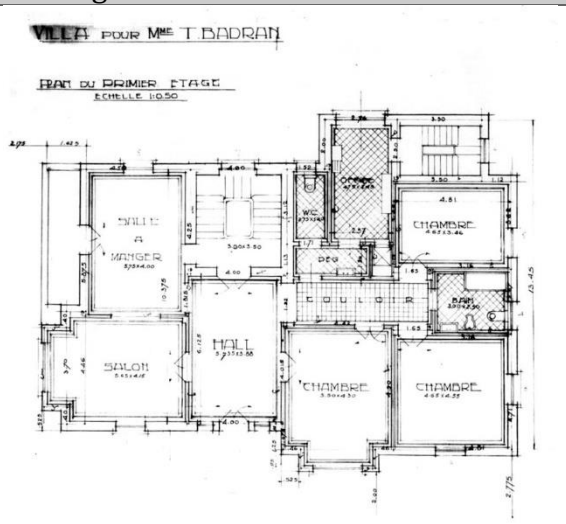
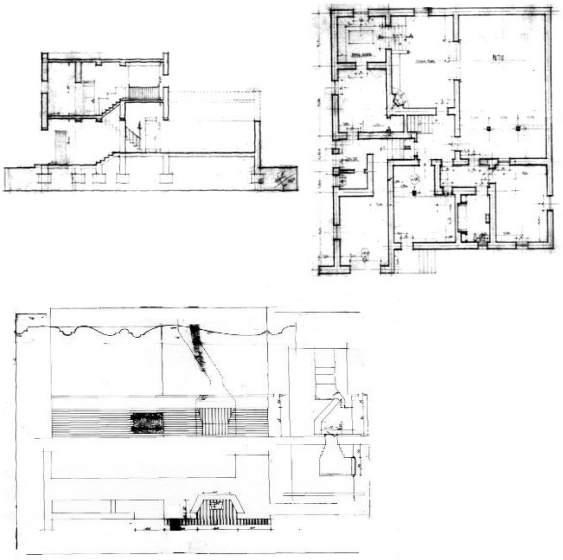
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1937	Alexandria Desert Road between Cairo and Alexandria	Garvice Villa	private residence	
" Garvice Villa have new direction that it indicates has yet to become convincingly integral to his architecture and at best represents a tentative point of transition. In marked distinction from the nine projects, This villa for mrs. sabel Garvice, utilizes some new elements, such as a central courtyard, division of public and private spaces."				
1937	Sidmant Al-Gabal, Fayum	AI-Emari Villa	private residence	
Al-Emari also asked Fathy to build roofs for the existing buildings of his farm in Sedmant Al-Gabal on the edge of the desert of Fayum, near Cairo				

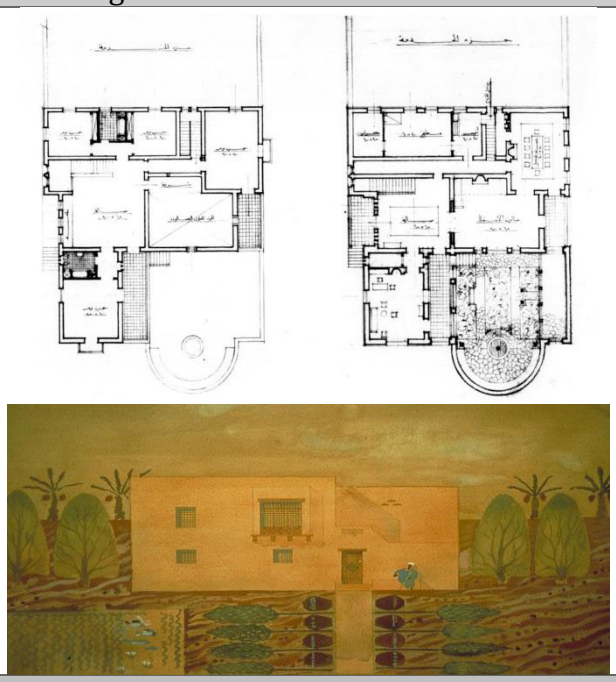
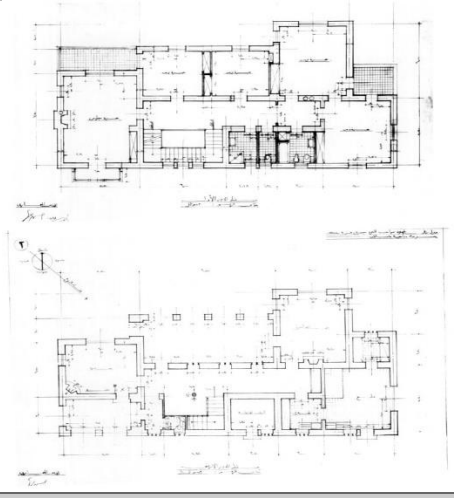
Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1938	Pyramids, Road, Giza	AI-Hariri Villa	private residence	
" Hassan Fathy briefly period regain to the international European style here, using the last five point system with an Adolf loos-like elevation. Adding hidden inner garden, Which is protected from the street by an arched screen wall. ."				
1938	Korn Al-Akhdar, Giza	Mohammed Fathy Villa	private residence	
Hassan fathy designed this villa for his brother muhammed, who had new condition to harmony the villa with muhammed who is songs based on classical Arabian themes. which is organized with an entry ending up with central stairwell stretching to the living room and dining room too, Villa's from has been taken from strong mediterranean theme.				

Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1938	Dokki, Cairo	HayatVilla	private residence	
"This villa is on of the most important in 30's, Hassan fathy designed it for the fmous artist hayar muhammed, Which is intended for privilege the form that's in the Dokki area of cairo, Make it with Ahmad Omar , who participated with befor in Hesni Omar villa . we see them continued which explain the simalaity in form between the two villas ."				
1948	Dokki, Cairo	HishmatVilla	private residence	
Villa designed for Zainab Hanem Hishmat, which is stately mansion located in Dokki, Hassan fathy decide to make it with tranquil entry adding some of luxury in design which harmony with Zainab Hanem life style in that period.				

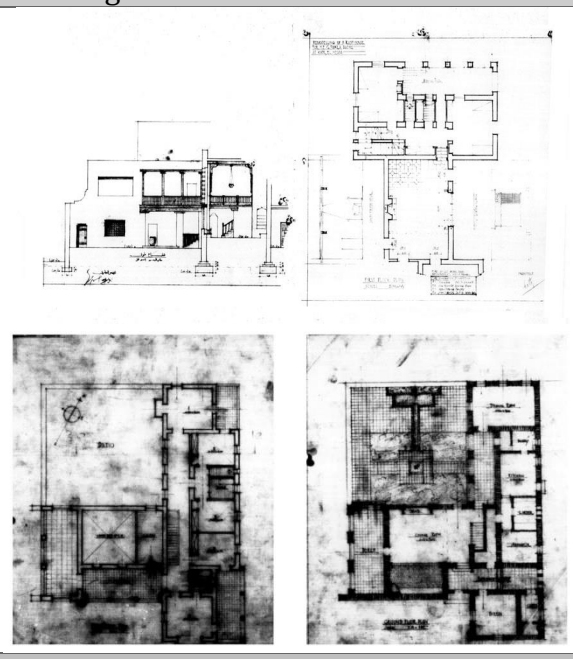
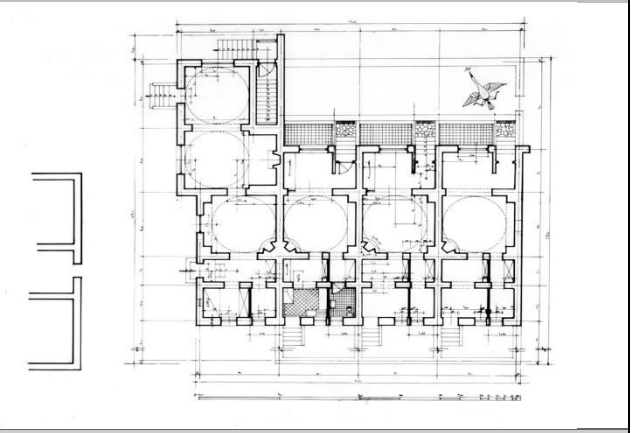
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1940	Egypt	Badran Villa	private residence	
" This villa designed for a two-storey residence, with a highly formalized and colonnaded central entrance hall, to be built in brick. "				
1940	Kafr AI-Hima	AI-Bakliya Resthouse	private residence	
This project as adding for villa that already built within a walled compound, then make a small changes to resthouse for it in Takla pasha in his farm, This project indicate of the importance that hassan fathy's architected placed to the client.				

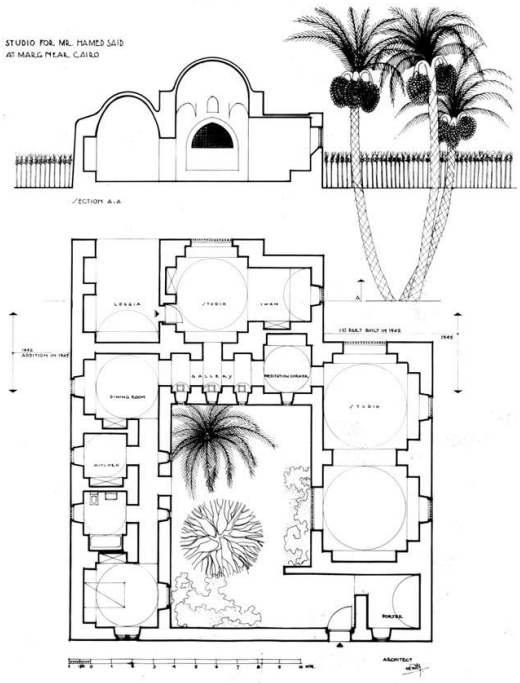
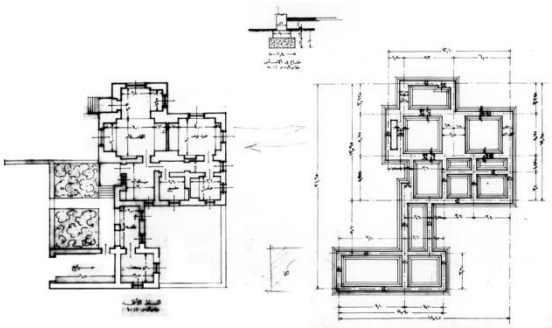
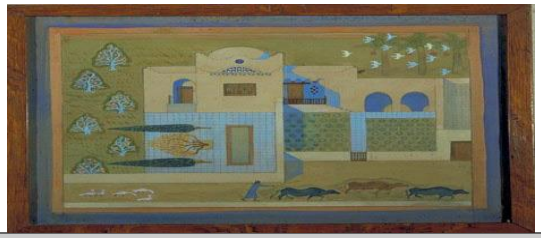
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1941	Abu-Girg	AI-Razik Villa	private residence	
Although several villas for the AI-Razik family are standing in Abu-Girg, none of these corresponds to Fathy's design, this change, which can be attributed to more than the use of domed forms, results in an obvious shift in theoretical principles as defined in his basic approach to space planning				
1941	Shalkan	Farid-Bey Villa	private residence	
Although this two-storey house exhibited Fathy's set of traditional values, flat roofs were used instead of domes and vaults and round arches were replaced by pointed arcades.				

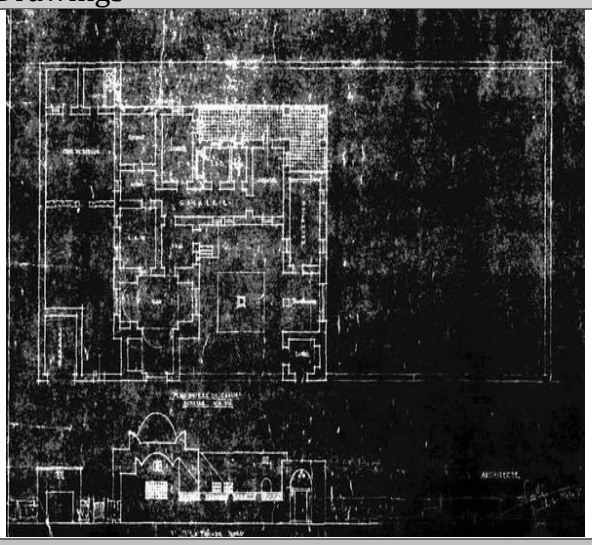
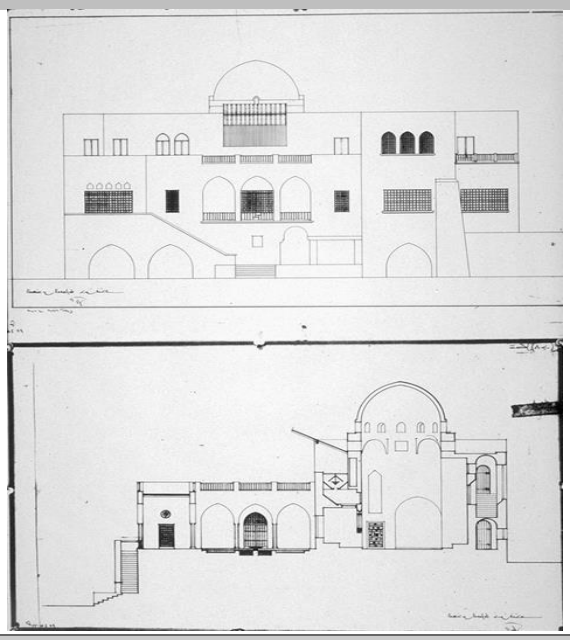
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1941	Kafr AI-Rima	Takla Pasha Resthouse	private residence	
This project has been mad for same client two years earlier, Project was a large resthouse with several alternate plans for development of the central. this project also had some changes with big effect.				
1942	Safaga	Chilean Nitrate Company Resthouse	private residence	
The now demolished two-storey building was intended as a modest shelter for the staff of the company and then grew to become four spacious units. The ground floor plan shows repetitive units separated by a massive partition-wall and raised five steps above ground level. Each unit has a front and rear entrance. The front entrance leads to a vaulted sitting area, which can also be used as a sleeping alcove with a balcony facing the north and overlooking a wonderful view of the Red Sea. One continues through to the living area, which is provided with a fireplace in the comer. From the living area one can go to the laundry and the bathroom and the dining space. The rear entrance opens into the kitchen, which is attached to the dining space.				

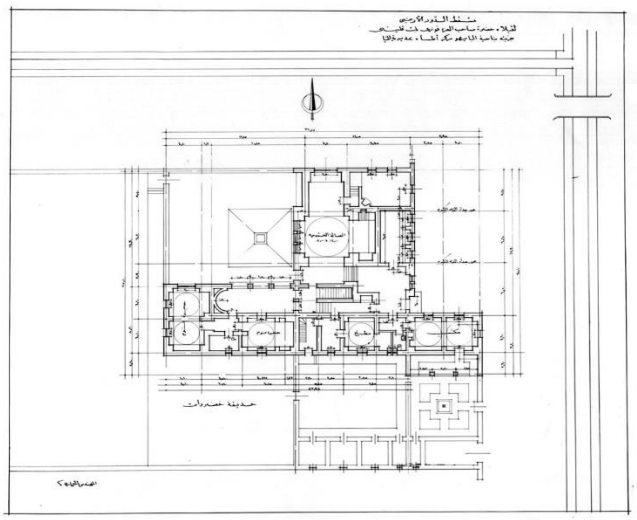
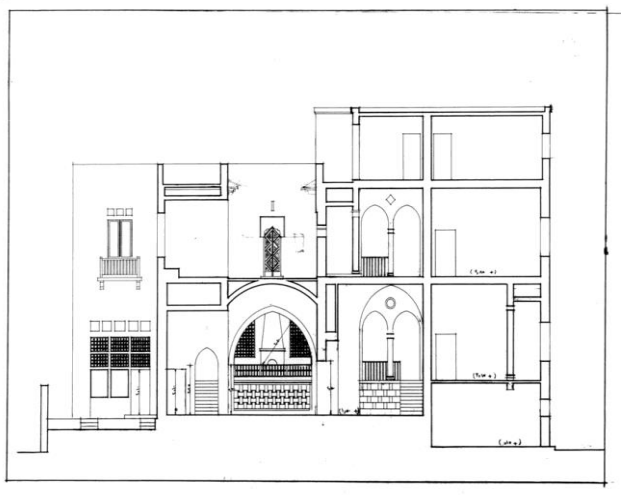
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1942	Marg	Said House	private residence	
the Hamid Said house in the al-Marg neighborhood of Cairo represents an important project in the collection because it is the first documented application of mud brick construction, and is still standing. The first phase, which was built in 1942.				
1943	Bani-Mazar	Abd AI-Razik Villa	private residence (unbuilt)	 
Although several villas for the AI-Razik family are standing in Bani-Mazar, none of these corresponds to Fathy's design.just this one that also haven't built.				

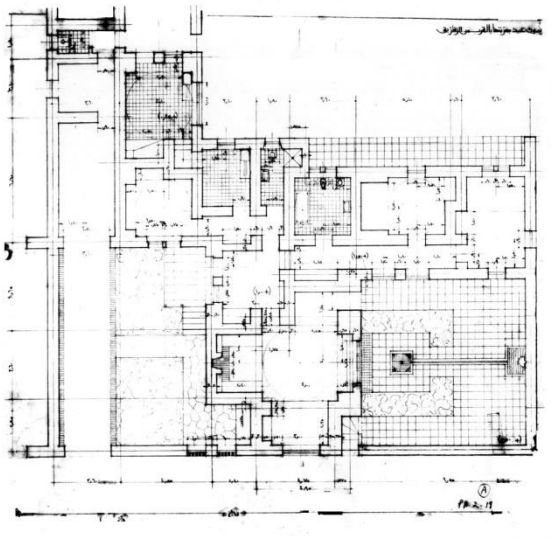
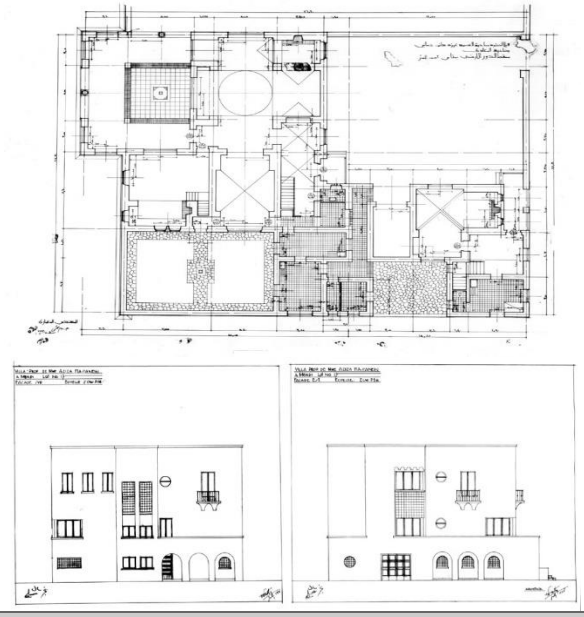
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1943	Zamalek, Cairo	AI-Bakri Villa	private residence	
Villa intended for a good site in 1943 but now it's far more rural, this villa has mining of development of the idea of privacy, which was to be a vital part of all Fathy's residential work				
1945	Fayum	AI-Nasir House	private residence	
The one-storey house was intended to be built on a long thin peninsula of land projecting into the Lake of Fayum, a town 80 kilometers west of Cairo. Fathy situated the main reception area on one side and the bedroom section on the other. The L-shaped plan. consists of the main entrance, reception area, vaulted kitchen, domed-bathroom and two bedrooms; one is covered by a dome and the other by a flat wooden roof.				

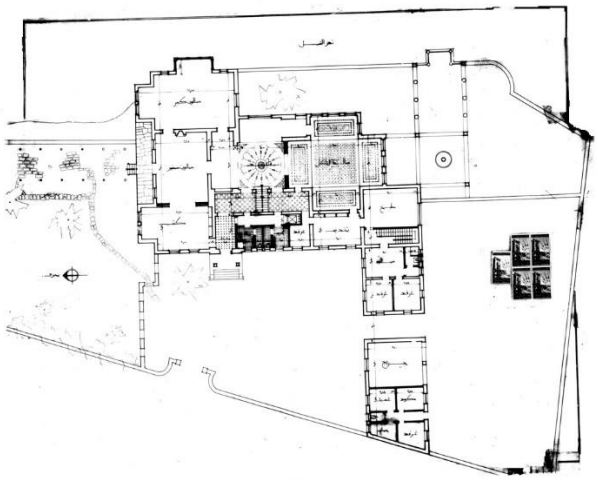
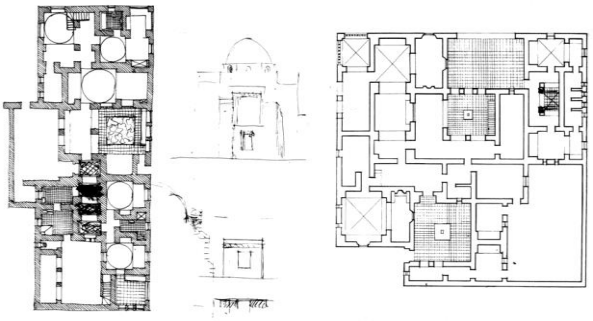
Domestic Buildings

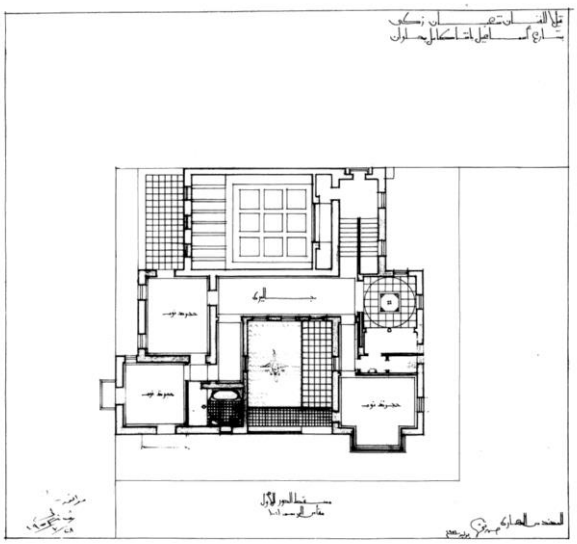
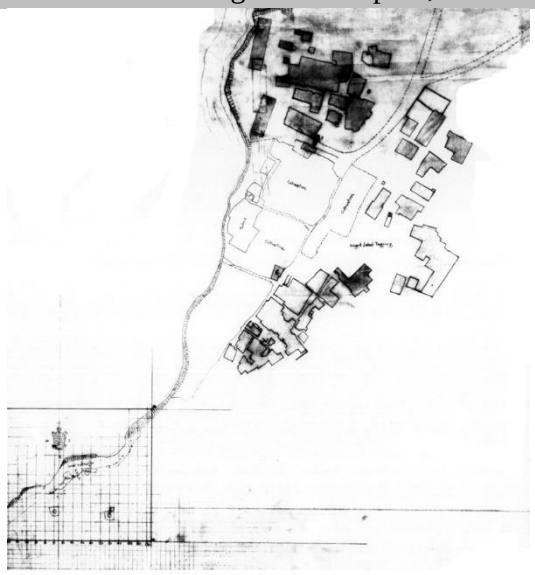
History	Place	Name	Function	Photograph Drawings
1945	Ezbet Kallini, Samalut, EI-Menia	Kallini House	private residence	
This two-storey house represents one of the most ingenious designs of the mid-1940s. The owner was a rich man and although he was Christian, he built public projects for both Moslems and Christians. Abu-Gabal, the friend for whom Fathy built a house in 1947 (025), recalls that Kallini married a Moslem woman and built a mosque in Upper Egypt. Kallini's nationalist attitudes may explain why he approached Fathy to build a house containing Islamic features. This also reveals that these architectural elements were seen as part of the totality of Egyptian culture and were not regarded as exclusively Moslems. Tbere is no evidence that this house was built and all we know about it is from the remaining drawings.				
1947	Giza	Abu-Gabal House	private residence	
This house was photographed by the author in February 2000 and is illustrated below for the first time. There are also photographs of the house soon after its completion in the 1940s in possession of the owner				

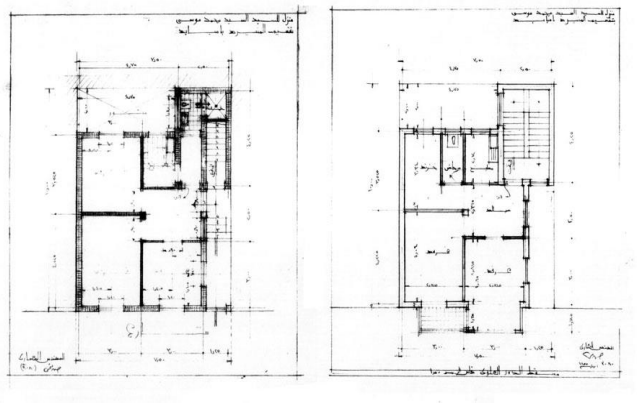
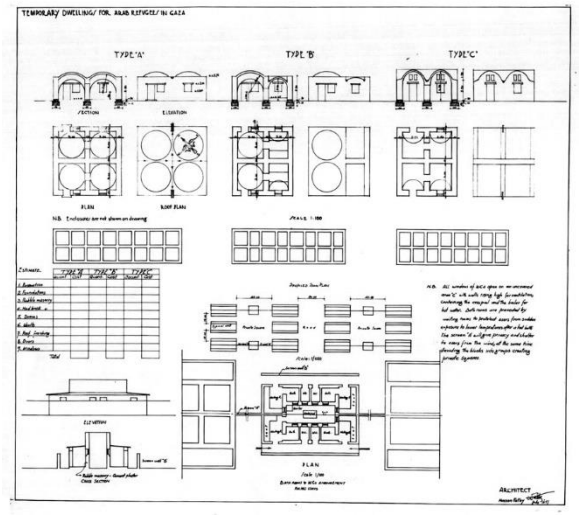
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1948	Zagazig	EidHouse	private residence	
This house had three different plans, which was designed Raymond Eid for her near farm in zagzaig. Every plan shows different in character of ms.Eid, each shows from that had special plan out of central.				
1948	Maadi, Cairo	Hassanein Villa	private residence	
This house was built for Fathy's wife. After its demolition, Fathy designed another small house for her which has been completely changed and is now hard to recognize.				

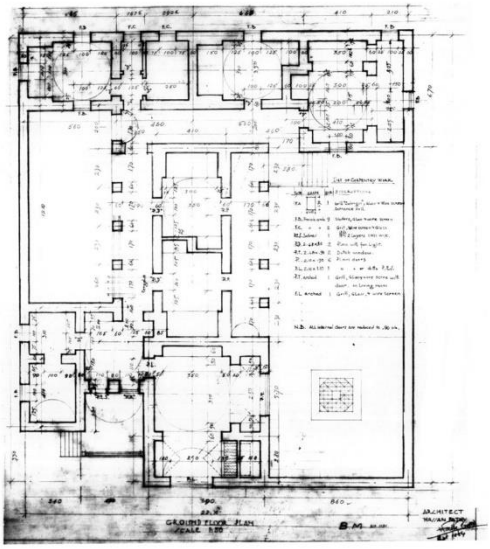
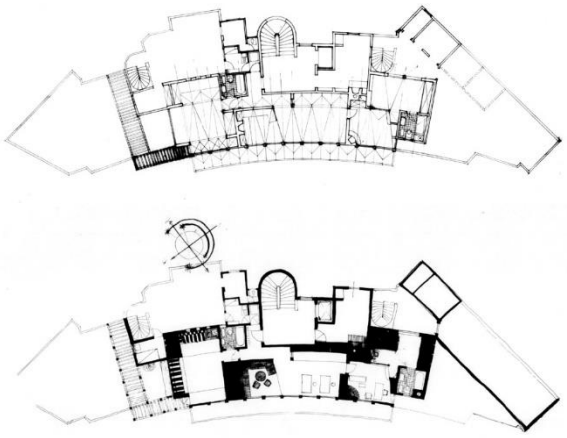
Domestic Buildings

History	Place	Name	Function	Photograph Drawings
1950	Saqiyat Mekki, Giza	Monastirli House	private residence	
The ground floor of the three-storey house is based on a central hall, 'around which Fathy organized all the functional spaces. The main entrance leads down to a narrow corridor that bends twice before delivering one into the brightly-lit central hall with its view down to and across the Nile River. Here, a ceremonial stairway leads up to the first floor, which included a series of bedrooms around an internal open courtyard. To the left of the central hall, Fathy situated a library and two spacious reception rooms while to the right there is a large dining area, service room and a large kitchen. The reception room projects out over the river with corner-windows to make the most of the view .				
1950	West Luxor	Stopplaere House	private residence	
Fathy's first attempt was a square plan, but according to the specific characteristics of the linear site, he was compelled to change his plan into an elongated rectangle. Fathy arranged the house in two distinctive parts around a central courtyard and a forecourt. The first part contains Stopplaere's bedroom, bathroom and a private courtyard with a staircase leading up to the roof. The second part consists of common living areas, two guest bedrooms and services and another staircase. Circulation space was always a significant motive in most of Fathy's projects. From the forecourt the main entrance opens into a long skylighted gallery, which connects the two sides of the residence and provides an interesting illumination to the passage. Most of the spaces were covered by domes of different sizes. The large dome, which covers the reception area of the guests' wing, is characterised by stepped squinches at its base which gives the building a remarkable silhouette.				

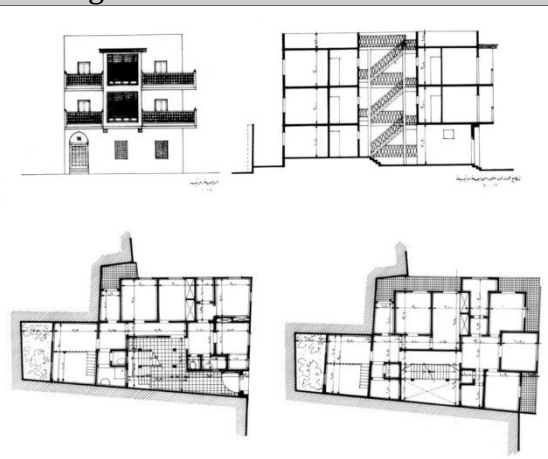
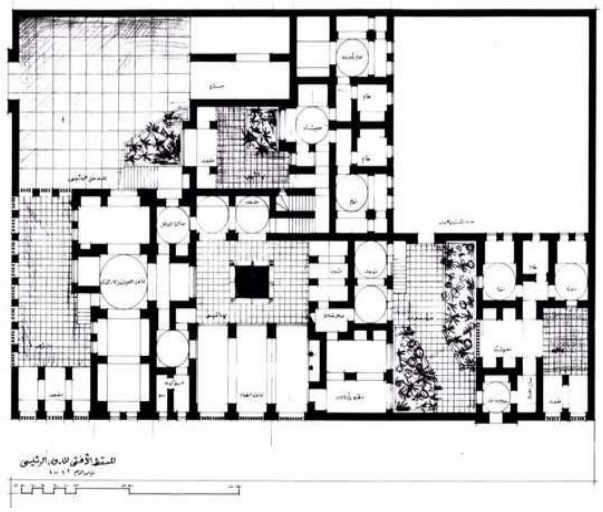
Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1951	Ismail Pasha Kamel Street, Helwan, Cairo	Zaki Villa	private residence	
This project for Hamid said house which an important project in the collection because it is the first documented application of mud brick construction, and is still standing. Which was built in 1942, was simply a studio, incorporating to Hassan Fathy project of 1955.A two-storey house with a large painting studio and other social spaces arranged around an arcaded garden and pool,				
1955	Aswan	Alexandria Resthouse	private residence	
located to the southwest of Jabal Tagug, near Aswan, on a steep, curving escarpment, this house has one of the most animated and unusual of any of Fathy's plans. Existing in rough sketches only, the location is tantalizingly close to the cliff face, matching the topographical contours to a remarkable extent				

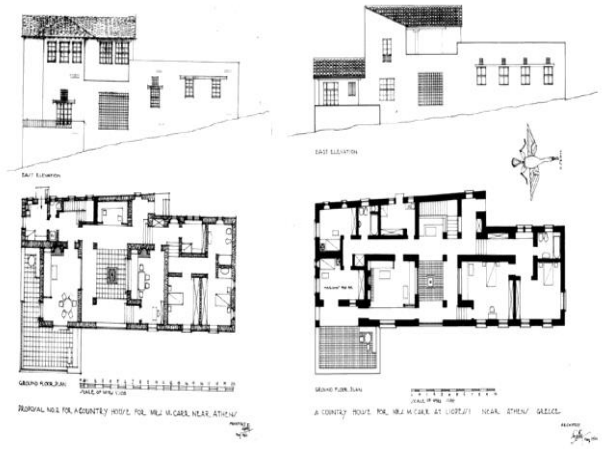
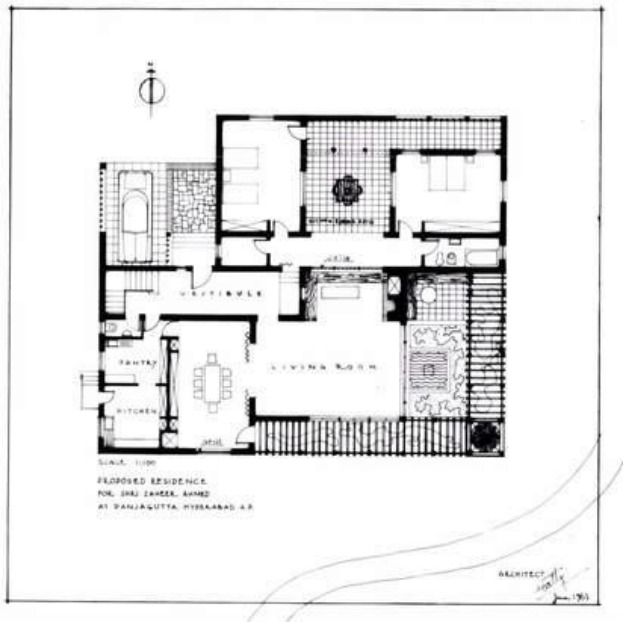
Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1955	Imbaba, Cairo	Musa Villa	private residence	
This small, two-storey dwelling was planned for the Munira area, which designed in 1955, was small project but one of unit project of Hassan Fathy				
1957	Gazza, Palestine	Arab Refugee Housing	private residence	
This design for a prototype for temporary housing for Palestinian refugees actually proposes three types of units, all organized on a five-metre-square module, with four units meant to be grouped together on the foundation base. The use of a module here adds a great deal of flexibility to a bearing wall system, which is often dismissed as being too static for such construction				

Domestic Buildings

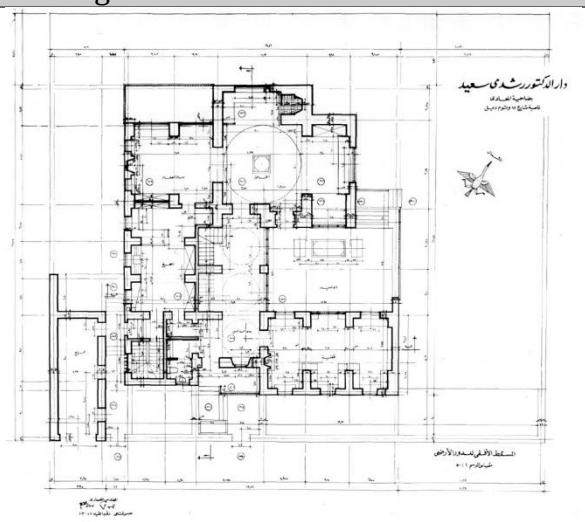
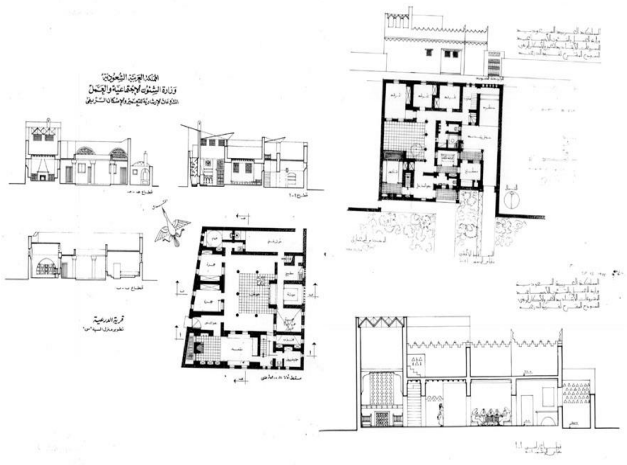
History	Place	Name	Function	Photograph Drawings
1959	Kharga Oasis	Baume-Marpent Resthouse	private residence	
This project was intended as dormitory~style sleeping units for the staff of the BaumeMarpent Enterprise at the Kharga Oasis				
1960	Unknown	Fathy Apartment	private residence	
This apartment was designed for Hassan Fathy's brother who told Fathy about the Nubians' village in Aswan				

Domestic Buildings

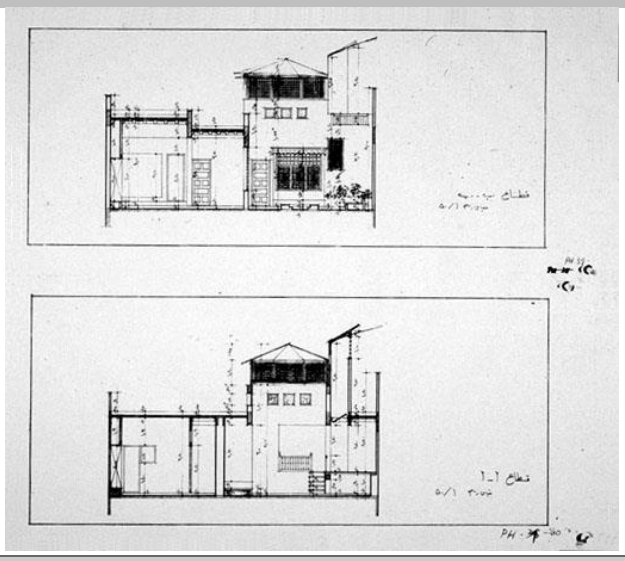
History	Place	Name	Function	Photograph Drawings
1960	6 Harat AI-Sheikh Bakr, EI-Khalifa, Cairo	Maaruf Housing	private residence	
A three-storey apartment building for Maaruf Muhammad Maaruf and Muhammad Saad, who were acting as partners in the venture, to be located in the Khalifa disctric in Cairo. A large, projecting mashrabiya bay, similar to that used in the medieval al-Sinnari house in Old Cairo				
1960	Niamey, Nigeria	Ambassador Villa	private residence	
This project designed to be located in Niamey, Nigeria, this villa responds to the intense heat of the area by carefully balancing inside and outside space so that natural ventilation can benefit all parts of the house. and to ensure that only one of these courtyards is planted, to generate maximum air flow from a cooler, landscaped area to a hotter, paved area.				

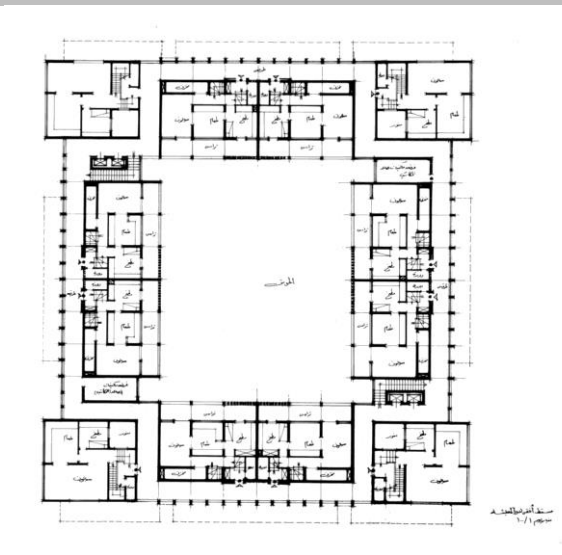
Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1962	Liodessi Street, Athens, Greece	Carr House	private residence	
A single-storey house with a central courtyard. To the north side of the courtyard, Fathy situated a corridor leading to the bathroom and two bedrooms with openings to the east. On the other side were the kitchen, bathroom and laundry, all opening to the west. A considerable living area with fireplace and a third bedroom with terrace for Marion Carr, were overlooking the east.				
1963	Hyderabad, India	Ahmed Villa	private residence	
Designed for a site in Pangutta near Hydearbad, this small villa is an obvious expection to the architectural language that Fathy had developed by this point, but does incorporate air-cooling techniques similar to those used in the house of the Ambassador for Nigeria three years earlier				

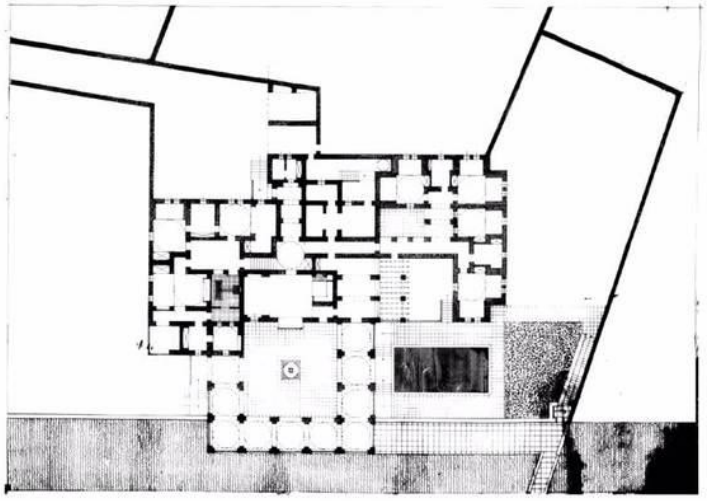
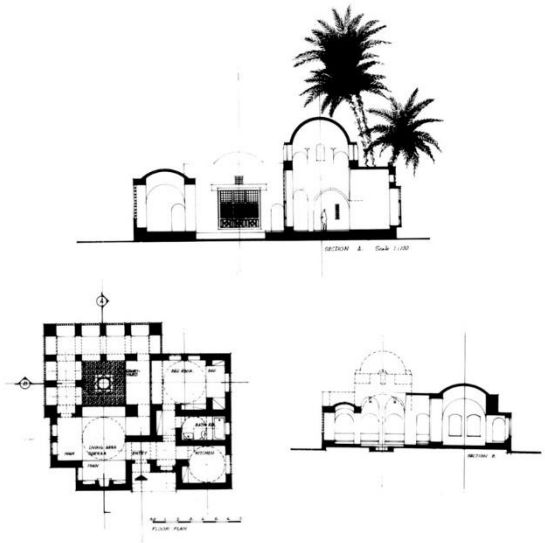
Domestic Buildings

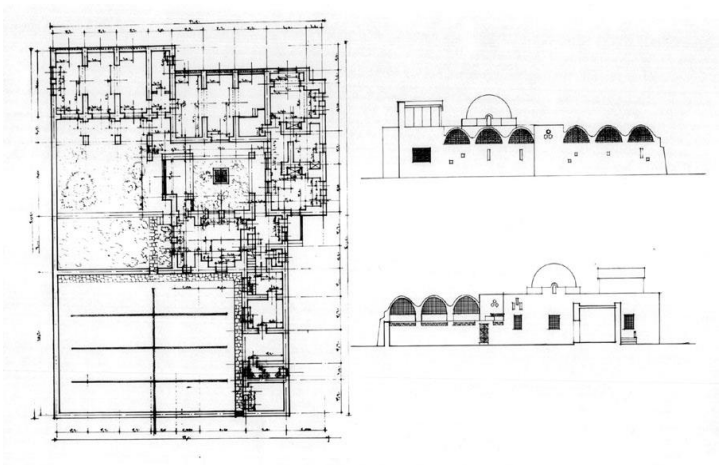
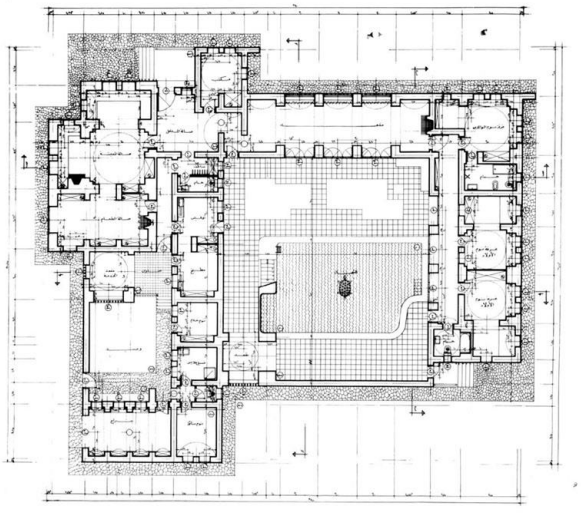
History	Place	Name	Function	Photograph Drawings
1965	Maadi, Cairo	Roshdi Said House	private residence	
This residence on a lot on Street 12 in Maadi is notable in several respects, not the least of which is a studious attempt by the architect to continue to use domed and vaulted roof forms, but to play them down on the exterior in favour of more rectilinear elements. Given the rather conservative architectural character of the area concerned, this may have been done in deference to the client's request, as the partial screening and concealment of all curved lined in the elevation certainly appears to be intentional.				
1966	Al-Dariya, Saudi Arabia	AI-Dariya Housing	private residence	
AI-Dariya Housing project was one of the most important housing projects that Fathy received after his return from Athens. Al-Dariya is a small town located on a high cliff 15 overlooking Wadi Hanifa Valley and is fifteen kilometres north-west Riyadh, in the. central region of the Najd. It is isolated in the middle of a large expanse of desert which has ensured its security and preserved it from foreign influences. This isolation allowed a distinctive architectural character to evolve. In 1818 troops of Mohammed Ali of Egypt attacked the town of Al-Dariya because of its strategic defensive location. As a result many of the buildings were destroyed or badly damaged. All that remained were two hundred houses and the ruins of palaces and other public buildings				

Domestic Buildings

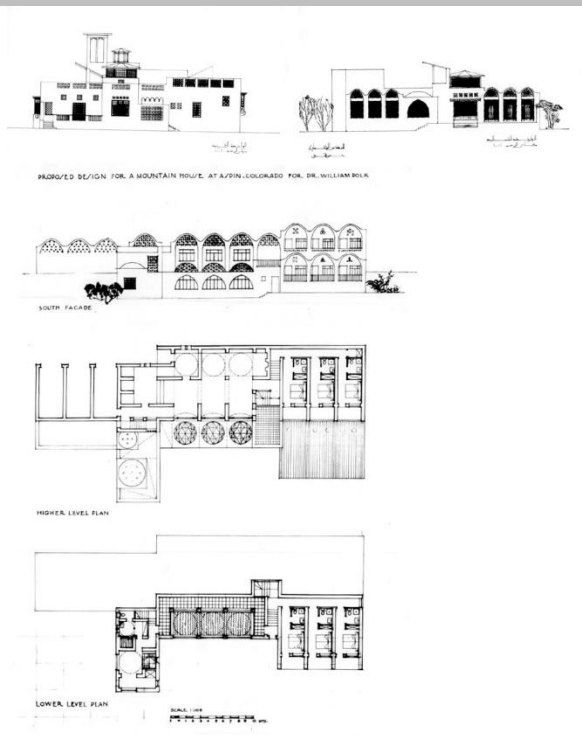
History	Place	Name	Function	Photograph Drawings
1967	Saqqara Road, Shabramant, Giza	Riad Bouse	private residence	
The preliminary program of this single-storey house was conceived as a small retreat for a family with two children. The house consists of a domed entrance hall with a vaulted kitchen and bathroom to the left. One can go straight forward to the reception area, the central part of which is covered with a large dome.				
1967	Cairo	Mehrez Apartment	private residence	
The plan ofthe apartment consists of a vestibule leading into a formal large sitting room with a fireplace and connected to a small library. Here one can go through an opening into an open-patio, which is intended to be used as a sitting area during summer time. From the vestibule one can enter to a private living area which is provided with another fireplace and is also connected to the open-patio. The sitting area is covered by a malkaf combination to allow natural ventilation feature which Fathy employed in many of his subsequent works such as Al-Sasbah palace (1978). There is also a kitchen close to the private living area with access to the shop / office side. A master bedroom suite with dressing area and sunken Japanese bathroom with a skylight are also connected with the vestibule.				

Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1970	Unkown	IFAO Field House	private residence	(NO)
This project was intended as a six-unit staff quarters. Each unit consists of a domed central *qa 'a,* with two flanking sleeping *iwans* and an ensuite bath. All units are ventilated by a malqaf				
1970	Jeddah, Saudi Arabia	Jeddah Duplex Housing	private residence	
A two-storey housing-block consisting of three different kinds of unit arranged around an enclosed central courtyard.				

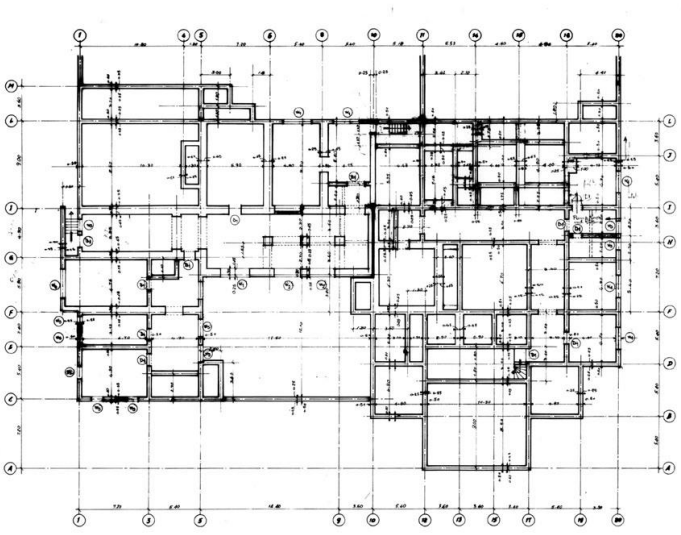
Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1970	Luxor	Shahnaz Villa	private residence	
"Little information survives about this villa, intended for a riverside site in Luxor, with arcaded gardens and pool near the Nile."				
1970	Aswan	Sadruddin Aga House	private residence	
Sited near the tomb of the Aga Khan III in Aswan, on an island in the Nile, this small resthouse utilizes landscaping as well as a takhtabush at the end of a small garden to frame views toward the west bank of the river, and the sheer sand dunes coming down to it.				

Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1970	Unknown	Siddiq Villa	private residence	
"This villa and studio, designed for Rateb Siddiq, utilizes a repetitive three-vault module in different orientations around a domed qa'a.				
1971	Pyramid, Giza	Ghaleb House	private residence	
An elegant residence for the Pyramid area of Cairo, using a sinuous series of vaults to provide natural ventilation into an open swimming pool area that is the focal point of the house. These vaults are contained in the elevation by the terminal massing of the vertical, domed reception room at the main entrance, which complete the composition.				

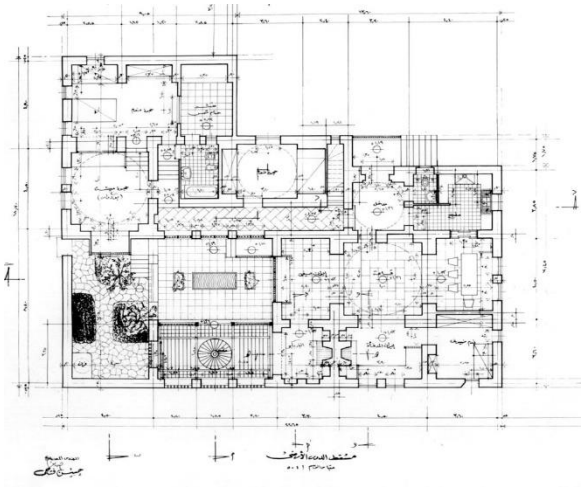
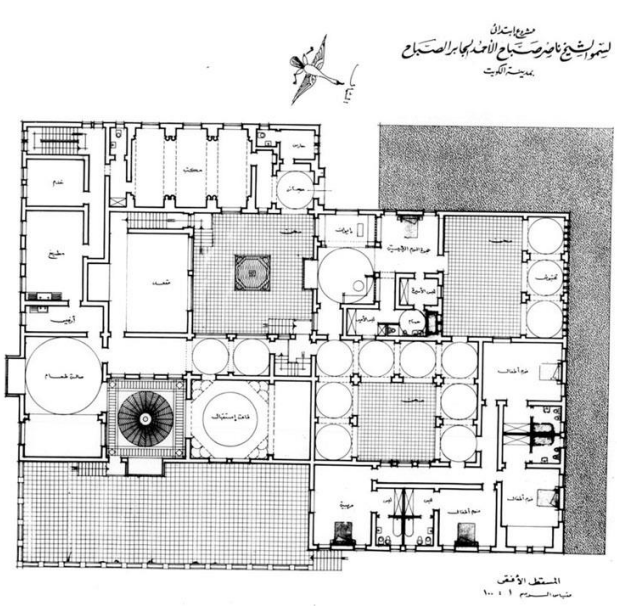
Domestic Buildings

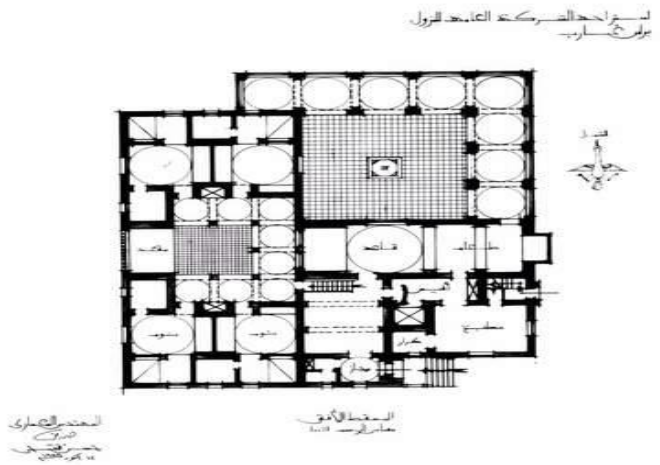
History	Place	Name	Function	Photograph Drawings
1971	Sidi Krier, North Coast	Hassan Fathy House	private residence	(NO)
Like his wife's house of 1949, Fathy designed a blank wall facade towards the public side and another one opens to the view of the sea to gain privacy. In front of the house, Fathy situated a pump-room for an artesian well to supply the house with water source. Simple in its structure and form but complicated in its function, this room represents a lesson in the application of a wind-escape. Fathy admitted that it happened by accident when he had to put the pump room about six meters below ground level because the level of the underground water was twelve meters deep. It was feared that the exhaust gases of the pump-engine would pollute the air in this room. However, to generate a steady air movement.				
1972	Colorado, USA	Polk House	private residence	
This two-storeyed house was intended to be a small mountain resort with seven bedrooms, living area, services and a swimming poo1.				

Domestic Buildings

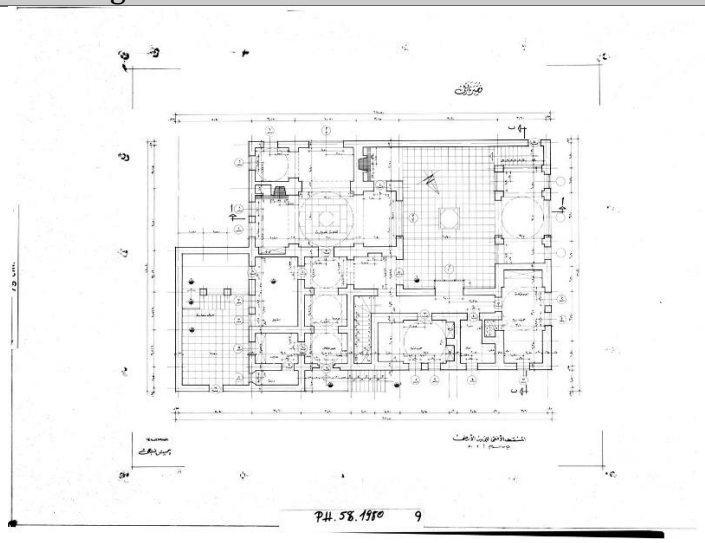
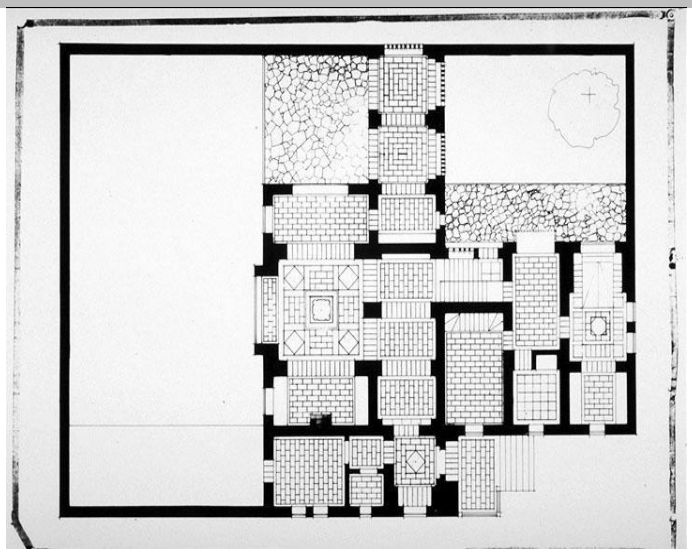
History	Place	Name	Function	Photograph Drawings
1974	Jeddah, Saudi Arabia	Nassif House	private residence	
Nassif's concern about architecture led him to travel extensively around India, Oman, Southeast Asia, North Africa and Spain, in order to study old Islamic buildings and whenever possible buy materials appropriate to the construction of his house. He bought wood from Japan, Pakistan and India and turned them into hand-carved panels for the doors and the main atrium. Another remarkable structure is the massive wooden gazebo in the middle of the garden, which is reminiscent of that at the Muhammad Ali Palace in Cairo. The house is also characterized by a 4.5-by-15-metre pool in the garden, which was outlined in an ancient pattern. Although the pool was well-maintained and supplied with fresh water, Nassif dug a large well behind it, provided with pipe to draw water from the sea. He believed that sea water is more antiseptic than fresh water.				
1974	Tabuk, Saudi Arabia	V.I.P. House	private residence	
While working on the Nassif house (DS3) Fathy was commissioned by Colonel, Mahmoud Nassif, on behalf of the government in Saudi Arabia to design the V.I.P. villa in the desert of Tabuk town in 1974. Fathy argued that this project presented several considerable problems including the architectural character, climate, building materials and the design concepts. He explained that it was a challenge for the modern architect to implant a modern house in the Arab tradition in the desert, when this tradition had existed in common practice a long time ago.				

Domestic Buildings

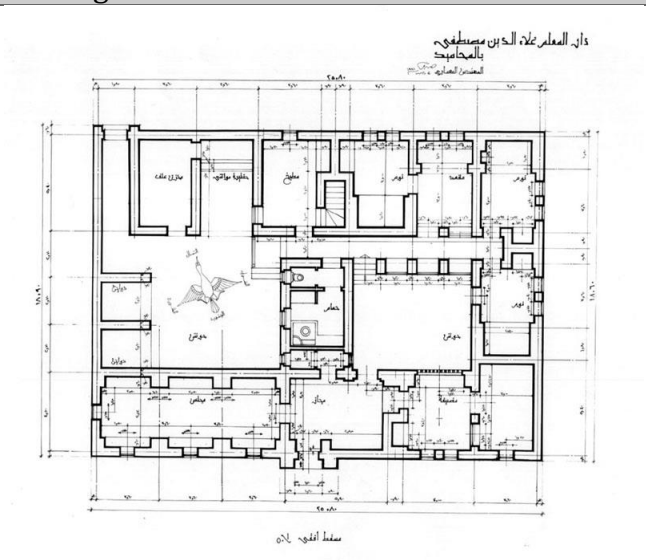
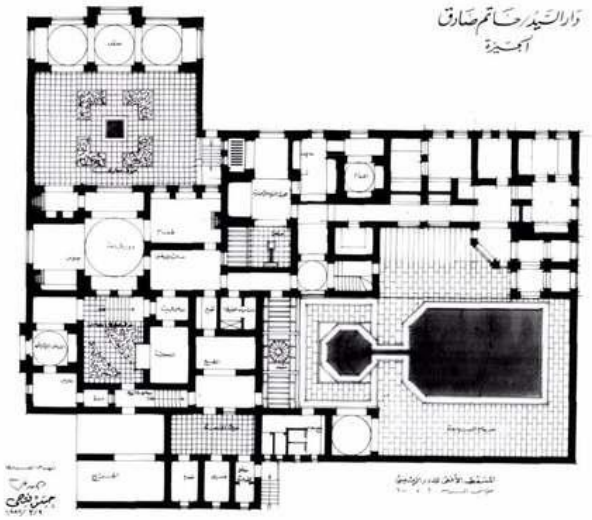
History	Place	Name	Function	Photograph Drawings
1978	Dahshur, Giza	Sami House	private residence	
This house, and several others that followed it in the same area, were built in local limestone because of a governmental ban on the use of mud-brick following the construction of the high dam, as well as unsatisfactory test results for the structural strength of the soil in this area, first confirmed in the Fouad Riad project.				
1978	Fentas, Kuwait	Al-Sabah House	private residence	
Fathy's main design concept for this two-storey house was to achieve the complete separation between the public and private spaces. He designed two rectangular zones separated by an axial wall that runs the whole width of the plan. The idea of each zone was based on arranging its spaces around internal open courtyards. Fathy offset each of these areas along the dividing wall in order to allow the main domed entrance for guests in the north facade. At the opposite wall, which overlooks the central courtyard, there is a ceremonial stair leading up to the first floor.				

Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1978	Ras Ghareb, Red Sea Coast	Petroleum Company Resthouse	private residence	
	(no)			
1979	Alcudia Street, Majorca, Spain	Alpha Bianca House	private residence	
The plan of the ground floor of this two-storey house was conceived as two distinctive parts organised around three sides of the 17 by 25 meter courtyard, with a deep arcade in the fourth side. The courtyard is well landscaped and includes a rectangular pool in the middle, which is linked to two square fountains. A balcony on the first floor runs along the four sides of the courtyard and is provided with a claustra-work balustrade.				

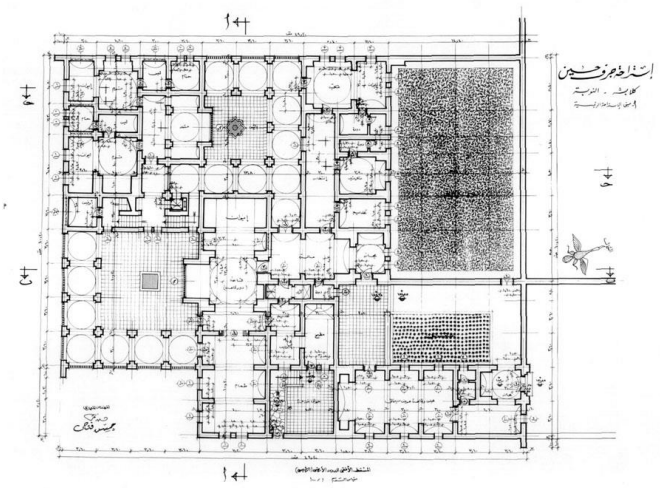
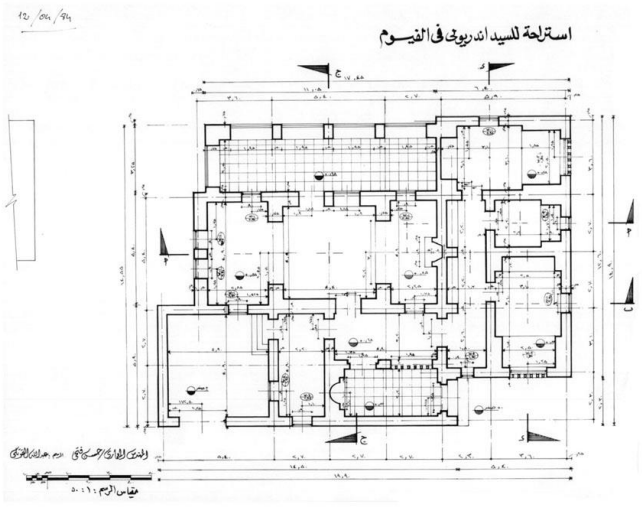
Domestic Buildings

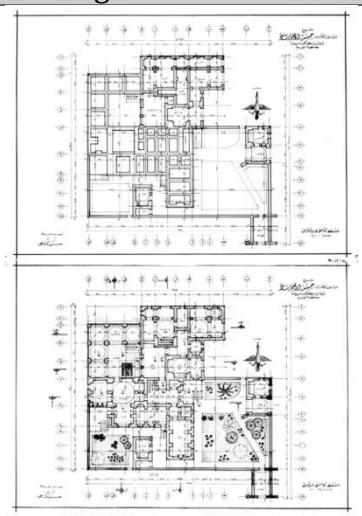
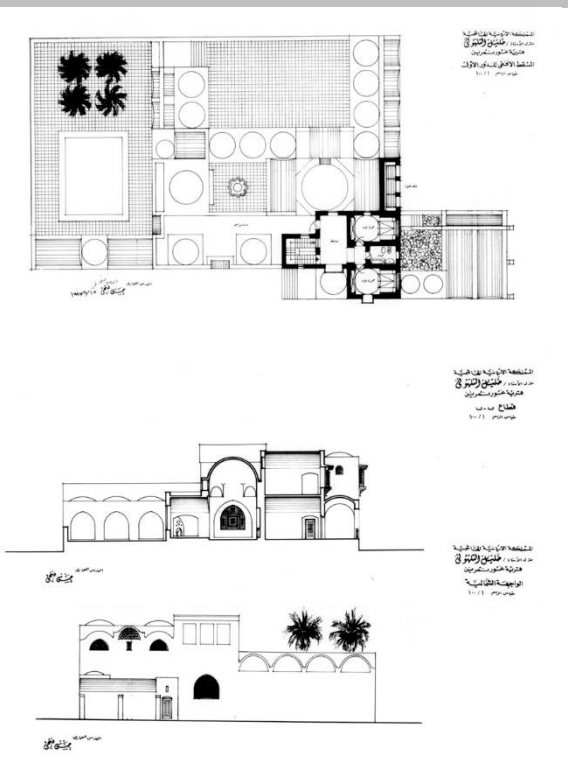
History	Place	Name	Function	Photograph Drawings
1979	Shabramant, Giza	Kazerouni House	private residence	
Fathy arranged the functions of the house on two floors. The ground floor consists of an entry space, a formal reception area, two bedrooms, a bathroom, a storage area and a kitchen. The kitchen is large and has an access to a small courtyard which contains a stone oven for baking bread and a terrace covered by grape plants. To achieve privacy Fathy situated the bedrooms on one side of the courtyard and the reception area on the other. The main reception area is large, light and well proportioned.				
1980	Saqqara Road, Shabramant, Giza	Greiss House	private residence	
The house was built by skilled masons from Nubia, but because of difficulties of labour management and quality control during the construction, the owner had to supervise the construction process himself He also employed his own team of skilled workers fromCairo to work together with labourers from the area.				

Domestic Buildings

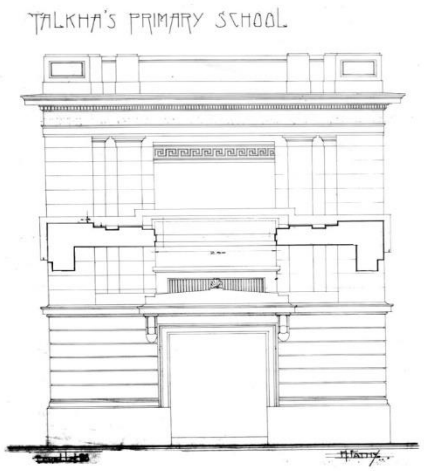
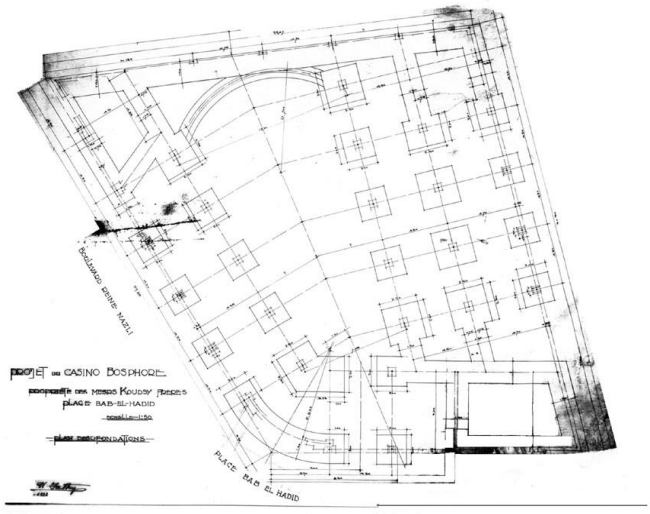
History	Place	Name	Function	Photograph Drawings
1981	EI-Mahamid Street, Edfu, Upper Egypt	Mustafa House	private residence	
The plan itself is also a direct interpretation of a traditional Nubian house as found in Abou el-Riche or Gharb Aswan today, which are both among many such villages previously surveyed by the architect. In this reasonably literal translation, the symbolic doorway leads directly into a sequence of rooms lined up on either side of an open entrance vestibule which are each related to the entertainment of guests.				
1981	Giza	Sadeq House	private residence	
Designed as an artist's studio, this house has not been built according to the architect's plans, which were based upon a carefully arranged series of courtyards, and a swimming pool.				

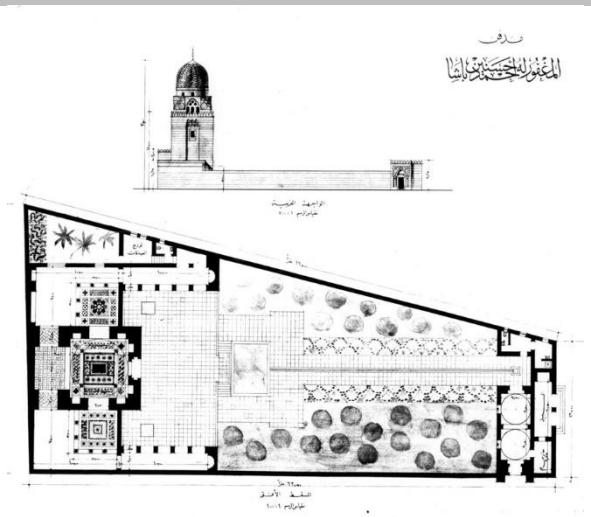
Domestic Buildings

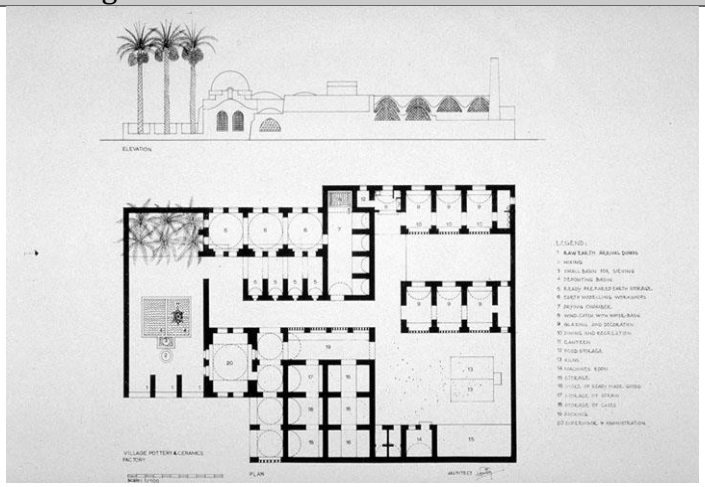
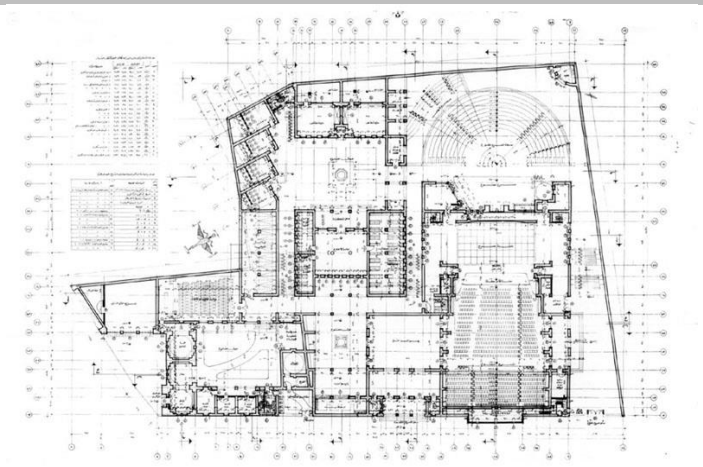
History	Place	Name	Function	Photograph Drawings
1981	GarfHusein, Aswan	Presidential Resthouse	private residence	
This resthouse consists of three separate buildings. The first building was intended for President Sadat's security police and bodyguards, who accompanied the president on his official trips. It is a one storey building and its plan consists of a domed entrance, twelve bedrooms with their bathroom and four corner suites intended for men of higher ranks. All rooms are arranged around a long rectangular, central courtyard. To make the building self-sufficient, Fathy located a dining hall in the middle of the courtyard. All rooms are domed, while the bathrooms are vaulted. The second building of the complex was intended for important guests and Sadat's extended family. This building is separated from the security block by a landscaped area, but attached to the President's rest-house by a walled courtyard.				
1984	Tunis village, Fayum	Andrioli House	private residence	
The AndrioH house has had a positive influence and revived the interest in building in mud brick in the village of Tunis. An architect, who was interested in the work of Fa thy came to this area and built about five houses following the same design-principles and way of construction, as well as teaching the craftsmen the way of constructing domes and vaults.				

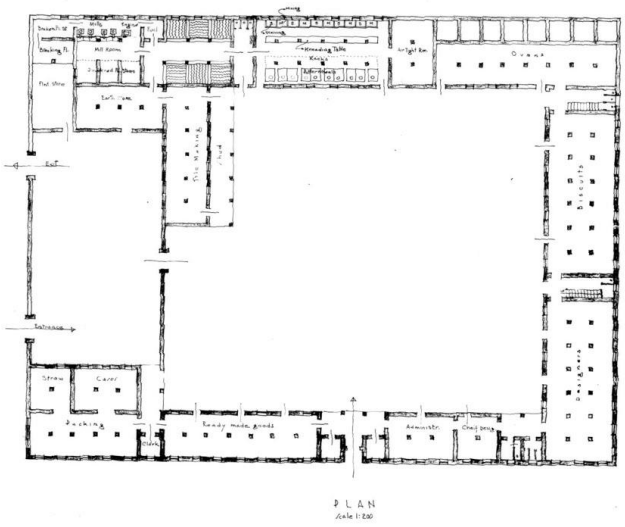
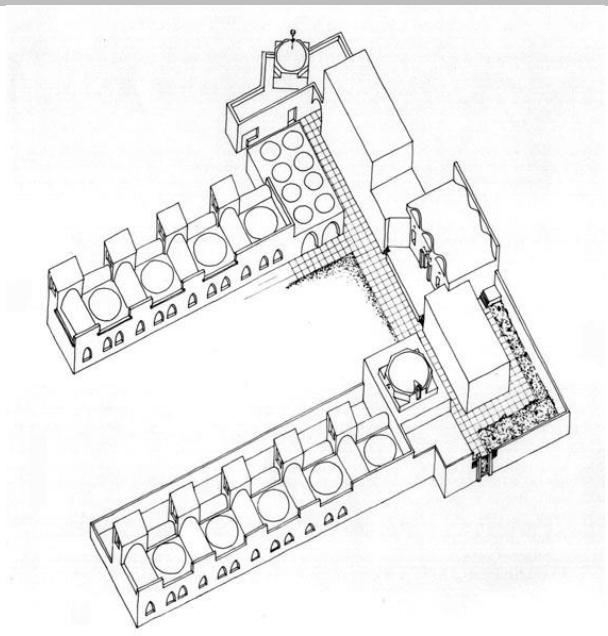
Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1986	Tanta	Rashad House	private residence	
Built in the Delta region of Egypt, this house uses local stone, and contrasts dramatically with the lush vegetation characteristic of the area.				
1988	Ghur Namrin Village, Amman, Jordan	Talhuni House	private residence	
This house is an unusually fine example of Fathy's consistent care for residential space used for hospitality. The outside area, enclosed by arcades, is primarily given over to this function, and balances well with the more private character of the interior.				

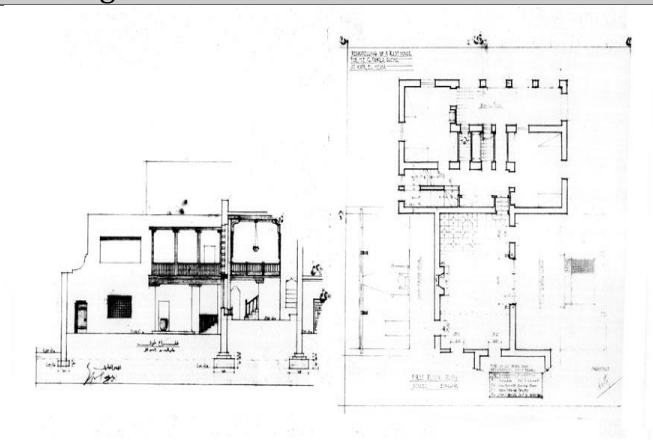
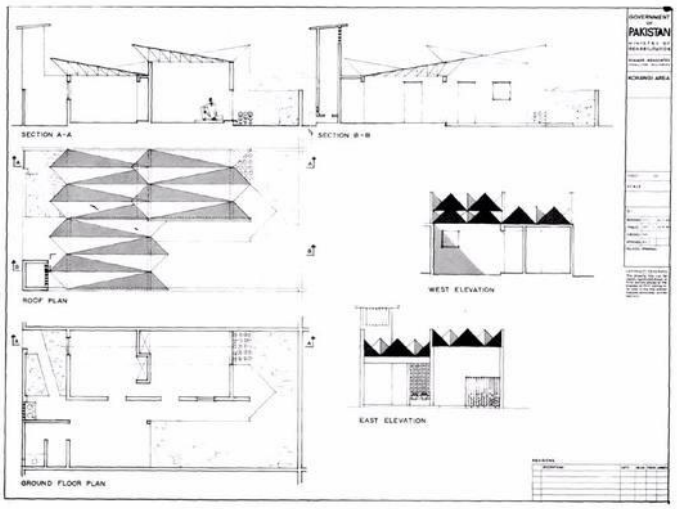
Domestic Buildings				
History	Place	Name	Function	Photograph Drawings
1989	Kharga Oasis	Tilawi Residence	private residence	(NO)
Plans for this house are not recorded in Steele, 1989. Fathy's archive also does not include any drawings for this house but drawings are published in Khlosi, 1997.				

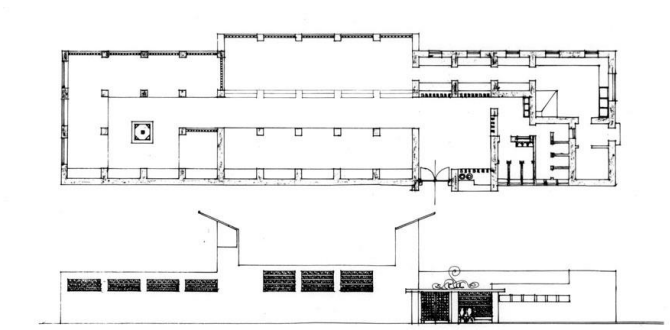
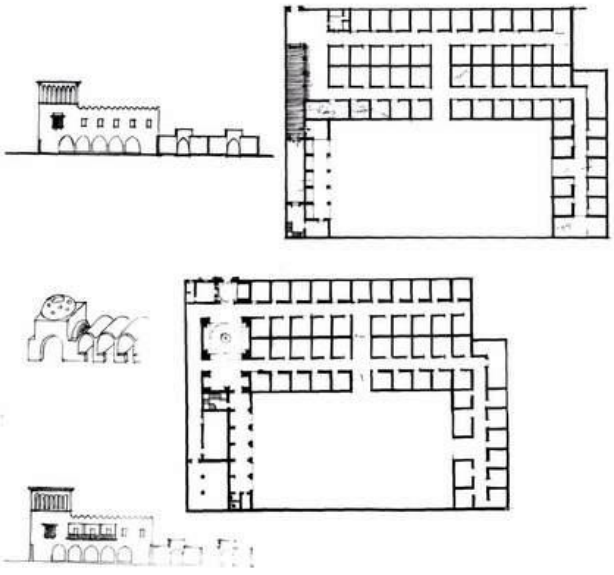
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1928	Talkha	Talkha Primary School	School	
The incomplete drawings of the Talkha School as well as the difficulty of verifying the actual building led other researchers to be confused and combine drawings of other buildings as illustration to the school for example, in *The Hassan Fathy Collection: A Catalogue of Visual Documents at The Aga Khan Award Architecture.* Bern, 1989, p. 11, James Steele included an elevation which does not relate to the actual school building. Likewise, Amal Ahmed Abdou in her Ph.D. Wohn-und Siedlungsbau anhand von Hassan Fathys Praxis und Theories. Thesis (Doctoral) - Technische Universitat Miinchen, 1993, p. 8, based her account and the illustration of the school on those of Steele's catalogue.				
1932	Bab AI-Hadid, Cairo	Bosphore Casino	Casino	
Intended to be located on the corner of the old Queen Nazli Boulevard at Bab al-Hadid, in Cairo, the Bosophore Casino is another of the architect's incongruously Modernist early works. Designed for the Qudsi brothers, the art deco-style structure, however, shows confident handling of a difficult curved corner site, and authoritative use of massing.				

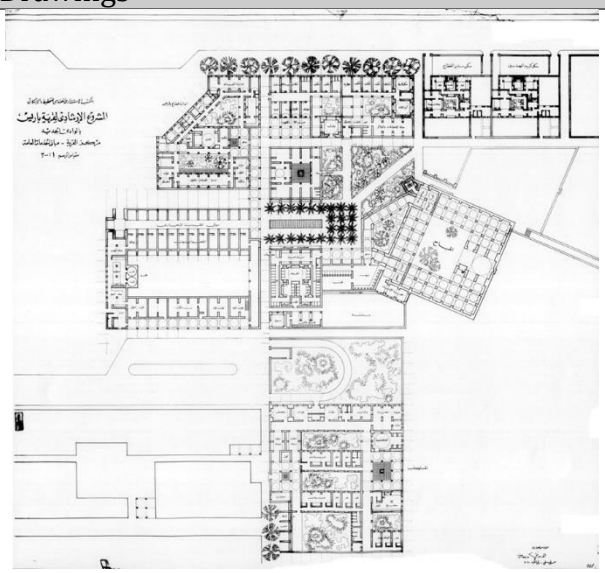
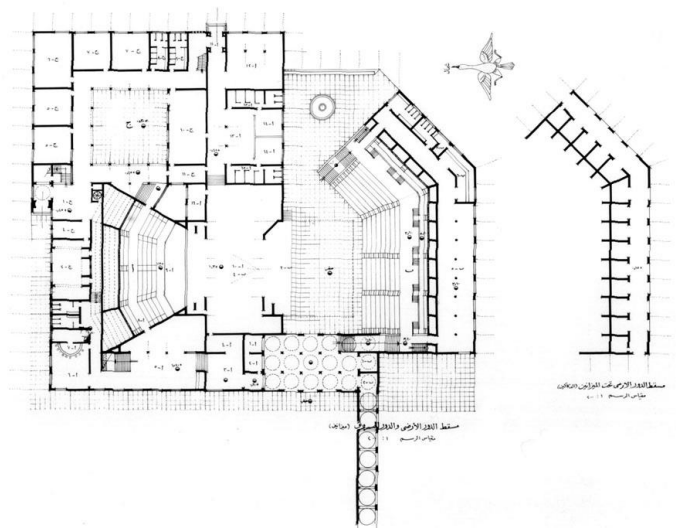
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1933	EI-Dakhliya Street, Cairo	AI-Kachkachi Building	Public	
This building has been designated by other researchers as a commercial building. As the commercial use is restricted to the ground floor, in this catalogue it is also classified as a residential building				
1946	Salah Salem Street, Cairo	Hassanein Mausoleum	Public	
This mausoleum was photographed by the author in February 2000 and is illustrated below for the first time.				

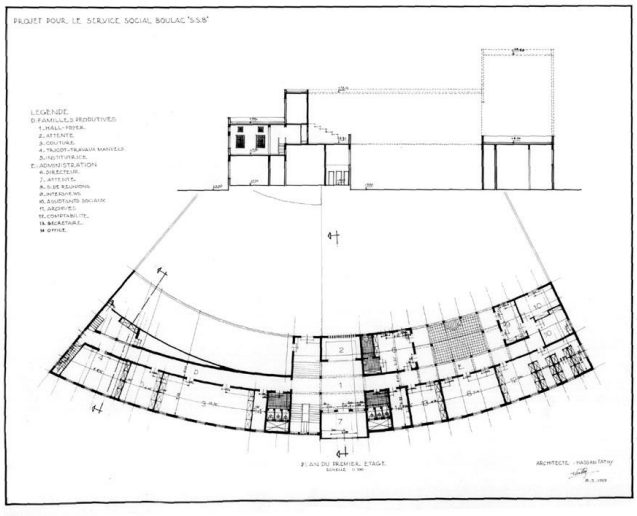
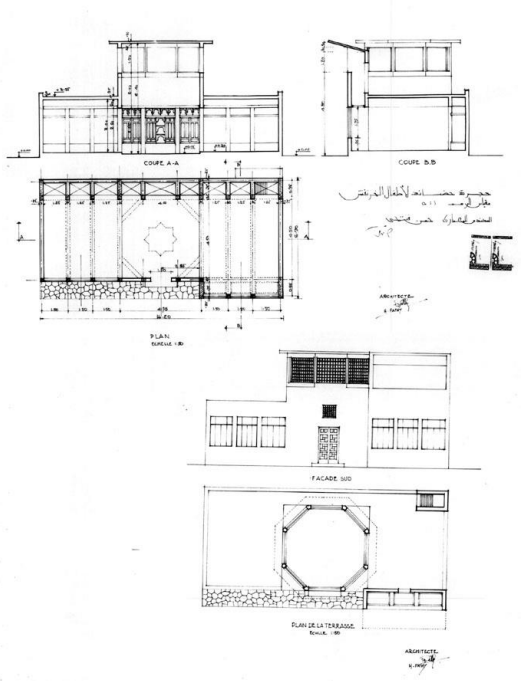
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1950	Garagus village, Qena	Ceramics Factory	Factory	
A second community-oriented project that followed New Gourna at this time was a Jesuit based crafts centre located at Garagos, which was intended to improve the standard of living of the people in the village there. The plan for a ceramics factory, while deceptively "low-tech" in appearance, represents an extremely logical and efficient production diagram for the manufacture of pottery. The spaces in the complex are organized sequentially, beginning with the delivery of the clay, which is available locally, through its screening, washing, preparation and storage and then on to the workshops where it is sculpted and formed. After sculpting, the pottery is fired, packed, stored and shipped.				
1950	Garagos village, Qena	Cultural Centre	Public	
Each of these three elements in turn are grouped in individual clusters around an open court, and linked by a wall that is provided with a main gate and side gate for access into the compound. The church is grouped with the church school area, and an assembly room, while the crafts school on the opposite side of the court consists mainly of classrooms for teaching weaving, and a large workshop.				

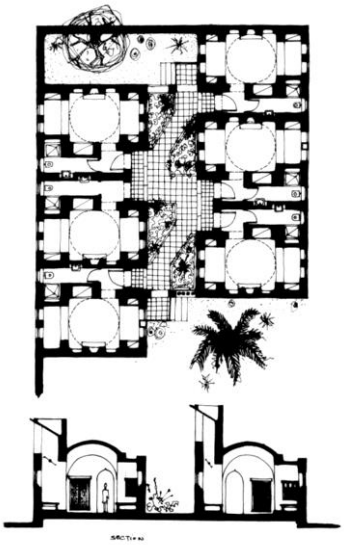
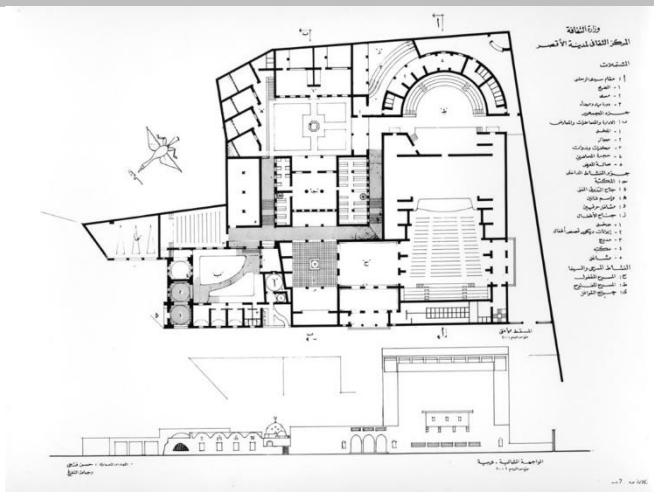
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1952	Jerusalem, Palestine	Tile Factory	Factory	
A rather utilitarian structure, specified for construction in the 'Dome of the Rock' area, perhaps intended for making the tiles to be used in the restoration of that important Islamic monument.				
1957	Fares village, Upper Egypt	Fares Primary School	School	
Fathy also became interested in the possibility of providing an economical prototype for a school for the rural villages throughout Egypt. Studies for such a prototype were carried out by him in his role as the Director of the School Building Department, which was offered to him by the Egyptian Ministry of Education at the beginning of 1950. The school at Fares, between Luxor and Aswan, is the prototype that he put forward, and brings many of his previous ideas together in a single design. The plan of the school intentionally separates the administrative and communal activities such as the mosque, library and assembly hall, which face east and west.				

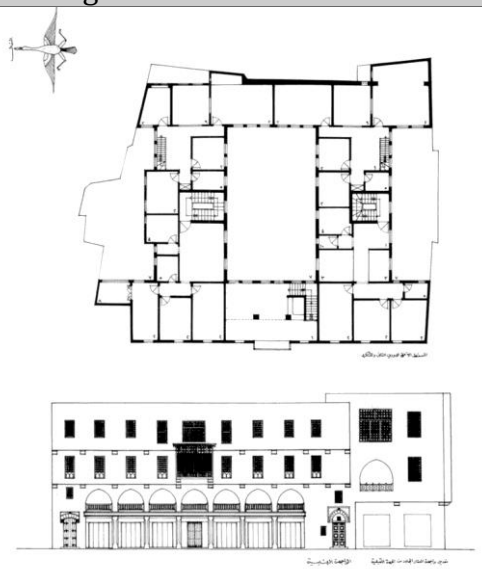
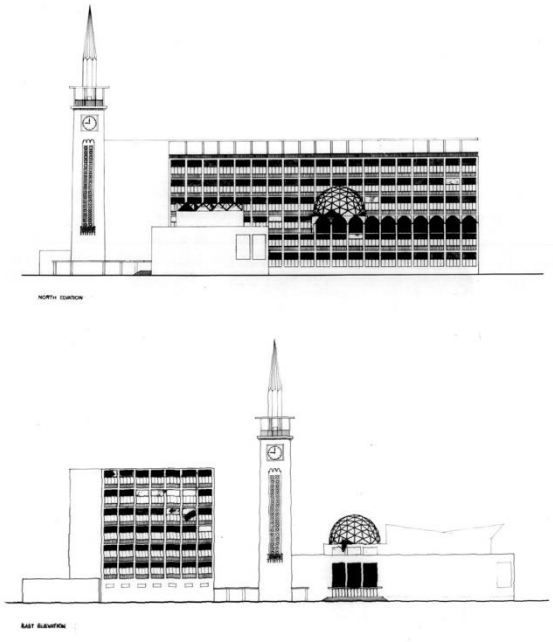
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1957	Idfu, Upper Egypt	IDFU Primary School	- School	
The Talka School of 1928, which is the first recorded project done by Fathy after his graduation from architectural school, is the unmistakable product of a classical, Beaux Arts education. Only fragmentary details remain to show the young architect's concern with the niceties of a well proportioned monumental stair flanked by Doric columns and capped with fretwork , dentils and acrotyrion.				
1960	Punjab, Pakistan	Mosque	Public	
In his both An Architecture for People (1997) and The Hassan Fathy Collection: A Catalogue of Visual Documents (1989), Steele documented the mosque as to be designed in 1950. In Hassan Fathy (1985) by Richards, Serageldin and Rastorfer, the mosque was documented as to be designed during Fathy's work with Doxiades Associates in 1960. It is likely that the mosque was designed in 1960 because it was covered by corrugated roof and a geodesic dome which Fathy experimented with for the first time while he was working in Athens. See Fathy, a Roof for Hot-Humid Zones,Doxiadis Associates .				

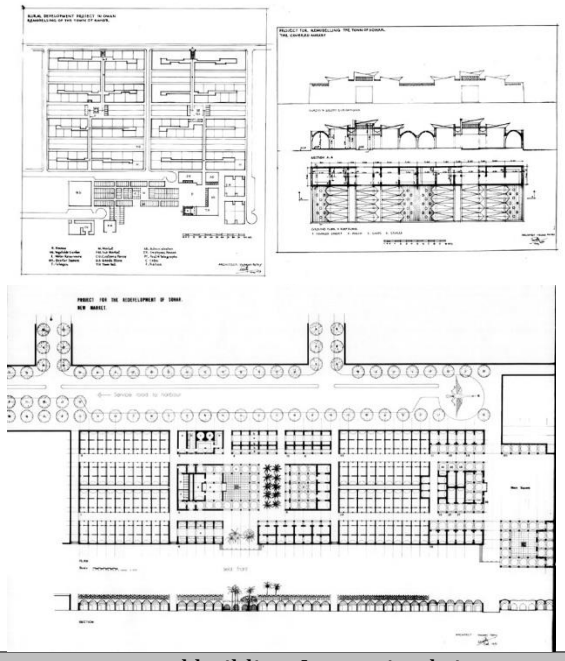
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1960	Egypt	Atiya Restaurant	Restaurant	
The elevation of this long, linear building, for an unspecified site, is dominated by two high malkafs, which combine with inner courtyards at each end of the restaurant, to cool it. Seating within is distributed evenly between tables, banquettes and long counters, with a central kitchen serving all three				
1960	Giza, Egypt	Touheimi Stables	Public	
Fathy end with a finely drafted version showing twenty square, domed stalls constructed in mud brick surrounding a rectilinear stable yard, with office space, tack rooms and feed areas attached at one side, with their own internal open space. As is consistently the case in Fathy's work, compositional skill and a uniform structural language combine to lift what is usually considered to be a very utilitarian building type to a new, and much higher level of regard				

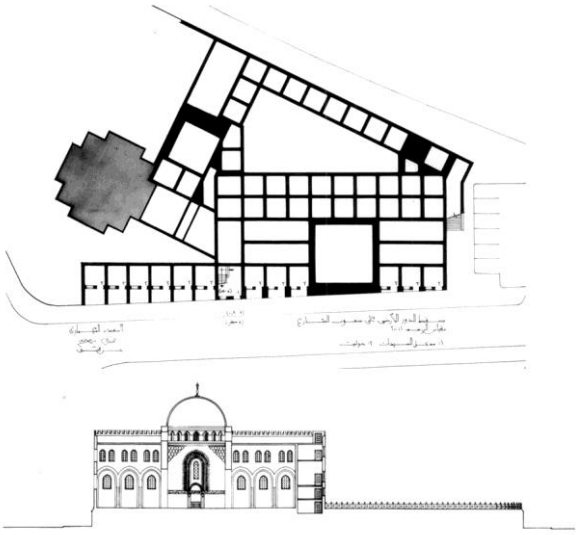
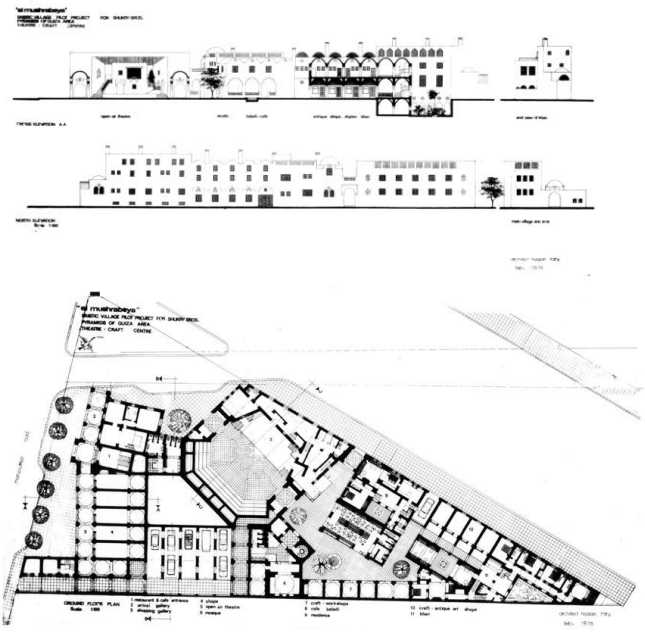
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1965	Kharga Oasis	AI-Saoura Clinic	Restaurant	
Fathy concentrated on a thorough study of both the traditional architecture and climate of the region. In addition to examining the fourth century AD mudbrick ruins of the necropolis of Bagawat nearby, he also closely observed the existing village of Kharga, where the material used, as well as the width and orientation of the streets and introverted forms of the houses effectively offset.				
1965	Abu AI-Rich, Aswan	High Institute of Social Anthropology & Folk art	Public	
The site plan of this project consisted of the scientific and experimental department buildings, which also include the main entrance to the whole project, the school of music and dance, the enclosed academic museum, the Nubian open museum, the open amphitheater and the outdoor restaurant. The most important two components of the project were the Nubian open museum and the enclosed academic museum. Fathy believed that they would highlight the remarkable historical transformation in the context of Egyptian culture for the ordinary visitor.				

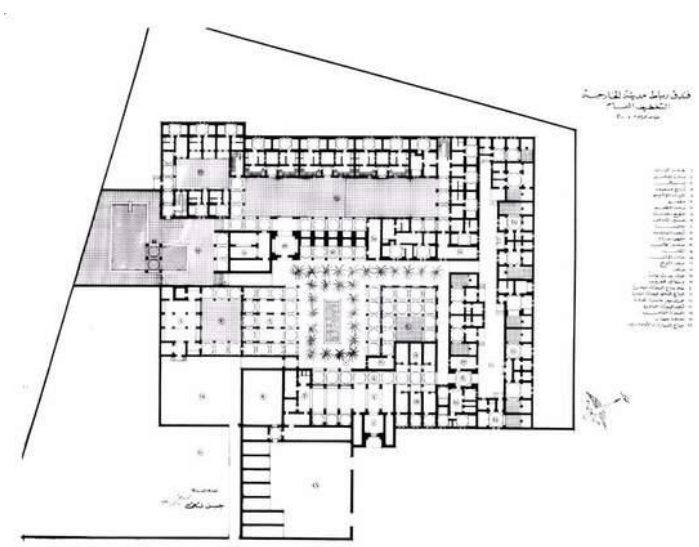
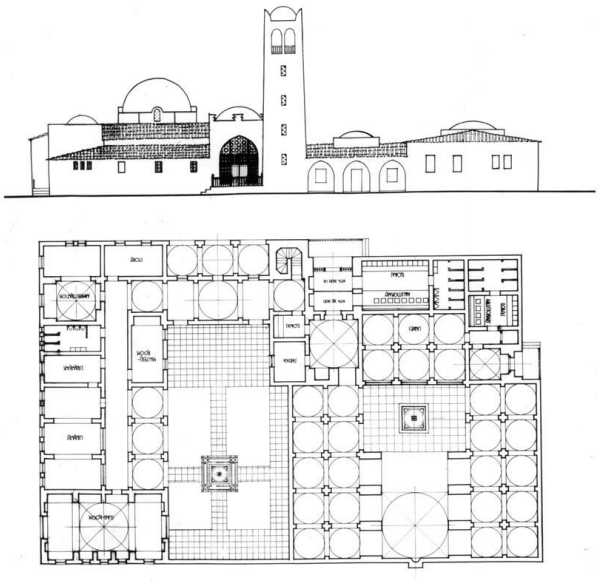
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1968	Bulaq, Cairo	Social Centre	Public	
this is another rare example of the architect's uncharacteristic use of curved plan forms, but the reason here is not as clear. Phasing diagrams indicate plans for future expansion on top of an initial structure housing clothing workshops and a sales room, as well as administrative offices, for community-produced goods.				
1969	Cairo	Khoronfesh Nursery	Educational	
the project is cut in two by another floor above, which increases available floor area, but uncharacteristically restricts the feeling of vertical space that the architect achieves elsewhere in the use of this traditional form				

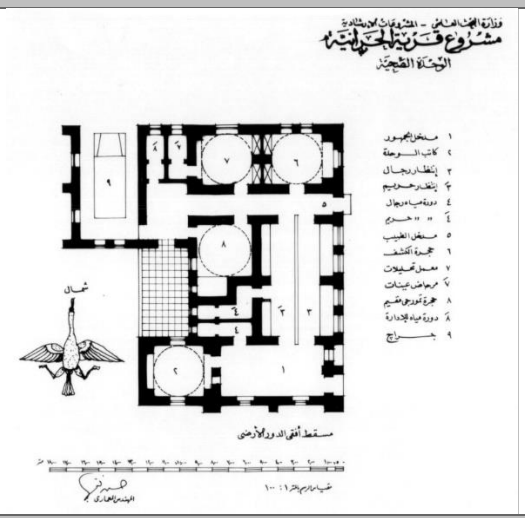
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1970	Bulaq, Cairo	Abu al-Qichr' Laboratory	Research	
A laboratory for homeopathic medicine in an unknown location provides work and office space in a two-part complex, joined by party wall, of which each has its own central court.				
1970	Luxor	Luxor Cultural Centre	Educational	
The site is surrounded by the gardens of the Luxor and the Winter Palace hotels from the east and south. Fathy was inspired by the architecture of the sanctuary and believed that it would be a model to define the architecture of the centre's buildings. This project was photographed by the author in February 2000 and is illustrated below for the first time.				

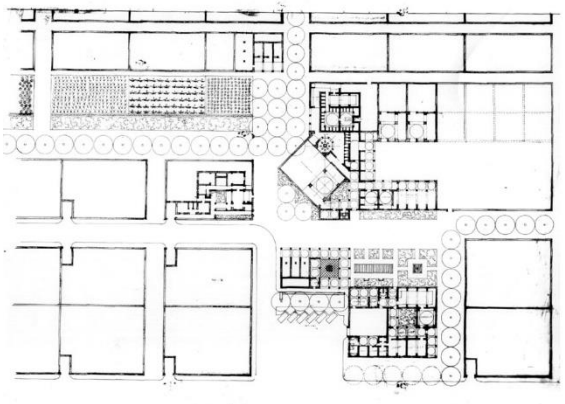
COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1970	Cairo	Suq AI-Silah Market	unbuilt	
This recreation of a medieval wikala, designed for Suq al-Silah Street in Cairo, was divided into two projects, for Plot 45 and Plot 66. The larger of the two (Plot 45) uses the same configuration as the wikalas of the past, with a single massive doorway to give access into a long central court.				
1970	Khartoum, Sudan	Mosque and Conference Centre	Educational	
Like the Mosque in Punjab, this project also uses a geodesic dome over the main prayer space, but the complex is more ambitious, with an assembly hall, office block and towering minaret encircling a large public open space.				

COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1973	Sohar, Sultanate of Oman	Sohar Remodelling	unbuilt	
The market of the village was designed as a large single-storey covered building. It contained sixty commercial shops, bakery, cafe and a department store. Fathy based his design on a 3.3-meter grid. It was roofed with a baratsi truss which proved to be an inexpensive, lightweight roofing element and structurally stable				
1974	Tripoli, Lebanon	Islamic Centre	Religion	
Only one plan of this mosque remains, showing the building itself, with its own imperative of orientation, placed at an angle between a madrasa to the south and a garden forecourt to the north.				

COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1973	Abbasia, Cairo	*Wehda Mosque and Islamic Centre*	Religion	
Fathy developed his designs in response to these substantial requirements. The plan of the Islamic centre consists of the main entrance which leads into the prayer iwans, a garden- courtyard surrounded by arcades on two sides, a secondary entrance leading to the management rooms and a lecture hall, ablution room for men and another for women with separate entrance.				
1976	Maryoutia Road, Giza	Al-Mashrabiya Tourist Centre	Tourist	
Commissioned by the Shukri brothers for a busy street-side site in Giza, near the Pyramids, the plans were to include residential units, studios, restaurants, craft shops, a mosque and a theatre.				

COMMERCIAL AND PUBLIC BUILDINGS				
History	Place	Name	Function	Photograph Drawings
1978	Kharga Oasis	Rebat Hotel	Public	
This luxury hotel for the district capital of the Kharga Oasis was to have restaurants, shops, a shaded courtyard, a swimming pool, and deluxe living units**.**				
1980	Boston, USA	Roxbury Mosque	Religion	
According to James Steele, Hassan Fathy designed this mosque "for the Muslim community in this residential district of Boston." A mosque designed by Fathy's friend, Sami Angawi opened on the property in 2009.				

VILLAGES AND FARMS				
History	Place	Name	Function	Photograph Drawings
1941	Bahtim	Royal Society of Agriculture Farm	demolished	(NO) demolished
In an interview with the author in January 2000, Mahmoud Fouraig 1937, one of the residents of the Royal Society Farm, confirmed that all the buildings of the farm were demolished, except some parts of the granaries, which are used as residential spaces by him and others.				
1942	Cairo	Izbit EI-Basri Village	demolished	(NO) demolished
Only one prototype-house has been built and then demolished.				
1964	Giza	Harraniya Village	Village	
Harraniya Village Project was a collaboration between Fathy and the Ministry of Scientific Research in 1964.Because the literature of the Harraniya village was written in Arabic, other researchers, such as James Steele, were both confused and misled, while in his The Hassan Fathy Collection .				

VILLAGES AND FARMS				
History	Place	Name	Function	Photograph Drawings
1945/48	West Luxor, Upper Egypt	New Gourna Touristic Village	Village	
Abd EI-Malak, who lives in Gourna believes that their houses "are not slums. Our houses are spacious, and built in the distinctive Al-Gourna style. We don't want telephone lines and shopping malls, we just want to preserve our way of life on our land". Selim's main aim was to modernise Gourna, but he has missed the cultural, social and psychological factors that govern the way of life of the inhabitants , considerations that Fathy did not ignore when he designed his New Gourna village.				
1954	Cairo	Mit AI-Nasara Village	(unbuilt)	(NO) (unbuilt)
Fathy, Re-housing Mit AI-Nasara Village, a Report Submitted to the Ministry of Social Affairs				
1958	Greater Mussayib, Iraq	Regional Plan for the Development of Greater Mussayih	Farm	
Fathy drawings for the Iraq Housing Program, which were associated with this project, is made up of the elements of a traditional Iraqi village, such as a mosque, market shops, coffee-house...				

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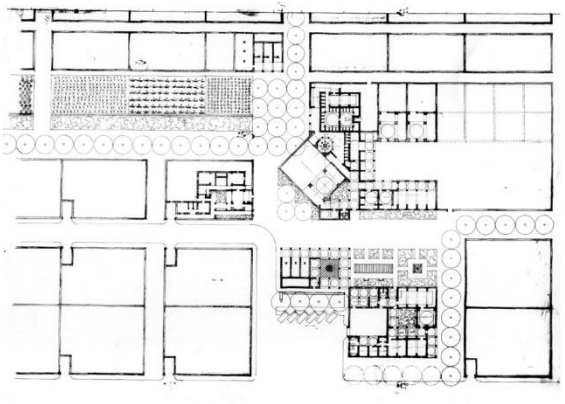
1958	Greater Mussayib, Iraq	Regional Plan for the Development of Greater Mussayih	Farm	
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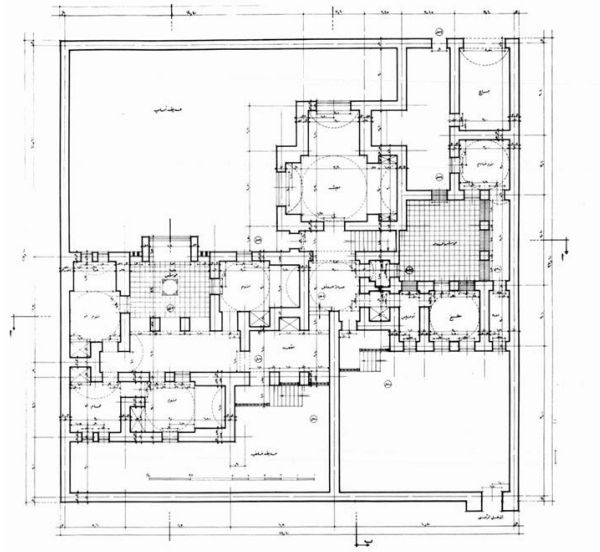
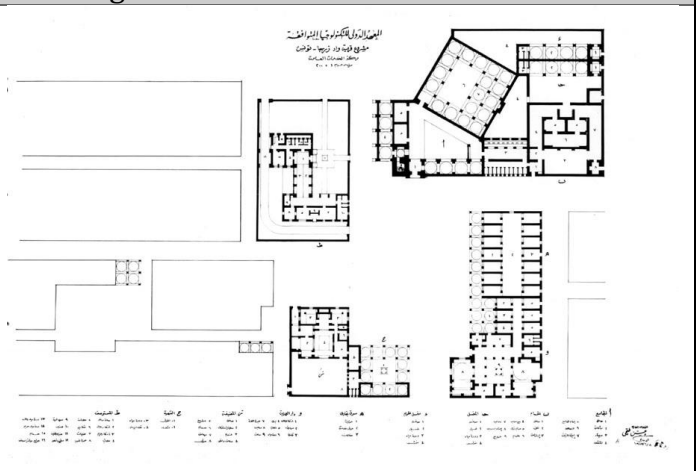
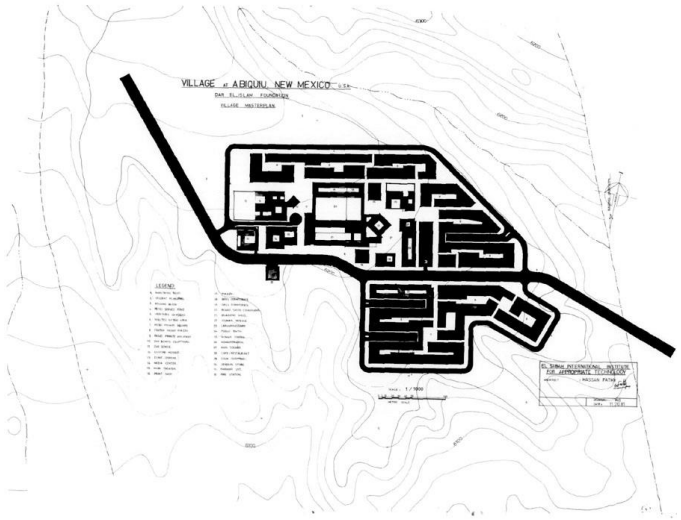
VILLAGES AND FARMS				
History	Place	Name	Function	Photograph Drawings
1964	Kharga Oasis	New Hariz Village	Village	
Fathy carefully studied the towns in the valley of the Kharga oasis. Fathy was interested by the mud brick ruins of the 4. century necropolis of Bagawat near the village of old Kharga. It was built by the Coptics, who ran away from the hardness of the Romans to live in this far region. Fathy discuss that these ruins are a strong proof of a knowledgeable society and explain useful lessons structurally, economically and socially. He also believed that this is the time to take progress of the work of those major, whose buildings survived for fourteen centuries. Fathy was impressed and influenced by the construction method of the roofs in Bagawat, which was the reason of this form.				
1970	Luxor	New Gourna Tourist Village	(unbuilt)	(NO) (unbuilt)
After twenty years of work on New Gourna had ground to a tumble, The architect get back to the site again by new project for a touristic village, the idea behind the convention was to somehow finish the unrealized possibility of New Gourna's close closeness to the crossing landings on the bank of the Nile and the main highway, that was one of big stumbling block, Fathy proposed new desgin between 1945 and 1948, but project had no chance.				
1978	Aswan	Al-Sadat Village	(unbuilt)	(NO) (unbuilt)
This project has never been aforesaid before in all previous studies.				

VILLAGES AND FARMS				
History	Place	Name	Function	Photograph Drawings
1978	Wadi Zarga Village, Tunisia	Wadi Zarga Village	Village	
Two-storey units for this village near Tunis, which were carefully designed and oriented to make the best use of winds. A large curtain wall placed between each connected set of houses introduces cross ventilation through a channel that serves both				
1980	Abiquiu, New Mexico, USA	Dar Al SlamVillage	Village	
The last community project assume by Hassan Fathy was Dar al-Islam, a nonprofit educational organization set in New Mexico. cofounded the project by three different businessman backing from king Saudi Arabia, Khalid ibn Abdul Aziz, which has been built in 1979.				

1989	west of Alexandria	Journalists' Resort Village	Village	(no)
Fathy tried to retain the natural of the site exploiting it so as to take advantage of the wonderful view of the sea. However, Fathy divided the site into similar quarters, each on a different level according to the sea. the residential quarters are separated by car streets, which all end at the same main street, which has been usual in our days.				

A.2.3. Hassan Fathy - Publications

- **BOOKS**
  - *Gouma: A Tale of Two Villages.* Cairo, 1969.
  - *The Arab House in the Urban Setting: Past, Present and Future.* London, 1972.
  - *Architecture for the Poor: An Experiment in Rural Egypt.* Chicago, 1973.
  - *Architecture and Environment.* Cairo, 1977.
  - *Natural Energy and Vernacular Architecture: Principles and Examples with Reference to Hot Arid Climates.* Chicago, 1986.

- **ARTICLES**
  - *Summary and Translation of The Dynamics of Westemization in the Middle i:!.,ast by Rafael Batai, 1955. AI-Majalla, no. 9, September 1957, pp. 50-53. (in Arabic)*
  - *Rural Self-Help Housing, Intemational Labour Review, v. lxxxv, no. 1, January 1962, pp. 1-17.*
  - *An Ekistic Approach to the Problem of Roofing in Peasant House-Building. Ekistics, June 17, 1964, pp. 391-398.*
  - *Model Houses for El Dareeya, Saudi Arabia. Ekistics, March 21, 1966, pp. 214-219.*
  - *Model of Rural Housing for Saudi Arabia. Ekistics, September 22, 1966, pp. 203-204.*
  - *What is a city? From a Lecture Delivered at AI-Azhar University, Cairo, 1967. Casabella, no. 653, February 1998, pp. 56-65.*
  - *"Constancy, Transposition and Change in the Arab City", in Madina to Metropolis, by L.Carl Brown, ed.,Princeton, 1973, pp. 319-334.*