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**A new life for the industrial heritage of Minet El-Bassal at Alexandria**

1. INTRODUCTION

During the second half of the twentieth century a widespread crisis of numerous industrial sectors contributed to the appearance of derelict industrial areas. In this perspective the recycling of derelict industrial areas is indispensable for sustainable city development in the optic of recovery and conservation of our industrial heritage. This Paper focuses on giving a new life to an industrial neglected district in Alexandria – Egypt, through revitalization of the buildings.

It is important to know how to preserve buildings and areas which are no more capable of securing their future, due to the decline of their need, and which resulted in creating an abandoned unsafe environment, that encouraged the appearance and breeding of unhealthy communities. This underdeveloped urban area being very close to the central business district of the city became over time uninhabitable, which makes it weak and its industrial buildings vulnerable to demolition. Such heritage faces the unenviable future of becoming one of the city cement residential blocks, so the past and history of such areas will be forgotten and extinct.

The transformation of abandoned industrial sites into public spaces represents a significant enhancement to the quality of life and land use, and at the same time marks a new commitment to the transformation of once-industrial sites to new cultural and environmental uses. This requires a new planning approach based on knowledge, new technologies and collaborative design1.

The creative reuse of existing resources also has the advantage of community acceptance, avoiding the opposition often faced by new construction. Industrial properties, particularly in urban areas of large cities, are unlikely to enjoy the privilege to attract neither investors nor citizens to the communities in which they are situated. But at the same time communities must preserve their natural integrity of historic resources, which builds a unique and evocative sense of place to which people are naturally drawn to live, work and play. The importance of this research paper lies within the framework of promoting cultural awareness among Alexandrians, to become acquainted with the stock of civilization and cultural heritage of their city.

As development pressures increase in our cities, more industrial heritage buildings have to be reused, producing some examples of creative designs that retain their history and significance. Projects which adapt heritage buildings, present a genuine challenge to architects and designers to find innovative solutions. This type of proposed projects resulting from architects’ work, may encourage decision makers and investors to re-use and revitalize these neglected areas.

The importance of this project also lies within the framework of promoting cultural awareness especially among architects’ students, to become acquainted with the stock of civilization and cultural heritage of their city Alexandria, and respect the identity of the place. The authors were instructors of Pharos University Alexandria (PUA) students in the design course (Spring 2012). Through the 4th level design studio curriculum, authors directed course work plan on studying Minet El-Bassal area, to document its industrial heritage and to suggest re-use projects.

2. SITE SELECTION

It is intended to document Minet El-Bassal district as an industrial coastal region and to discuss different options and the processes to revitalize industrial properties in an urban area of the large metropolitan city of Alexandria.

The purpose of choosing Minet El-Bassal District as a case study resulted from many environmental, historical, governmental, locality, market and financial factors. Although

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this district has a long history of industrialization, no accurate architecture documentation was accomplished of its industrial buildings. Also there has never been a proposed rehabilitation project concerning adaptive reuse of such immense buildings. On the other hand, these industrial buildings are located right in front of the western harbor and next to the center of the city, which make them the perfect setting to become the new mixed use area right in front of the harbor. The Mahmoudiya Canal embraced in the middle of the buildings to reach the harbor, is an asset that can enhance the district's environment quality and revitalize the waterfront (fig. 1).

It is essential to create awareness of the heritage value of Minet El-Bassal district’s historic industrial buildings before being demolished by neglect, to become new city blocks. Local Authorities and Alexandria communities have to realize the quality, history and social importance of local industrial heritage, particularly of its cotton mills. In the following, the importance of this district will be highlighted and discussed.

2.1. Site registration and authenticity

Judging from the surviving remains, these factories were not conceived as mere utilitarian buildings, but also as architectural monuments built to impress and to visually communicate the industry’s ambitions. This architectural quality was acknowledged by observers of the time2 (fig. 2).

However, it was not until about 2005-2006 that Alexandria Local Authorities realized the historical quality and social importance of many of the city’s heritage buildings, streets, and areas, as well as the industrial heritage of Minet El-Bassal district, particularly its cotton mills, and added them in the National Registered Heritage Buildings: List of Alexandria3. Minet El-Bassal was registered as a heritage area under code 6040 “Warehouse”, (fig. 3).

Also, the “Cotton Bourse”, or cotton stock exchange is a registered building embraced in the same district in the list of heritage buildings of Alexandria under the code no. 535 as “Distinguished Building” (fig. 4).

The district also hosts an old market well known to the Alexandrians’ for selling used goods called “Souk El-Gomaa”, in English; Friday market, the most popular market for selling used goods which used to be a tourist destination before the Egyptian revolution of 25th of January 2011, Nowadays, these street vendors occupied the area all week long, and became a threat to local workers (fig. 5).

2.2. Minet El-Bassal – Location and history

Minet El-Bassal district was one of the famous Alexandrian Industrial districts. It is located in the neighborhood of West Alexandria, near the end of the Mahmoudiya Canal in front of the Western Harbor gate at Alexandria Port (fig. 1).

The District history begins when the Ottoman ruler Mohammed Ali Pasha (1805-1840) recognized the importance of the Industrial revolution happening in Europe. He worked to industrialize Egypt and, in particular, to industrialize the military. In order to finance imports of European factories and advisers, the government exported first food grains, sugar and long-staple cotton.
Minet El-Bassal district was built (around 1810) overlooking the only seaport in the Egyptian land “The Western Harbor” in order to form a trade center for all Egyptian products exported to European countries. It consisted of headquarters of the international trading companies, large store-houses, workers housing and “Bourse de Cotton” an international marketing center for Egyptian cotton. The district was, and still is, supported by a well designed transportation network either for people or goods. In Alexandria, a freight railway was built in the 1850s to serve the western port, together with the adjacent Mahmoudiya Canal already built under Muhammad Ali's era, triggered extensive industrial development in this area. This network helped connect the district with all vital spots of local production and marketing. It could therefore be said that the city controlled virtually the whole of the cotton industry of Egypt. Its warehouses, processing units and its canal, roads, tram line and railway systems grew to match this influence and the resulting demand. By 1870, Alexandria was the fourth leading Mediterranean port after Istanbul, Marseilles, and Genoa.

An interview with company employees was undertaken to identify the current situation of these buildings. All the industrial buildings in this district used to be owned by the Société Générale de Pressage et de Dépôts, which was the oldest establishment in Egypt specialized in the storage and trading of Egyptian cotton since 1889. The buildings were prosperous in the era where European companies, especially British, were benefitting from cotton cultivation in Egypt by exporting all the production to be processed in British mills. After the 1952 revolution in Egypt, many of these buildings were out of work, as the new national régime focused on the local manufacturing of cotton which took place mainly in the Delta, right beside agriculture land. In time, market liberalization led to the neglecting of cotton cultivation and farmers went on to grow fruits and vegetables to meet the needs of the local market. Now, these industrial heritage buildings are owned by the Egyptian company for pressing cotton, it is a subsidiary of the Egyptian joint stock, which is owned by the Holding Company for Spinning, Weaving and Clothing. Some of them were sold to national banks due to the company’s need for funds to cover the deficit resulting from the reduction of cotton cultivation for exporting. This meant that buildings and machinery, which were already suffering from neglect because of lack of investment, became almost completely redundant. Unemployment became a major problem in the district; as cotton industry, which had sustained large communities of people, was vilified. Communities and their civic leaders turned their backs on this large industrial and immensely impressive heritage. This was because cotton was seen as a failed industry with its recent history of closures and redundancy. Some of the machinery was stripped out and sent for scrap. Many of them are on their way to be demolished and the sites will be clear for “new enterprises”.

3. SELECTION AND DESCRIPTION OF MINET EL-BASSAL BUILDINGS

The case study approach used in this research consists of studying seven industrial buildings in the district as pilot project to suggest possible adaptive reuse projects. The data selected from site visits in this research is based on the work steps of the architecture design project supervised by the authors.

3.1. Description of investigated buildings

The reuse of vacant and neglected industrial buildings is a desirable form of development as municipalities face the pressure of continuous growth. Seven industrial buildings in the district were selected for possible adaptive reuse projects (fig. 6-8).
Building no. 1 is a re-constructed building (fig. 9). It used to be an industrial cotton warehouse and pressing unit, but now the Bank of Alexandria “Minet-El-Bassal” branch. This new international style building replaces the old warehouse.

Building no. 2 is the cotton stock exchange of Alexandria “Cotton Bourse” (fig. 10). The building is a neo classical style. The fact that it was built in 1872 makes it one of the oldest, most active stock exchange houses for cotton in the world. It specialized in the trade of cotton and agricultural grains and remained prosperous until the revolution of July 23rd – 1952. Nowadays, it is unoccupied.

Buildings no. 3, 4, and 7 are cotton pressing units and warehouses owned by the Egyptian Company for pressing cotton. Their names are “Makbas El-Nile, Makbas Misr, and Makbas El-Tarekh” respectively (fig. 11-13). The two first buildings lining the canal’s eastern side were completed in 1936. The third building was built in 1956 on the western side of the canal following the same plan and design by Egyptians after the company had been nationalized. These buildings are partially still in use. Some of their areas are rented for import and export companies working at the harbor to be used as storage spaces. It replaced an older building that was structurally damaged due to ground settlement.

These three buildings are characterized by their red brick walls, chimney, steel water tanks and steel gats with vertical steel tracks for loading cotton. “The architecture, which is straightforward and utilitarian, and features no embellishment, is probably the work of civil engineers of British or German background”.

Through the site visits to the buildings they can be described as massive industrial buildings composed of two to three parts with internal courts and connected with bridges. By visiting these buildings internally, it can be perceived that each complex consists of two buildings with internal and external courtyards. One of them is an administration building connected by vertical and horizontal circulation to the cotton storage areas in the other building, which contains vast storage areas and pressing units connected with steel bridges. Spaces were separated by iron doors with special designs and techniques to isolate spaces in case of fire. Many of these buildings were illustrated in many publications as follows: “From the exterior, however, one observes three-story blocks in concrete-frame construction, with visible columns and girders articulating the façade as a grid filled with red-brick walls. Instead of window ribbons, the complex includes evenly-spaced small transverse rectangular windows on the lower floors and upright oblong windows on the upper floor”.

Buildings no. 5 is warehouse Bank Misr (fig. 14, 15). It used to be cotton storage warehouse. It is now owned by Bank Misr. It is also vacant due to decaying roofs.

Buildings no. 6 is the oldest building among the group with a remarkable façade (fig. 16). It is now vacant due to the instability of the vestiges. It has been exposed for sale for quite a long time. It possesses an exceptional façade that makes it unique in its surrounding. The timber roof of the building complex was destroyed over time (fig. 17, 18). The architecture description of the building’s remaining façade as in previous literature is as follows:

The peculiarity of the building derives from its arcade façades. The eastern and main façade, which runs along the street and the canal, as well as the narrow southern façade are both composed of a double-story arcade of round arches with profiled archivolt and impost on square pillars. The façades are further decorated with neo-Renaissance elements such as rustication work on the cornices, a string course on the first-floor level, and a cornice with concave moldings.
all worked in white limestone. Joints in the masonry indicate that the arches were originally open, but were later walled up, and some were equipped with gates or windows. Behind the arcades on both floors are rooms with doors leading into the rear parts of the building, which currently are not accessible. The date and the function of the building remain unclear at this point. Construction techniques and decoration allow a dating to sometime between the first half and the third quarter of the 19th century. The stylistic features of this two-story building suggest a dating to the 1860s or 1870s. Here again, as in Muhammad Ali's time, we see a continued pattern of giving industrial buildings a monumental allure.

Other important additional clues referring to this incomparable building are provided by a map of Alexandria drawn by Charles Muller in 1855. It shows building activity in this area – including a shape that could be the building – and summarily identifies structures as “magazines,” i.e., stores. It is very possible that this building is the last remnant of these stores, and this could explain its unique arcaded architecture.

3.2. Recording and documentation

Site visits were accomplished to take an overview of the buildings status. On the other hand, this type of proposed projects may encourage decision makers and investors to re-use and revitalize this neglected area, especially with the widespread of abandoned industrial areas worldwide and the need to develop them while retaining their authenticity and in accordance with sustainable city growth.

These seven buildings were recorded under researchers’ instructions and guidance, then documented by AutoCAD drawings, with written explanatory information, photographs and a three dimensional model of the current status of the site was accomplished to be exposed in the architecture department at PUA (fig. 19).

All significant external elevations and phased ground/floor plans were drawn. Examples are presented in fig. 20, 21. The photography included general and detailed views of all external and main internal elevations, with any unusual and/or important details and elements of the structure additionally being recorded photographically.

4. CONCEPTS OF ADAPTIVE RE-USE

Adaptive reuse, according to Burchell and Listokin, is defined as a revitalization strategy which employs a series of linked procedures to plan for, inventory, acquire, manage and reuse surplus or abandoned real estate. An imperative aspect of adaptive reuse projects is that the land or building which is being considered for had a previous use that is no longer suitable in that type of building or location, and therefore the potential value of the property will be maximized by adapting the space. The adaptive reuse of buildings can include modifications that are purely aesthetic, and are made to the building while retaining its structure and character. Infill development, including the reuse of vacant and derelict industrial buildings, is a desirable form of development as municipalities face the pressure of continuous growth.

Oscar Newman proposed and studied a concept known as “defensible space” where inhabitants of a location adopt a place and care for it as their own, resulting in less crime.
A reduction in the quantity of vacant or derelict buildings assists in reducing the crime rate and other antisocial behaviors in an area. As well, it can facilitate the revitalization of the surrounding neighborhood.

Adaptive reuse projects provide a different environment than traditional building spaces. The market for industrial buildings being adaptively reused for residential or office use is strong overall given their desirable location in the downtown area and their demonstrated success because of their uniqueness and the benefits they have to offer. In Minet El-Bassal district almost all the warehouses are owned by the Egyptian cotton pressing company. By adaptively reusing its buildings, the company has the option that would produce the greatest financial gain. Especially for developers, reusing these industrial buildings can be attractive for several reasons. First, if the developer owned the building during its prior use that eventually became redundant, a change of use of the building may be the only method in which they can attain liquidity from the land and building. Another reason developers are drawn towards adaptive reuse projects is the possibility of lower construction costs as compared to new build projects. The developer may benefit from potential cost savings associated with construction and materials by reusing many of the existing elements rather than incurring the expense of demolishing an old building, disposing of old materials, and then constructing a new structure.

In addition, the cost may be reduced due to a shorter timeline for the project given that the main structure is already constructed. The attributes associated with adaptive reuse projects, such as the physical conditions and locations of the buildings, are also generally highly desirable to developers. These attributes are transferred into attractive aspects for potential tenants. Lastly, certain developer value of history and the environment, and adaptive reuse projects can incorporate these elements through the retention of notable buildings and elements in various sustainable forms.

Environmental benefits are experienced through the reuse and recycling of the existing materials and structure, reducing the amount of waste entering landfills. The ability to reuse these materials is mainly due to the fact that older buildings are often constructed with materials of a higher grade and quality that therefore have a longer lifespan than those used in current construction.

The social benefits of reuse projects include revitalizing the heritage, identity of places and cultural value of a building. During the time period when these buildings were originally in use, they served for industrial purposes in the neighborhood. They provided character to an area and created a sense of place; acting as a link to the past, when Egyptian cotton was number one worldwide. Retaining and improving these buildings to preserve the general character of the area and experience the ambiance of the heritage of the cotton industry in Egypt.

4.1. Adaptive re-use proposals

Industrial buildings are large-span buildings; they have open floor areas and they also have floor heights that allow for horizontal subdivision through various means such as the construction of mezzanine floors. Although some have thick, load-bearing outer walls, the majority have skeletal structural systems, which allows the building envelope to be adapted to a wide variety of design possibilities in line with the requirements of the new utilization.

In addition, the interior architectural features including tall ceilings, vast amounts of windows, and exposed structural features help to create an old industrial atmosphere differing from standard developments built today (fig. 22, 23). Besides the surface area they occupy, industrial buildings’ character makes them highly suitable for conversion to other functions and to a variety of spatial organizational schemes.

![Current situation inside courtyard of Makbas Elnide showing linking bridges](Source: authors, 2012)

![Current situation inside cotton storage space of Makbas Eltarek](Source: authors, 2012)

The flexibility of the space within these industrial buildings is a characteristic that was identified by all developers in such areas worldwide as being important to re-use projects.

As a result to the previous characteristics of the cotton industrial buildings in Minet El-Bassal, many uses were suggested for the buildings under study. Intervention and building typology varied from industrial into commercial, recreational, cultural, administrative, and tourist uses. The special urban planning requirements of the National Organization for Urban Harmony in Egypt were followed. As mentioned earlier, the area is listed as an old warehouse area, therefore interventions can be preceded inside the buildings, but must not intervene with the heights, facades, and external volumes of the buildings to preserve the general character of the area and experience the ambiance of the heritage of cotton industry in Egypt.

The suggested new uses help maintain the quality and setting of the area and at the same time guaranty revenue to maintain these buildings. Uses were selected by the researchers to serve the waterfront and harbor facilities, and at the same time conserve the cotton industrial heritage. Although the study area doesn’t contain any inhabitants, except the illegal occupation of the streets in the Friday market, the re-use suggests rental apartments, motels and cafes to insure the occupation of this area, thus providing security at night. At the same time, spaces inside the buildings were sug-
gested to be used for the Friday market. A technical school and daycare unit for rehabilitating the inhabitants was also a project proposal.

Suggestions of new uses in each building are as follows:

- All ground floors along the canal – on both sides – can be converted to cafes, and shops which can increase the economy in the district and provide these places with needed money for maintenance.
- Buildings no. 3, 4 & 7 will serve as “multi use”; each already contains more than one building; the office building will remain in its use with minor changes, but can be rented to shipping companies, import & export offices, tourism offices, and any other businesses related to the harbor.
- The rest of these three buildings can be used as art galleries and exhibitions on the upper top floor. 2nd and 3rd floors (intermediate) can be converted into residential such as studios and apartments for rent.
- Building no. 1 is the Cotton Bourse, it is a listed building (city level), therefore it cannot get any external changes. Regarding the inside, any adaptations must be completely brought back to its original status. It can become the new stock exchange market of Alexandria. Regarding the back of the building, it consists of storage areas that can be re-designed as cafes and shops.
- Building no. 2 is now Bank of Alexandria, the style, age and architecture of this building doesn’t match the other buildings, therefore it can be re-built with exterior façades that match the character of the area, and also serve as the Bank of Alexandria.
- Building no. 5 consists of two old warehouses that have sound exterior red brick walls, but are damaged from the inside, therefore the walls can be preserved, but the whole inside building form can become an artifact school and day center for locals. It will also contain a large space for “the Friday market”.
- Building no. 6 has a historical façade mentioned earlier, which must be preserved. Facadism will be the suggested way of intervention. The facades will be kept and the buildings will be converted into a library & a cotton museum to display the history of cultivation, pressing, storing and export of cotton.
- All streets and areas surrounding the canal can become pedestrian friendly public spaces (no private cars are allowed). Therefore, it will require a new project of urban space redevelopment and upgrade.
- Some elements that can be added to the elevations such as: Stairs, elevators, handrail, metal bars, pergolas, shading devices, curtain walls or any objects needed to define entrances, or to enhance any part of the elevations. Ground floors facing the canal can be extended to the streets, by adding new removable parts to the buildings that will not harm the building. Changing inside the buildings can also be permitted, but it must serve the new use, i.e split levels, atriums, adding or removing walls, but the less changes the better.
- No demolishing of any part of the exterior elevations or blocking or closing any of the windows or openings or changing the color or appearance of the Red Bricks.

The whole industrial area is listed [3]. Therefore, the level of intervention is clearly identified in the special urban planning requirements of the “National Organization for Urban Harmony” in Egypt [13]. Some of these new proposed reuse designs are shown in the following (fig. 24). These projects were displayed in an exhibition attended by educated and governmental personnel at PUA to support the revitalization case.

4.2. Proposed landscape design projects

In order to create a successful and sustainable new design, it is important to recognize and interpret the historic and cultural significance of the landscape and to understand how landscape ecology and design can invent alternative forms of relationships between people, place, and outer space so that landscape architectural projects become more innovative. New design strategies to reclaim derelict industrial sites have been devised in recent years, focusing on the sustainability, quality and multi-functionality of the space, with attention to historic, socioeconomic and cultural aspects [1].

Any attempt to define principles for good design must embody the principles of sustainable development. Therefore, all streets around the canal area were suggested to become pedestrian friendly public spaces.

This architecture design project also proposed a re-development project of the urban spaces and external landscaping, with the development of the waterway of the canal. Small retail shops and cafes should be encouraged to cater promenades.

The site is a complex matrix of buildings and landscapes, and the designers’ goal was to utilize the existing fragments of industry as layers that are recombined through the lens of landscape design, promoting sustainable development and maintaining the spirit of the place (fig. 25).

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Fig. 24. Building no. 7 conversion into residential and commercial (Source: PUA student, 2012)
5. CONCLUSION

Older industrial buildings possess many initial qualities for developers such as: high ceilings, large number and size of windows, open concept space, and overall character. Buildings without these characteristics are not as unique and desirable for redevelopment. Every developer noted the flexibility of industrial buildings to adapt to new uses, although challenging for certain projects. The most successful built heritage adaptive reuse projects are those that best respect and retain the building’s heritage significance and add a contemporary layer that provides value for the future.

Sometimes, adaptive reuse is the only way that the building’s fabric will be properly cared for, revealed or interpreted, while making better use of the building itself. Where a building can no longer function with its original use, a new use through adaptation may be the only way to preserve its heritage significance.

Also, this type of proposed projects resulted from students work may encourage decision makers and investors to reuse and revitalize this neglected area, thus grant the city the power to preserve and present its heritage to Alexandrians and tourists.

The protection of industrial buildings is an important cultural objective and is inherently sustainable in that it encourages the positive re-use of redundant buildings that are part of our industrial and commercial heritage. Also, it can play a very important role in regeneration and raising the quality of the local environment, preserving local distinctiveness, and attracting visitors and new business, and it is very popular with local communities.

Throughout adaptive re-use projects, derelict and degraded industrial areas can be filled with a new spirit and can be made worth living by keeping visible the spirit of existing site, by applying design strategies that contribute to economic prosperity, social cohesion and environmental quality.

The case study presented in this paper is an approach of selecting specific industrial buildings for reuse. This will likely occur with the ever-changing growth and development patterns of the society. The process may remain the same although the characteristics may change given the trends of the market and the successful changing form of industrial buildings. Genuinely enabling this type of project requires the right skills, attributes and knowledge. Also this can be a support for job opportunities and economy enhancement.

BIBLIOGRAPHY

Abstract

Industrial properties, particularly in urban areas of large cities, are unlikely to enjoy the privilege to attract kudos to the communities in which they are situated. Minet El-Bassal district was once a famous Alexandrian Industrial district. It was built around 1810 overlooking the only seaport in Egypt. By the early 90s, the Egyptian government followed a new policy of liberalization. The immediate impact was a reduction in cotton cultivated area, total production and export. Widespread re-use and landscape design projects, neglected industrial areas can be filled with a new spirit which will preserve the identity of the place and achieve quality of life style.

Streszczenie


Celem tej pracy jest udokumentowanie historii i stanu istniejącego dziedziny Minet El-Bassal jako nadmorskiego obszaru przemysłowego oraz przedstawienie procesów rewitalizacji terenów przemysłowych w przestrzeni miejskiej Aleksandrii. Przy włączenie dobranej funkcji oraz odpowiednim wypełnianiu jej w istniejący krajobraz możliwe jest zachowanie tożsamości miejsca i uzyskanie nowej jakości.