

Urban survey of the craft papyrus workshops as an approach to documenting their cultural heritage

Dr. Ola Tarek Galal Elkabany

Lecturer of Urban Planning and Design department, Misr Engineering & Technology

Institute, Mansoura, Egypt

ola17elkabany@gmail.com

Abstract:

Papyrus is one of the most important factors that contributed to our knowledge of ancient paranoiac history, where the documents and historical records were written on it, and Egypt was characterized by papyrus paper manufacture and export, in addition to being a traditional folklore craft that must be documented, and the village of Al-The village of Al-Qarmous is the only place in the world specialized in the cultivation and manufacture papyrus. However, Papyrus craft becomes gradually disappeared for several reasons, urbanization like the difficulties of accessing the road that led to the difficulty of communicating between craftsmen and Products display markets. Architecture problem, such as Lack of suitable workshop designs to practice comfortably and professionally profession and lack of technological development of manufactured equipment.

Therefore, this research emphasizes the need to design suitable workshops for papyrus manufacture, which represents a unique cultural heritage, and work to make heritage an integral part of the economic, social, and urban structure of the city plan, through the field and urban surveys of the traditional craftsmen's workshops components And documenting its architectural components through simulation programs To document the unique cultural heritage of Egypt.

The research concludes by monitoring for craft workshop components while clarifying the need to adopt operational policies that enable the development of a mechanism to encourage investments in projects to develop architectural spaces for professional crafts to preserve the identity of the distinctive craft of the heritage of city culture, Conceptualize a design for papyrus workshops to meet humanitarian and professional requirements and also meet sustainability standards in order to be able to revive the craft and continue to grow With a methodology for developing architectural theories for specialized professional spaces .

Keywords:

Traditional crafts, Urban survey, cultural heritage.

المخلص:

يعد ورق البردي من أهم العوامل التي أسهمت في معرفتنا بالتاريخ القديم حيث كتبت الوثائق والسجلات التاريخية عليه وكانت مصر تتميز بصناعة ورق البردي ومن ثم تصديره لدول العالم ؛ والذي يعود تاريخه لعصر الدولة المصرية القديمة مما يجعله من الحرف المهنية المهمة بالتراث الشعبي المصري يستوجب توثيقها والحفاظ عليها ، وتُعد قرية القراموص التابعة لمحافظة الشرقية هي الوحيدة على مستوى العالم في زراعة وصناعة نبات وورق البردي بالوقت الحالي ؛ ولكن أصبحت حرفة صناعة ورق البردي مهددة بالانتهاء لعدة اسباب منها عمرانية كصعوبة الوصول للقرى التي يصنع بها

الحرفة والتواصل الفعال للحرفيين مع منافذ البيع ومعمارية وإنسانية كتهيئة بيئة مكانية مناسبة لتطوير هذه الحرفة المهنية بسبب عدم التطور التكنولوجي للمعدات المصنعة .

لذلك يؤكد هذا البحث ضرورة تهيئة بيئة مكانية مناسبة لصناعة ورق البردي التي تمثل موروثا حضاريا فريدا ، والعمل على جعل التراث جزءا لا يتجزأ من الهيكل الاقتصادي والاجتماعي والعمراني لخطة المدينة ، وذلك من خلال الدراسة الميدانية والرفع العمراني لمكونات ورش الحرفيين التقليدية وتوثيق مكونات الفراغ المهني للحرفة عن طريق برامج المحاكاة لتشهد على تراثها الثقافي التي تنفرد به مصر .

ويخلص البحث إلى وضع استقرار وتوثيق مكونات الفراغات المهنية للحرفة باعتبارها تراثاً صناعياً ، مع توضيح ضرورة تبني سياسات تنفيذية تمكن من إعداد آلية لتشجيع الاستثمارات في مشاريع تطوير فراغات معمارية للحرف المهنية للحفاظ على هوية الحرفة ذات الطابع التراثي المميز للمدينة ، ووضع تصور لتصميم فراغات للورش المهنية لتفي بالمتطلبات الإنسانية والمهنية وتفي بمعايير الاستدامة لكي تكون نواة لإعادة إحياء الحرفة واستمرار نموها .

الكلمات الدالة:

الحرف التراثية ، التوثيق المعماري ، التراث الثقافي.

Research problem:

- Gradual decrease in the papyrus plant cultivated areas will lead to the gradual extinction of the craft workshops dependent on that cultivation.
- The lack of urban and architectural documentation for the papyrus craft workshops, which represent a distinctive cultural heritage of Egypt.

Research aims:

Documenting the architectural spaces of the craft workshops components, various stages of manufacturing, and the surrounding urban environment especially as it is characterized by the cultural heritage.

Research importance :

The countries of the world are keen to document their industrial heritage officially in UNESCO organization^١ , and no site has been registered in the continent of Africa and the Arab world, despite our possession of many sites of heritage value, and they have not been dealt with as a cultural heritage that can be documented, The research seeks to be an introduction to documenting the traditional industries in Egypt as a component of the cultural heritage

The village of Al-Qaramous, Abu Kabir Center in Al-Sharqiya Governorate(fig1), is famous for the cultivation and manufacture of papyrus leaves, until it became the only village in the world that produces and manufactures this plant and draws pharaonic figures on its leaves^٢, The village of Al-Qaramous in Egypt is the remaining witness and expressive of the authenticity of this heritage value and because of that importance it is cultivated in Royal Botanic Gardens Kew in London Accordingly^٣, **it is summarized in the following points :**

- 1- Preserve the cultural, architectural, and urban heritage.
- 2- Developing designs for heritage crafts buildings in Egypt.

3- Developing the national income, especially since the majority of craft villages have low incomes.^٤

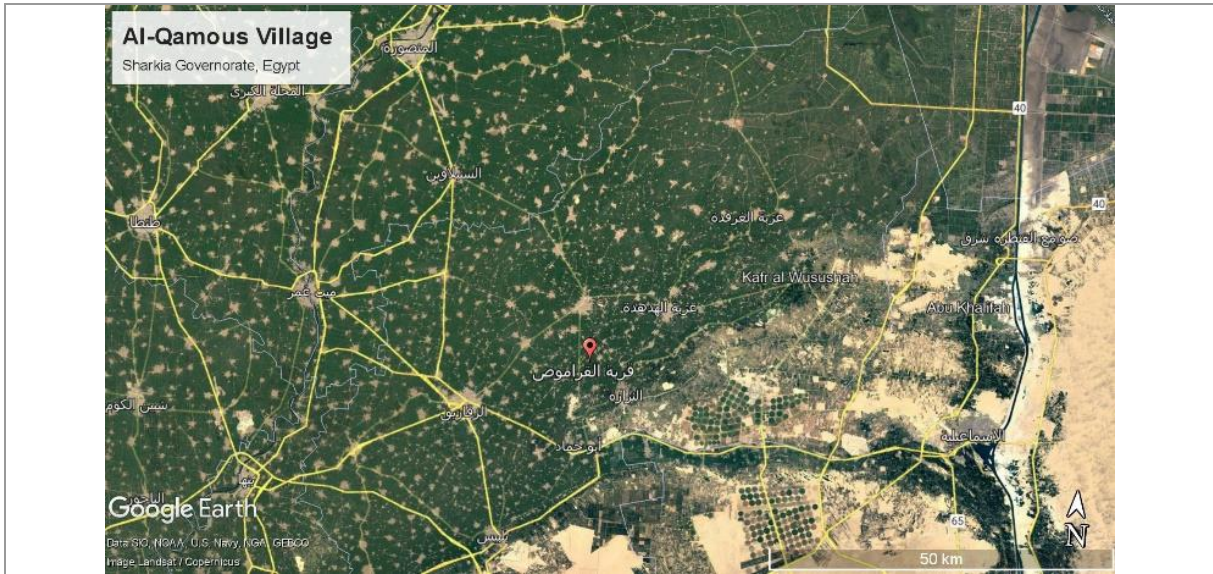
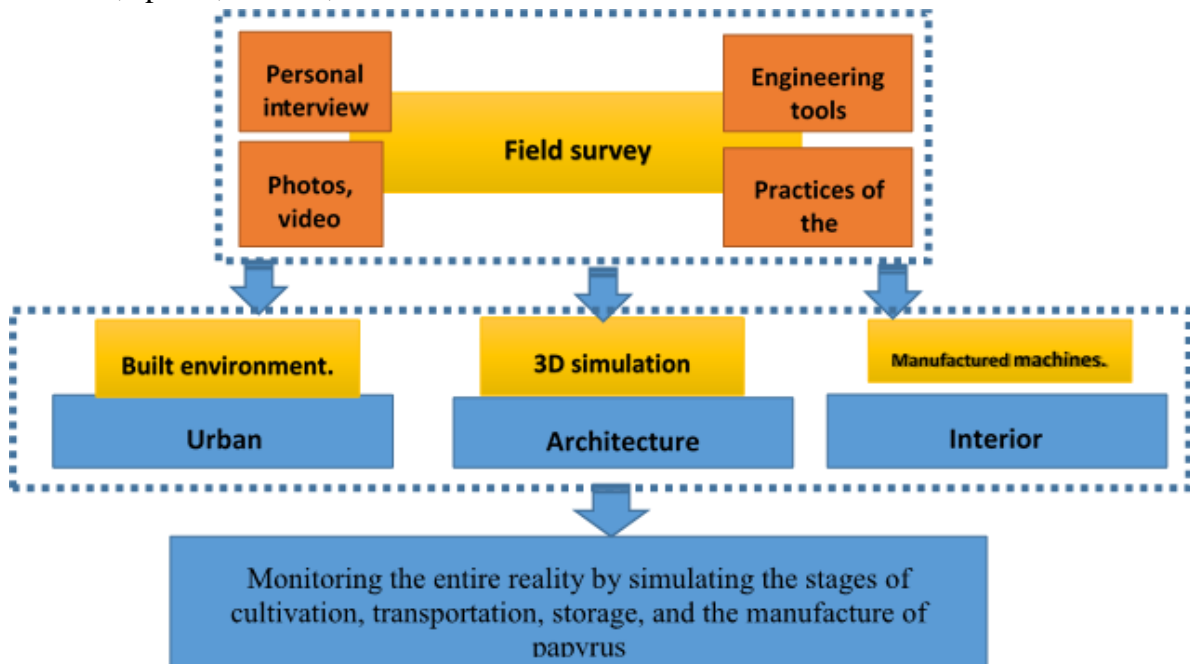


Fig.١ The location of the village of Al-Qaramous in Sharkia Governorate, Egypt (Source: Satellite map edited by author) .

Methodology

The research follows the field survey approach through field interviews, determining the locations of the cultivated areas, architectural drawing of machines inside workshop at the present time and oral interviews with workers and owners of the profession to document original inherited knowledge Then, Applied approach through simulation programs to document both machines, spaces, context, and built environment.⁴



Introduction:

Architecture is “the three-dimensional and four-dimensional spatial expression of the complex needs of users, and it is also an effort and detail of work characterized by complex characteristics to reach optimal configurations to contain functions and activities and respond to physical and cultural therefore, urbanization (Built scape - Built environment - Man Made), is the environment that is dominated by human additions and its tangible and immaterial artifacts.⁵ Thus, the research combines the study of human additions to the urban environment and the formulation of an architectural product that has a cultural heritage^٦.

The research studies the cultural heritage elements of the craft of papyrus making as an industrial heritage. Cultural heritage is the heritage of the tangible and intangible heritage assets of a group or society inherited from previous generations. Not all inheritance from previous generations is "heritage". Rather, heritage is a product of society's choice.^٧

The definition of industrial heritage refers to the physical remains of the history of technology and industry, such as manufacturing and mining sites, as well as power and transportation infrastructure. Another definition expands this scope so that the term also covers places used for social activities related to industry such as housing, museums, education or religious worship, among other structures with values from a variety of fields in order to highlight the interdisciplinary character of industrial heritage.^٨

It is also argued that it includes the so-called socio-facts or aspects of social and institutional organizations and artifacts that constitute the attitudinal characteristics and value systems of industrial heritage sites.^٩

Therefore, in the next part, the features of the current state of the architectural, urban, and regional cultural data will be clarified through the urban survey of the remaining papyrus cultivation areas and the stages of production that constitute a craft workshop with specialized architectural theories as follows:

1- First: urban level monitor

Papyrus cultivation is distributed in various areas among other crops, so that it is cultivated in an entire area belonging to each land owner, and next to it is a workshop.

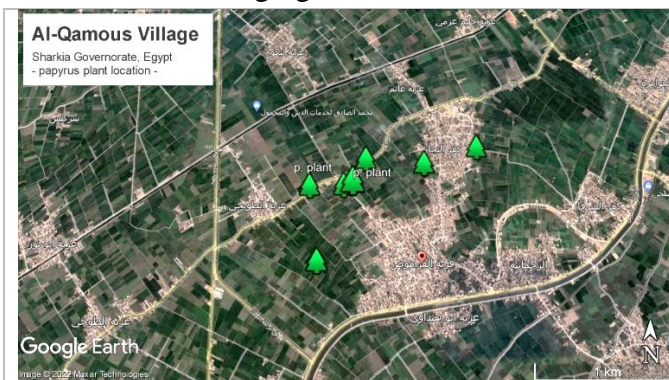


Fig.٢ Urban survey of places of papyrus cultivation remaining. (Source: Satellite map edited by author and Specialized engineers from the original inhabitants of the village: Amira Salem, Master’s student in the Department of Architectural Engineering, Zagazig University.

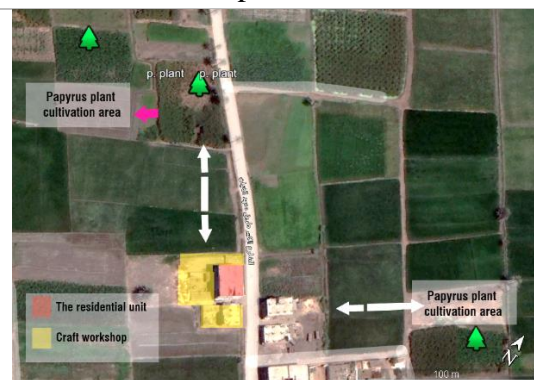


Fig.3 relationship between papyrus plant cultivation area and artisans homes and workplaces. (Source: Satellite map edited by author.)

2 - Second: architectural level monitor

A design model showing the connection between craft workshop space and residential unit, it consists of three zones:

- 1- Craftsman's house overlooking the agricultural lands varied with agricultural crops and surrounded by papyrus plant. (Fig2- Fig.3)
- 2- The transitional space is (semi-covered) that connects workshop space (the final stages of manufacturing) with surrounding agricultural lands, and the entrance shared between that space and the house.
- 3- The craft workshop (final stage) before printing (Fig.4)

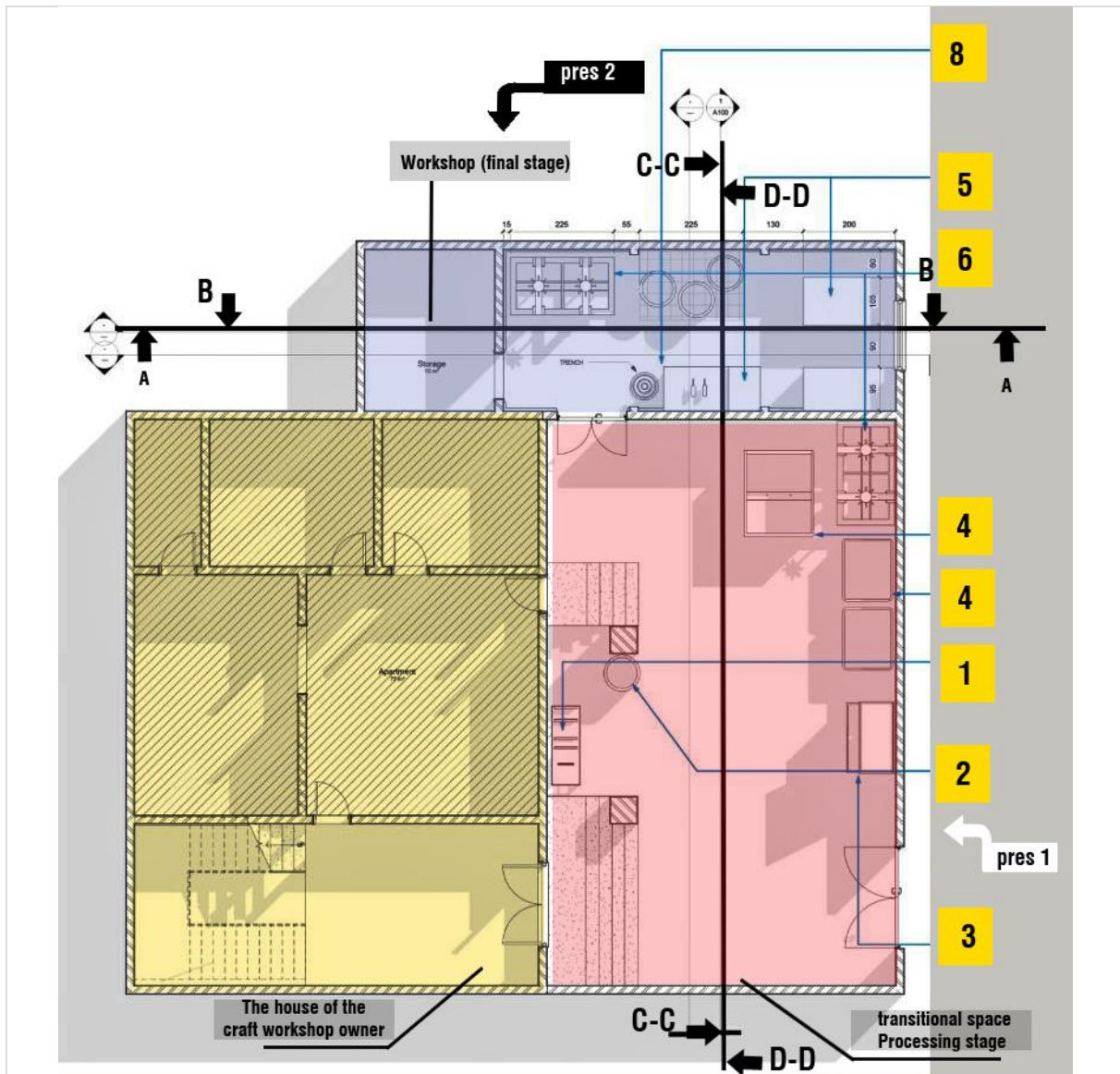
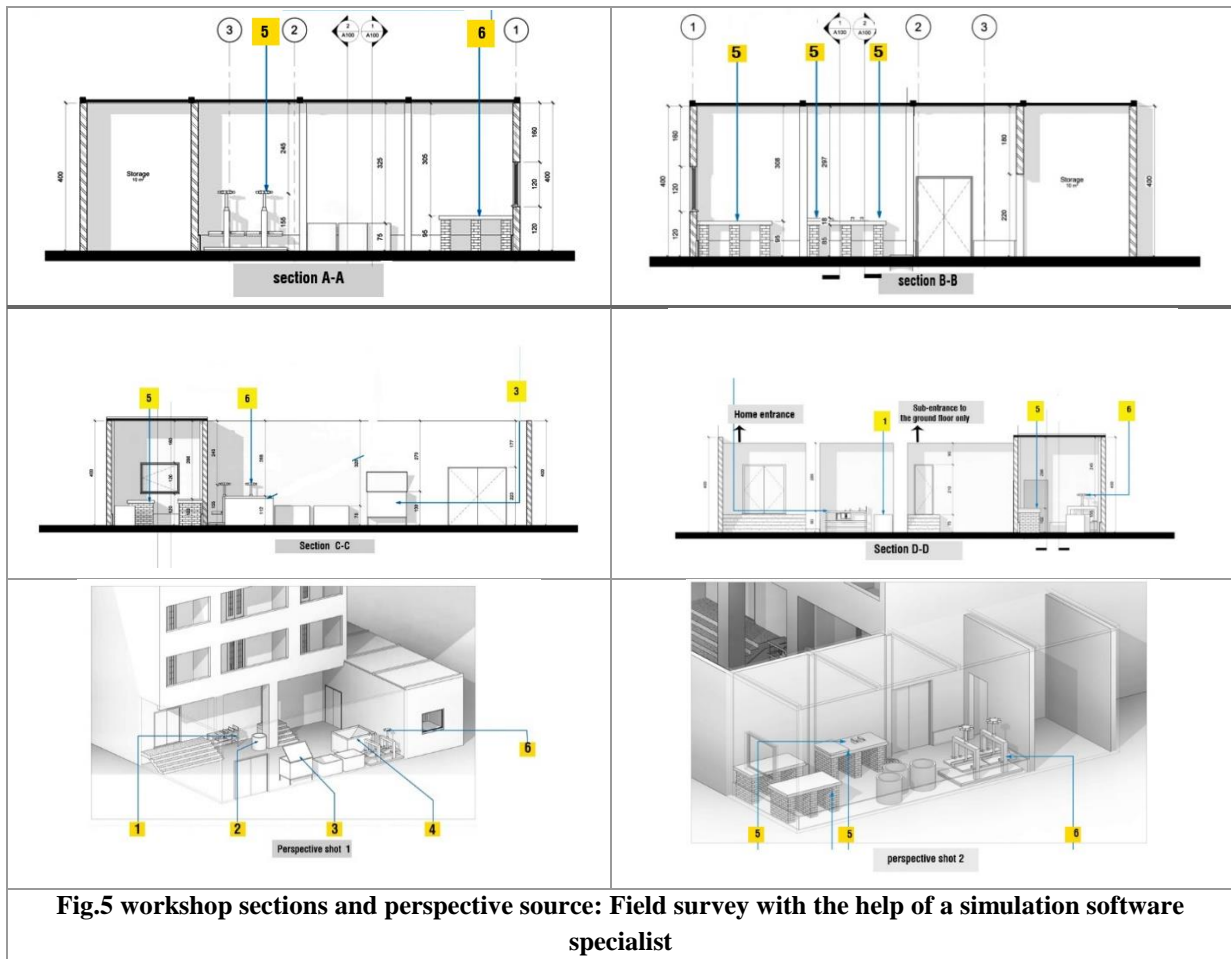


Fig.4 Architectural documentation of the craft workshop components .(Source: Field survey with the help of a simulation software specialist: Muhammad, Baher Othman, BIM Architect: Certified engineer from Autodesk) Revit -for Architecture), 2021.

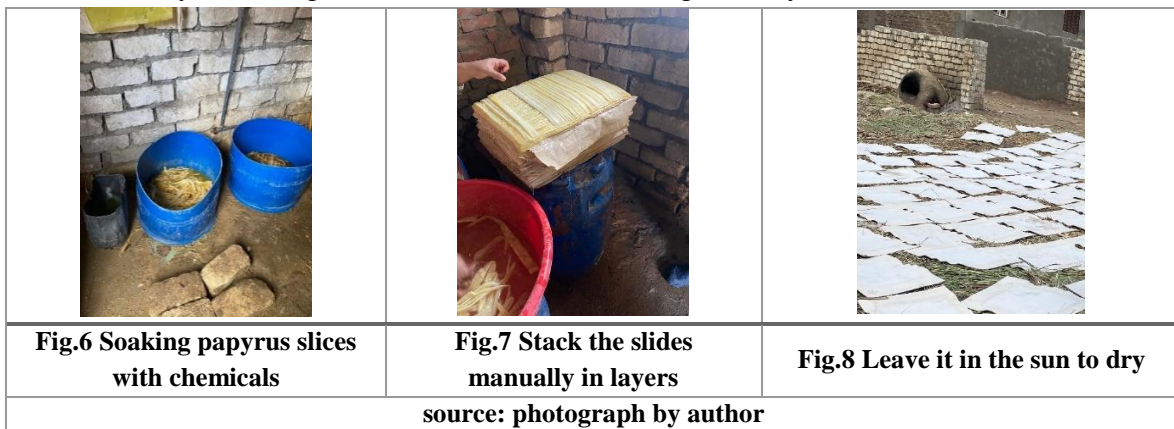
4- The following drawings show the detailed sections of the workshop spaces connected to the residential building, indicating the position of each industrial machine






3-Third: Documentation of machines manufacturing stages



There are two ways to manufacturing papyrus:

1- Traditional method: It using chemicals (chlorine), it is stacked and dried manually, and this is often done by the village women, then dried in a large, sunny area.

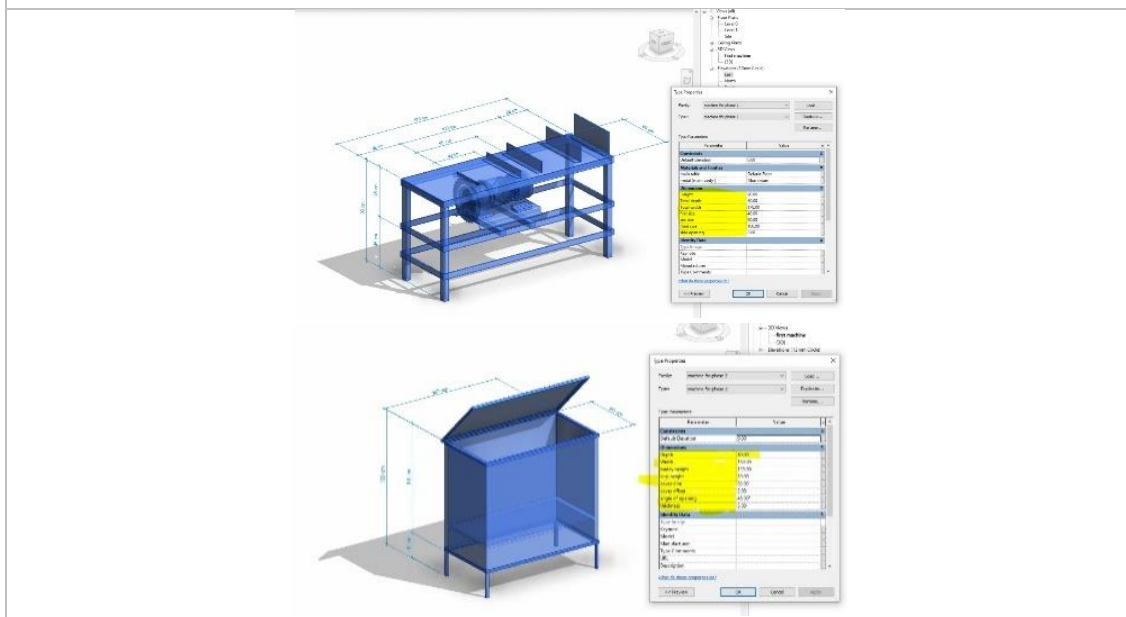


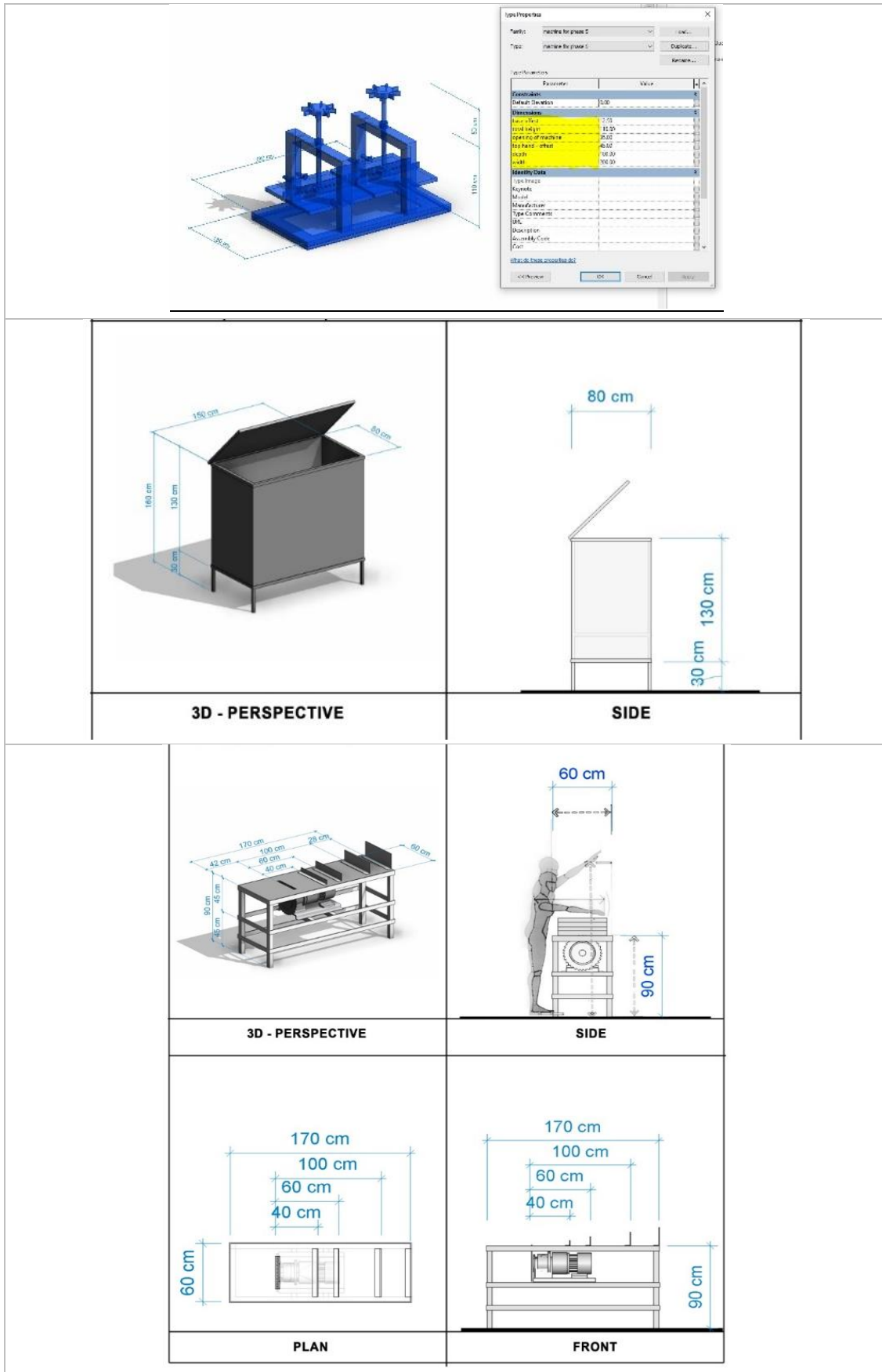
2- The mechanical method: It uses multiple manufacturing stages and is characterized by greater accuracy and larger areas papyrus paper production.

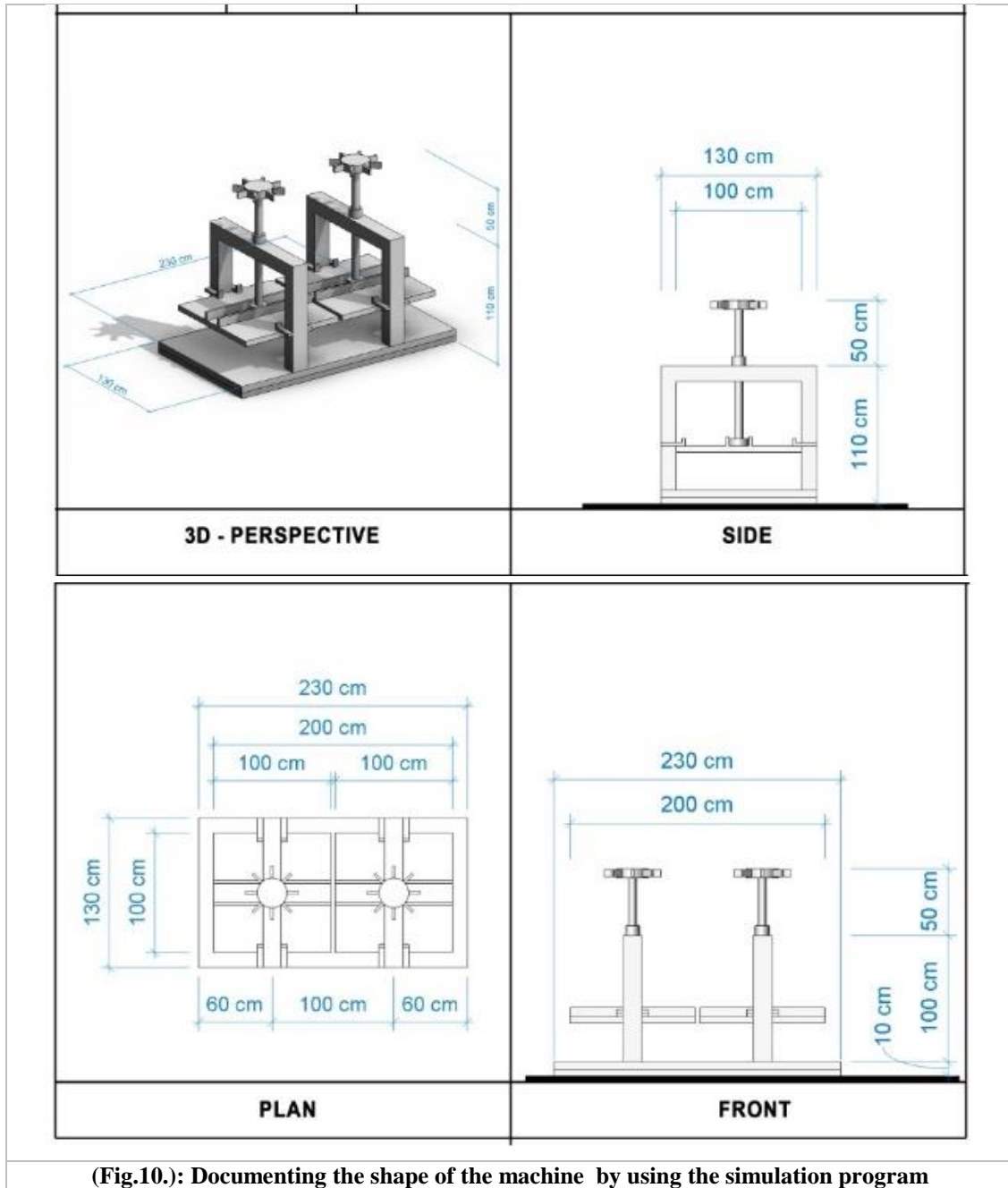
<p>manufacturing stage Description</p>	<p>machine shape is in nature</p>	<p>machine location in layout of workshop</p>
<p>1- After collecting suitable papyrus leaves for processing into bundles, this machine is used to remove the outer leaves</p> <p>2- Divide a single stem into several regular thin slices then assemble</p>		<p>Shape 1 Shape 2</p>
<ul style="list-style-type: none"> - Papyrus stems are divided into slices the cooking phase in boiling water. - The cooking process continues with the water increase until it drains, and then it is placed in cold 		<p>3-4</p>
<ul style="list-style-type: none"> - Soak the cooked papyrus in cold water and collect it to be transported to the workshop 		<p>4</p>

<p>Rolling out the papyrus strips (a wooden rolling pin is used to drive out the water and flatten the papyrus strips)</p> <ul style="list-style-type: none"> - Tables are used to stack the papyrus strips parallel on two layers, the first horizontal and the other vertical, leaving a distance from the edges to be overlapping. - Use the mallet to make the slices very thin and even 		<p>5</p>
<p>This machine is used to compress papyrus slices to extract excess water and compact them under high pressure in order to hold them together. This process is consumed within a day and several hours to dry completely</p>		<p>6</p>

(Fig.9.)source: photograph by author







Limitations

There was some difficulty in obtaining relevant references as Most of the previous studies in this field focused on industrial buildings in general

A reference to architectural considerations in their statements on specialized workshop design standards. And therefore, we had to extract relevant information from field studies and simulation software

Conclusion:

The research is considered an observation of architectural theories for the papyrus paper workshop design as a starting point for designing a cultural heritage craft workshop in Egypt. This is done by tracking the stages of production and monitoring the needs and users' requirements to preserve the originality of the design, so each workshop has unique requirements for the design of spaces in order to maintain the sustainability of the craft in terms of speed, and development of production and to preserve the distinctive character of the culture of that craft.

Results:

- The village of Al-Qaramous can be considered an example of the industrial heritage of its cultivation and the production of papyrus, due to its importance in writing the history of Pharaonic Egypt.
- - The research monitors the urban environment of the craft (papyrus cultivation remaining-artisans homes and workplaces-1-Craftsman's house and workshop) Fig. 3.4.
- - The search shows an accurate description of the dimensions of workspace tools and equipment (Fig 9), production lines (Fig.10), to serve as a comprehensive documentation plan for that rare industrial heritage.

Recommendation:

- The Ministry of Culture: Paying attention to documenting the popular cultural heritage of traditional handicrafts and considering them as industrial heritage to be included for official registration in UNESCO
- Ministry of Transport: historical handicrafts are distributed in traditional villages. The development of a road network linking these villages to urban areas thus which contributes to marketing development, and This appears in the research problem, Figure 1, in the difficulty of accessing the craft village, which is famous for making papyrus.
- The Ministry of Agriculture: Continuing and supervising the cultivation of more lands planted with papyrus plants, also for its environmental nature to purify water
- For architects :
- Proposal to design and establish a craft village dedicated to the production of papyrus as a sustainable alternative.
- Introducing projects to design craft villages for papyrus in the faculties of architecture.
- Industrial Design Faculties: Developing papyrus-making machines to facilitate the production line.

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