

# **European Impact on Egyptian Industrialization during the Rule of Muhammad Ali Pasha (1805-1848)**

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## ABSTRACT

The founding of modern Egypt by Muhammad Ali Pasha required an appropriately modern economy, with industry following the model of more advanced European states. The Pasha of Egypt involved himself personally in every phase of the organization of Egyptian industry, garnering the experiences of Western countries – particularly France, Italy, and Britain. It constitutes a rare case of a leader with very little education himself who was yet so interested in the all-encompassing reform of his country. This reform would enable the maintenance of absolute authority and the liberation of Egypt from the Ottoman administration. The Pasha of Egypt himself prompted the sending of hundreds of Egyptian students to professional schools and major universities in Europe in the interests of modern state administration, modern education, a modern Egyptian army, and the country's industrialization. The Pasha was confronted with many difficulties on this course, especially the lack of a cadre adequate for the organization and management of Egyptian industry, and he did not hesitate to engage experts and specialists from European countries – among whom the Italian community, in particular, distinguished themselves, having the most significant impact on the Egyptian economy. Egypt's rapid transformation from traditional artisanal manufacturing to industrialized capitalist production was an enormous challenge. Establishing numerous manufacturing workshops, heavy industry, infrastructure projects, and the development of agriculture and cotton and textile industries brought substantial cultural and socio-economic change. Through Western and Eastern sources and historiography, we aimed to gain insights into the successes and failures of Muhammad Ali Pasha's government during the colossal process of reforming and industrializing Egypt.

## Introduction

To understand the process and significance of industrialization during the construction of modern Egypt by Muhammad Ali Pasha<sup>1</sup> from 1805-1848, it is necessary to refer to some basic information that reflects the general socio-economic circumstances of Egypt in the previous century. During the 18<sup>th</sup> century, even well into its later half, Europe's technological developments had not touched the Egyptian economy. The Egyptian economy remained isolated, sustained by traditional agriculture and crafts products, which mainly satisfied domestic market demands – food production, clothing, basic tools and household goods, and the like. No industrial production required machinery or mobile apparatus, which Western Europe saw in the second half of the eighteenth century. Consequently, much the same conditions lasted into the first decade of the 19<sup>th</sup> century in Egypt, where small-scale artisanal production still dominated, where producers in rural areas still made articles to sell or barter, usually in their village market or those of the surrounding district – and where life went on in conditions of isolation (El Gritly, 1952, pp. 16-17.) Due to the lack of road infrastructure and a merchant fleet, artisans and small-scale entrepreneurs had difficulty exporting these goods to foreign markets. In such circumstances – if it is necessary to attempt to describe a dominant industrial model in Egypt at that time – it was a system of small production units for which the volume of production was determined exclusively by the demands of the domestic market. El Gritly emphasizes that a kind of decentralized manufacturing production had begun to be implemented sporadically by great merchants, who furnished local producers with raw materials and necessary tools to meet a market need more quickly and in greater volumes. Merchants thus acquired manufactured goods directly from the producer instead of buying them through the markets (El Gritly, 1952, p. 19.) Just as the process had

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<sup>1</sup> In the following text, alongside the full name Muhammad Ali Pasha, two variations of the name will be used mostly: Pasha and Pasha of Egypt.

developed in Europe in the fifteenth and sixteenth centuries, so too did it begin in Egypt – but with a delay of centuries, and this led to economic backwardness that would be overcome only through a profound reform of the isolated Egyptian economy.

During the brief French occupation of Egypt (1798-1801), French administrators had undertaken various industrial activities – but also prevented Egyptian involvement in these because they feared that the secrets of French industrial mastery would leak. Accordingly, this very short period of French presence in Egypt did not impact Egyptian artisanal producers (Huraydi, 1999, p. 2.)

### **1. Preliminary steps towards the industrialization of Egypt**

Muhammad Ali Pasha, known primarily as the founder of modern Egypt, was also the founder of Egypt's first modern industries. However, at the beginning of this process, various problems seriously hampered productivity. Apart from a small number of Europeans and some Egyptians educated through educational missions abroad, none of the personnel considered responsible for industrialization had come into contact with modern industrial machinery and techniques. When Egypt embarked on this process through the initiative of Muhammad Ali Pasha, the diversity and scale of the created industries were quite remarkable. It was no coincidence that the initial widespread expansion of industry and the strengthening of the armed forces occurred in the early 1820s – when long-staple cotton appeared in Egyptian agriculture. The income from exporting this variety of cotton primarily enabled the Pasha to undertake and sustain his industrial and military-naval reforms (Overton, 1971, p. 77).

The Pasha of Egypt was well-informed about the trade conditions of the Eastern Mediterranean and sought to benefit from trade with Egyptian products. Logically or instinctively, he understood that the fastest means to achieve successful economic entrepreneurship on a large scale was the centralization of power, which became

his top priority (Marsot, 1994, p. 163) Once he had obtained actual power, the Pasha was convinced that Egypt's political independence from the Ottoman Empire and stability depended greatly on organizing a powerful army, which would be supplied by a developed domestic industry and simultaneously increase his government's financial resources.<sup>2</sup> Undoubtedly, achieving such an objective required aspiring to the industrial pace of advanced European states. The Pasha of Egypt initially encouraged the establishment of factories to produce necessary goods for the domestic market, taking the experiences and practices of European industrial development as a model. As a first phase in Egypt's journey towards industrialization, attention was focused on producing goods for domestic consumption to gradually adapt the Egyptian population to the new methods of local industrial production. The Pasha aimed to produce precisely those goods that until then had been exclusively imported and for which Egypt paid a high price (Kasim, 1987, pp. 29-31) In other words, the Pasha wanted Egypt to primarily produce those articles consumed in large quantities by the Egyptian population, while imports from European and Eastern countries would consist only of goods whose purchase had no significant impact on the local economy. His basic idea was the rapid economic independence of Egypt, as such independence would ensure a more sustainable sovereignty and reduce the economic-political interference of the Great Powers in Egypt's internal affairs.

After the departure of the British from Alexandria, and given the consequences of the Napoleonic Wars in Europe, the British troops in Malta and Spain needed wheat – the lack of which was

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<sup>2</sup> The enthusiasm of the Pasha of Egypt during the implementation of reforms is evident in his statement, where he emphasized, among other things: "I want to undertake massive reforms, build factories, and establish a large national army, as the army is the pillar of sustainable power. Therefore, I want to promote the principles of civilization in my country. The projects that need to be realized are pervasive (...). I have started their implementation late, and I do not know if I have enough time to complete them. However, I will strive to leave things in the best possible condition before I die" (Junan Lebib Rizk, *Muhammed Ali El Kebir*, El Ahran, Kairo, 2005, pp. 38-39).

being severely felt in Europe. The Pasha benefited from this circumstance and hurried to supply the British forces with food from the Nile Delta. Having gained control of Alexandria, Muhammad Ali imposed a monopoly on grain export, deriving considerable profit. It was a fundamental characteristic of his regime: establishing a state monopoly on producing agricultural goods and domestic and foreign trade.<sup>3</sup> However, for the time being, he proceeded slowly and carefully, guided by the prospect of profitable European commerce. Albania, his homeland and former place of residence, and his former role as a merchant made him aware that his prospects were promising due to the continuing Napoleonic Wars (Fahmi, 2008, p. 147).

The Pasha of Egypt launched his reforms in the agricultural sphere by first offering complete protection for the free movement of people and goods for domestic and foreign merchants throughout Egypt. Having managed to exert his authority in all regions of the country, he began to develop agriculture, apply a modern irrigation system, and make road infrastructure functional, all of which had a remarkable impact on the rise of domestic produce (El Gritly, 1952, p. 35). As part of the agricultural reforms, the Pasha confiscated the wealth of the *Itizam* system<sup>4</sup>, an inherited Ottoman system that dominated the country. Pasha made this decision in 1808, and by 1814, he managed to completely abolish the *Itizam*, which posed a

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<sup>3</sup> Regarding the monopolization of agriculture, Rivlin observes: "During approximately the same period that Muhammad 'Ali introduced his policy of monopolizing agriculture for his own profit, he undertook the monopolization of native industry by closing native workshops which manufactured cotton cloth, abolishing the customary usages of the corporation of weavers, installing looms for weaving cotton cloth in government workshops at Cairo, and ordering the former masters and artisans to enter these workshops as salaried employees. Goods manufactured in government workshops were either retained by the Pasha for his own use or sold to merchants" (Rivlin, 1961, p. 191).

<sup>4</sup> *Itizam* was an Ottoman system applied to agricultural lands since 1658, where individuals authorized by the Ottoman administration were responsible for collecting taxes on the lands of one or more villages for a specific period of time, all based on an agreement between the Sublime Porte and the administrative personnel. However, in 1814, Muhammad Ali Pasha issued a decree through which he transferred all the obligations of this system to his own government (Abdurrahim Halife Abdurrahim, *Nidhamul Itizam fi Misre 1814-1882*, Al Mansurah, Cairo, 2019, p. 4).

serious obstacle to the industrialization of Egypt. With these reforming initiatives, the Pasha intended that, henceforth, the farmer would have a direct relationship with the state only, pulling him away entirely from *Illizam*. In this context, from 1808 to 1815, the Pasha decided to confiscate lands and charitably endow property (*waqf*) so that even the destiny of faith leaders was bound up directly with the state (Mufaku, 1977, p. 592). Pasha's economic policy aimed to gradually monopolize all profitable resources, securing him absolute power. He accepted a compromise with no one, having arrogated decisions about state policy exclusively to his authority. Thus, in 1816, all of Egypt's main harvests were brought under the control of his government, which gave subsidies from state resources to villagers and then bought their produce at a price set by the Pasha. These harvests were then sold to Europe at a substantial profit. State monopolies had certainly existed before this time. Still, they had usually taken the form of exclusive rights given to private parties to develop sources of particular interest to the government – they had never incorporated the entire economy. Hunter's assessment states, "Muhammad Ali's monopolies were, therefore, a truly revolutionary step that led to the organization of Egypt's economy along the lines of a modern European state" (F. Robert Hunter, 1999, p. 15).

As the Ottoman sources from the years 1817-1822 inform us, the Pasha of Egypt regularly sent industrial and agricultural products to Istanbul to demonstrate his sincerity towards the Sultan. However, these were excessive products that had remained from previous years (BOA, C BH 105/05093 4 (10 Rabi Al-Ahar 1232-February 27, 1817). These goods were mainly transported by ships, meticulously registered by the Ottoman administration as items dedicated to the needs of the Sublime Porte and "as a gift from the vali of Egypt, Mehmet Ali Pasha." When the goods from these ships arrived in Istanbul, the Sultan's Divan was officially declared, with the arrival of the goods being recorded in separate documents, formally notifying the arrival of the merchandise (BOA, C BH 132/06420 1 (21 Muharram 1234-November 20, 1818). Among these aid shipments to Istanbul, food products were particularly noted. Thus, dur-

ing 1822 alone, the Pasha sent around 14,257 kg of wheat to Istanbul, a shipment unloaded in the granaries of Istanbul. This news was proclaimed publicly (BOA, C BLD 92/4567 2 1 (29 Sha'ban 1237-May 21, 1822)).

Besides reforms in agriculture, the Pasha also intervened in the trade sector. Accordingly, as contemporary British diplomatic sources emphasized, "In Egypt, the whole trade has been monopolized by Mehemet Ali. Revenue, cultivation, manufactures, and trade have all been seized by him" (British Library, Account and Papers (28), 1843, LVII, 57, [513]).

Consequently, throughout this work, the main aspects of Egypt's industrialization will be portrayed, including the numerous challenges faced by the Government of Egypt and the Egyptian population.

## 2. Reforms in industrial production and the first obstacles

Before discussing the implementation of Muhammad Ali Pasha's reforms in the cause of the modern industrialization of Egypt, mention of the Pasha's character and guiding spirit is required. Being of Albanian origin<sup>5</sup> and coming to Egypt from an area of Macedonia,

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<sup>5</sup> The Albanian affiliation of Muhammad Ali Pasha has been confirmed by Western and Ottoman sources, particularly prominent Ottoman historians. For instance, Ali Galib, in his Ottoman-language work "Arnavutluk ve Arnavutların ahvaline dair tarih" (Regarding Albania and the Conditions of the Albanians), highlights the Albanian origin of Muhammad Ali and his birthplace. He states, "... even though everyone knows that Mehmet Ali Pasha is from Kavala, this is a big mistake. He is of Albanian origin, and he was born in the village of Voskop in the district of Korça" (Ali Galib, *Arnavutluk ve Arnavutların ahvaline dair tarih*, İstanbul Büyük Şehir Belediyesi Atatürk Kitaplığı, p. 25). Another Ottoman historian, Ertugrul Gazi, in his Ottoman-language work "Meshahiri Islam," also confirms the Albanian origin of Muhammad Ali Pasha (Ertugrul Gazi, *Meshahiri Islam*, Vol. I, ed. Hamid Vehbi, İstanbul, Mehran, 1301 h-1884 AD, p. 1108). Additionally, the well-known Ottoman historian Mehmet Es'ad Efendi in his work written in Ottoman Turkish but using Latin script, mentions the Albanian origin of Muhammad Ali Pasha (Mehmet Es'ad Efendi, *Vak'a-Nüvis Es'ad Efendi Tarihi*, ed. Ziya Yılmaz, İstanbul, 2000, p. 160).

Muhammad Ali's character had developed in a multi-confessional environment in which Muslim, Christian, and Jewish communities had lived in harmony for centuries. He strove to promote this inherited mentality in Egypt during his years in power, judging that religious tolerance would assist the process of the reforms that touched every aspect of popular Egyptian existence. The Pasha's grandson, Hassan Hassan, concisely captured this aspect of his character:

"It was Muhammad Ali who, for the first time since the Arab conquest of Egypt, allowed church bells to be rung in public. His attitude to the different religious minorities was perhaps the most important of the sociological events that were to allow the consolidation of national unity. The first conferral of the title Bey to a Christian was under Muhammad Ali, and the first Christian Pasha was Nubar, under his grandson Ismail. Titles of nobility to Israelites were to follow almost simultaneously. This enlightened attitude encouraged many precious Near East elements to settle in Egypt, where they were to contribute actively to the country's renaissance. In his time, such a policy was an extraordinary innovation that provoked at moments opposition both from the astonished masses and from certain reactionary leaders brought up in a purely traditional manner, who were to become his political opponents. Others commented more favorably: 'His indomitable and enlightened will power – writes Captain Beaufort d'Hautpoul – has brought down the barriers that until then had seemed insurmountable between Muslims and Christians.' And I think it can be said that his dynasty maintained this policy unwaveringly" (Hassan, 2000, p. 10).

The reforms in industry and trade – fields overseen personally by the Pasha – saw the opening of numerous factories, which employed many foreign master-artisans to share their professional knowledge and experience with local artisans. Early in the process, some were from Languedoc in France, skilled in the making of curtains; some were silk experts from Istanbul; some were from Tunisia and teaching the local workers how to make the *fez*<sup>6</sup>, and some were

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<sup>6</sup> The "Fes" was a traditional cap in the Islamic world, particularly prevalent during the 19<sup>th</sup> century.

from India, such as the indigo dyers who came to teach the local dyers the secrets of their craft. As Hanna emphasizes: “He was, in fact, following a pattern that had been in vogue for at least a century” (Hanna, 2014, pp. 114-115).

Thus, to realize his plans for the reform and rapid industrialization of Egypt, the Pasha brought artisans and experts in industrial sectors from the region and Europe. Their engagement helped establish industrial plants and improve product quality and the capacity of the locals in new industrial professions. However, the industrialization of Egypt also demanded the reform of Egypt’s education system to adapt to his focus on modern and fast industrialization. Pursuing the model of European education systems,<sup>7</sup> as early as 1809, the Pasha ordered the sending of students to European centers, particularly in Italy; Italy was the first place they were sent (Özkoç, 2014, p. 241).

These students attained professional qualifications in the arts and sciences, principally in Italian cities such as Florence, Milan, Livorno, and Rome. Their specialization focused primarily on industrialization, bringing their knowledge and experience in spheres such as founding institutions of an industrial character or production. The relationship of the Italian people with Egypt differed from that of other Europeans. Even before the rule of Muhammad Ali Pasha, Italians saw Egypt as their second homeland, in contrast to the British, French, Germans, and others who considered it a foreign place in which circumstances might lead them to spend a portion of their lives but where they wouldn’t want to bring their children. Accordingly, so many individuals and families from the Italian peninsula arrived in Egypt that they were considered the largest Italian diaspora of the 19<sup>th</sup> century.<sup>8</sup> The Pasha was happy to include Levantines in his ad-

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<sup>7</sup> “When Muhammad Ali established a new school system, he was inspired by the French *lycée* system” (Hanna, 2014, pp. 25-26).

<sup>8</sup> Later, in the second half of the 19<sup>th</sup> century, as a result of political persecution during the struggle for independence and unification of Italy, it is estimated that around 5,000 Italian intellectuals had found refuge in Egypt (Shlala, 2008, p. 6).

ministration, especially in Alexandria, while he rebuilt the port in such a way as to increase state revenues. He used them to develop networks of import and export and secured capital and financing in exchange for political asylum. He re-oriented Egypt's trading routes via Alexandria. This port became the central node in the Mediterranean, with Italians among the leading personnel directing the circulation of vessels and trade. In 1817, on the initiative of Bernardo Drovetti and his compatriots, the "Frankish Hospital" was opened – although it might have been labeled Italian, given that it was supported almost entirely by donations from the consuls of various places on the Italian peninsula (Shlala, 2008, p. 6).

Two groups of students were sent to Italian cities, the first in 1809 and the second in 1813, growing into diverse portfolios in their respective educational institutions. Qualifications in smelting and printing were essential, and subsequently in the military arts and naval architecture. The Pasha also invited Italian experts to Egypt to ply their trades directly alongside Egyptians so that capacity-building of the population in the industry was more accessible and more prominent in scale. The purchase and delivery of the necessary apparatus for printing were quickly arranged. Then, books in the arts and sciences were ordered to be translated into Arabic or Ottoman Turkish for use by students advancing professionally in the industrial sector (Al Batrik, 1999, p. 41). The country's first newspaper, *Waqai Misriya*, began publication in 1828 (Hassan, 2000, p. 10).

The reason for such a great opportunity being offered to Italians in the Pasha's time was that the spread of Italian influence in Egypt had begun long before his rule. The historical record has revealed the significance of the De Rossetti clan of Venetian extraction, whose wealth was interwoven with two centuries of Egyptian history. The Rossetti Gardens had lain on the eastern side of Cairo's Azbakeya district for many years until their destruction in 1890. The De Rossetti family had been linked with the highest levels of Egyptian government since the 18th century. The only diplomatic residents between 1736 and 1820 were two Italians: B. Drovetti and Carlo De Rossetti. Temporary or permanent, they were entrusted with the af-

fairs of England, Austria, France, Prussia, Venice, etc. (Shlala, 2008, p. 1).

Residing in Egyptian ports for an extended period, Italians became acquainted with the inhabitants and even learned Arabic. The fruits of this cooperation were apparent in manufacturing production and the country's industrialization. Furthermore, from the beginning of his rule, the Pasha considered Italian the official European language in Egypt, and even diplomatic correspondence with foreign consuls was carried out in Italian. During the rule of the Pasha, Italian was reckoned the principal foreign language, learned from the first years of educational reforms in a range of Egyptian schools, including the School of the Citadel, the Al-Ainy Palace School, the School of Engineering in Bulaq, and some of the Military Schools. It was no coincidence that the first student wave was sent to Italy. Indeed, the majority of writers and historians of the time, together with other sources, make clear that besides their professional capacities, the returning Egyptian students brought back a new tone influenced by Italian culture (Kasim, 2010, p. 112).

Distinguished Italo-Levantine families with origins in the Italian peninsula, specifically Genoa, Venice, and Livorno, made significant contributions: the Vaccarini, Avoscani, and Demarchi in shipbuilding; the Drovetti, Colucci, and Mochi in medicine through the founding of the Hospital of Alexandria; the Meratti and Muzzi in infrastructure by the establishment of a postal service; the De Rossetti with the development of diplomacy, and in other profit-making enterprises with Muhammad Ali's family. There were 21 European companies in Alexandria in 1822; they had more than trebled to 69 by 1837. The Pasha's time was marked by a distinct advance in the Egyptian navy, with most of its supplies coming from Livorno. The first naval arsenal was built at Alexandria in 1826, also equipped by Italians – from Genoa. Italians were trusted in ship management and shipbuilding, particularly the Vaccarini, Avoscani, and Demarchi families. In 1830, even though there was a Frenchman at the head of the arsenal, the staff and the working language were Italian. Once the arsenal was operational, the Pasha decreed an end to importing

ships from other countries – but an exception was made for Livorno, from where he continued to buy vessels (Shlala, 2008, pp. 6-7).

To illustrate the importance of Italian influence in naval warfare during this period, in 1832, after the conflict between Egypt and the Ottomans had begun, the Sultan officially protested to a representative of the shipbuilding company in Livorno for the assistance that the Italians were providing to Muhammad Ali Pasha against them. Years earlier, in 1820, a Livorno expatriate named Carlo Meratti had created a local postal office to distribute letters arriving by boat for Alexandria residents and to transport letters from Alexandria to other places by boat. The enterprise was so effective that another office was opened in Cairo in 1840. He named his operation *Posta Europea*. When Meratti died in 1843, his brother and nephew took over the business. They employed Giacomo Muzzi of Bologna, a young man with initiative, who issued the first postage stamps in Egypt – written in Italian.<sup>9</sup> He also improved the postal service between Europe and Egypt (Shlala, 2008, p. 7).

The Pasha of Egypt had likewise sought professors and officers from Italy and Italian scientific publications, which were then translated by the same students who had studied in Italy. Prominent among these was Nikola Musabki, who, with three colleagues, had studied in Milan from 1815. After three or four years of study, they returned to Egypt, bringing Italian tools to establish a printing press. Sometime later, Musabki was named head of the government's "El Bulaq" press, which he led until 1831 (Abdulmelik, 2001, p. 434)

The Pasha of Egypt was still confronted with the lack of a free and sufficient source of motive power for machinery – one of the chief problems that faced the development of modern industry in

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<sup>9</sup> After several decades, specifically in 1862, the Egyptian government closed its postal service and contracted the services of the European Post, providing it with free transportation and warehouses. Three years later, Khedive Ismail nationalized the business and appointed Muzzi as the General Director of the Postal Service, granting him the title of Bey, an Ottoman military rank. Until 1870, the official language of the postal service was Italian, and the mailboxes resembled those in Italy, labeled "Cassette Postali" (Shlala, 2008, p. 7).

Egypt. He ordered steam engines very early on, and they arrived in Egypt and entered into use in considerable numbers. However, most quickly ceased functioning due to the lack of competent mechanics to repair and maintain them.

During 1834, for example, it was reported that only two of Egypt's steam engines were operational. The high cost of operation for steam engines was another reason they rapidly lost favor in Egypt.<sup>10</sup> Without domestic sources of combustible material, even coal had to be imported. As steam engines proved unsuitable in current conditions, oxen<sup>11</sup> started to power most industrial machinery.

The shortage of skilled local workers in modern industrial techniques represented as much of a problem as that of motive power. But the Pasha resolved this problem – as may be observed throughout this study – by employing qualified and semi-qualified foreign workers. At the same time, the issues of motive power and machinery maintenance emerged as chronic difficulties that would bedevil Egyptian industry throughout Pasha's reign.

### **3. Industrialization in the service of the military and of expansionist ends**

Understanding that the consistency of reforms was also intercon-

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<sup>10</sup> "It was estimated that steam engine consumed at least £6 sterling worth of coal during a 12-hour period. In addition, engineers and stokers had to be employed to operate it, and the machine depreciated with use. On the other hand, it cost only £4 sterling to employ 400 Egyptian factory workers for the same period" (Overton, 1971, p. 79).

<sup>11</sup> According to a British source, it was estimated that around 3,000 oxen were working for the Egyptian industry during the year 1829. This somewhat reflects the early stage of the British Industrial Revolution when horses and mules were used for the same purpose. Eight oxen drove a wheel, which in turn operated many machines. The teams of oxen were changed three times during a twelve-hour workday. It costs approximately 2 piastres daily to feed and care for an ox. In comparison to steam engines, they ostensibly provided cheap power. But there were several serious problems associated with them. Periodically, large numbers of them died from epidemics of cattle disease. The power they provided was very limited. But most importantly, the jerky motion and changing pace of the animals (they slowed their pace when tired and suddenly quickened it when goaded) were responsible for frequent machinery breakdowns (Overton, 1971, pp. 79-80).

connected with Egypt's military power, Muhammad Ali increased investments in the military. This was particularly apparent in the decree that, among things, emphasized: "Every task of ours has its importance and its own risks, but the issue of increasing armaments is more important than anything else" (El Gritly, 1952, p. 36). Consequently, the shipbuilding yard for the naval fleet was quickly established, and around that yard, many manufacturing facilities were organized, which were organically linked to the shipbuilding industry. The construction of arms and ammunition factories in Cairo spurred the rise of iron foundries. Alongside the iron industry, the cotton and textile spinning industry also intensified, which was highly important for the needs of the military forces, including cotton and wool uniforms, covers, and bedding, among others. Furthermore, even the factories for producing fezzes (traditional Egyptian caps) were largely reprogrammed for military needs. Part of this reprogramming included the establishment of a chemical cleaning sector for military clothing (El Gritly, 1950, p. 36)

The Pasha considered developing an indigenous arms industry necessary because he no longer wished to remain at the mercy of foreign suppliers: whatever the military needed should always be available (Abdulfettah, 2014, p. 56). By means of this industry, the Pasha would reinforce his power in the country and secure an advantage in his foreign policy and his relations with the Great Powers. It should be emphasized that this stimulation of military-industrial development consisted not only of the modernization of the military but was, above all, focused on freeing Egypt as quickly as possible from the Sublime Porte and establishing a strong or even dominant state in the Arab world. As the Arab scholar Al Batrik observes, only through the development of industrial manufactures could the essential needs of the modern military be met, making the defense industry one of the most crucial sectors in the creation of modern Egypt (Al Batrik, 1999, pp. 63-67).

The French scholar Menguin notes that the ship-building factory (for weapons and cannons) in the Pasha's Citadel, constructed in 1820, was under the supervision of the French engineer Gonon and

had the most modern systems available at that time. According to him, 600 workers were employed there to produce artillery pieces alone. Over time, the number of workers in this factory grew to 1,500. It produced three or four pieces a month. Two other arms-production factories worked along similar lines: one in the Citadel, the other at Al-Hod Al-Marsud; workers in these two factories numbered between 900 and 1,200, and their productivity reached 600-900 weapons a month. According to El Gritly, the production capacity of the two was the same as that of the best-known French factories of the time (El Gritly, 1952, p. 60).

From 1829, shipbuilding went on in two great yards. The first and older were at Bulaq, and the second was still larger and more modern at Alexandria; the latter expanded into building a whole fleet to make up for what had been lost at the Battle of Navarino. Until that time, the military structures had had the direction of the following factories: the prison workshop complex in the Citadel, which produced 3-4 artillery pieces a month and was the core of heavy industry; the musket factory, which made more than 625 muskets and diverse iron products including swords and lances; and the munitions factory producing cannonballs, powder cartridges, bullets and so forth. Another military-industrial institution was the Tirsane complex at Bulaq, which made small arms, mortars, and copper cladding for ships. Six gunpowder factories were established in different parts of Egypt, and the carbon-sodium lakes in the western desert were an easy source of good-quality chemicals. Another arms factory in Al-Hod Al-Marsud turned out 800 muskets a month (Marsoot, 1994, p. 166).

The Pasha of Egypt had decided on the seaport of Suez as a suitable place for ship-building because it commanded a favorable geographic position linking Africa and Asia through the Red Sea. It served as a hub for the loading and unloading of various goods. This is apparent in many Ottoman administrative documents, including the Pasha's decision to exploit Suez for the maritime industry, particularly shipbuilding. According to this document, because of its appropriate location, the Ottoman port of Suez enabled the exchange

of goods with other ports beyond the Red Sea, including Jeddah, the port in Yemen, and those of India. The start of ship-building in Suez required the prior permission of the Sublime Porte. Nevertheless, it did not take long, and through an official decree, Istanbul granted permission to commence construction (BOA<sup>12</sup>, HAT 343/19605<sup>13</sup>, 29 Dhul-Hijjah 1227-January 2, 1813).

Regarding ship-building, it should be recalled that at the beginning of the Pasha's rule, the Egyptian fleet comprised vessels built in the country on old lines and vessels bought abroad. But the Pasha wished to renew the country's fleet and, accordingly, to produce the naval vessels Egypt needed rather than buying them abroad, except in the cases of special orders from established European factories. The French engineer Cerisy, renowned for his great fleet-building experience, came to Egypt at the Pasha's invitation. He was entrusted with the construction of a large fleet at Alexandria to replace the old fleet. Cerisy devised an appropriate project and, on June 1829, presented it to the Pasha. Only a year had passed since the establishment of the factory at Alexandria for constructing the Egyptian fleet. Construction of the fleet was achieved in 1831, with the first naval vessel coming down the slipway in January of that year (Kasim, 2010, pp. 43-44).

#### **4. The cotton industry and export production**

During 1816, the Pasha brought to heel the guild of spinners and weavers in the towns and villages, requiring them to continue their craft in enterprises coordinated by the state and to work for wages. These workshops were quickly transformed into textile factories. In the same year, the Pasha took control of the spinning and weaving

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<sup>12</sup> BOA (Başbakanlık Osmanlı Arşivleri) refers to the Prime Minister's Ottoman Archives, in Istanbul (Turkey).

<sup>13</sup> HAT (Hatt-ı Hümayun Tasnifi) refers to the Classification of Imperial Decrees. It generally encompasses the decrees or written orders of the sultans, subsequently issued by the grand viziers (prime ministers).

industries across the country, urban and rural, establishing a special *divan* for their oversight.<sup>14</sup> It is reckoned that the most substantial inspiration for beginning the country's industrialization came from the advice of the Swedish Consul in Cairo, Joseph Bokty, in 1814. It was a time of considerable financial turbulence for Egypt due to the war against the Wahabis in Arabia, which unfolded in 1811-1818. Bokty had argued and insisted that textiles made of Egyptian cotton would have a considerable advantage in the international market because cotton could be cultivated at low cost in Egypt with its freely available cheap labor. This argument – endorsed by various European merchants – convinced and was accepted by the Pasha of Egypt in the face of contrary arguments from Drovetti and from his own family.<sup>15</sup> As a reward for his suggestion about the possibilities for a textile industry, the Pasha gave Bokty a gift of some 67,500 *piastres* (Overton, 1971, p. 78).

The Pasha's insistence that his troops be supplied by domestic factories resulted in the arrival of five experts from France to run the wool factory. These experts pursued their craft in the factory for fourteen years. During this period, their training equipped many local workers with diverse skills, such as wool spinning, textile processing, cotton-pressing, cloth-cutting, fabric dyeing, and textile production (Kasim, 2010, pp. 35-37). One of the most successful factories established by the Pasha produced fabric with Indian designs. In the

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<sup>14</sup> "He appointed a *dīwān* to supervise the textile industry; agents were sent to villages to purchase for the government's account thread spun by native women; shaykhs were appointed in each village to count the village looms and to keep the village weavers steadily employed; and government officials were sent to villages and towns to purchase the finished textile goods at prices fixed by the government. A government stamp was affixed at both ends of each piece so that none could enter the market as contraband and anyone found guilty of dealing in contraband was severely punished by bastinado and a heavy fine. These measures caused hardship to both rich and poor, but particularly to the poor" (Rivlin, 1961, pp. 191-192).

<sup>15</sup> Drovetti, with considerable justification, claimed to convince the Pasha that Egyptian workers could not produce goods to compete in terms of price and quality with European factories, which had advantages in technical knowledge and a skilled artisan class (Overton, 1971, p. 78).

first half of the 19<sup>th</sup> century, this enterprise produced 800 high-quality *indienne* items per month and could compete with those produced in Germany and England. Precisely for this reason, imports of this fabric to Egypt saw a fall. The workers in the factory no doubt had previous experience in the guild system, and so, as Hanna observes, it is possible that they brought some of their working practices into the factory system (Hanna, 2014, pp. 26-28).

The first two textile factories were established in 1817, at Khurunfish<sup>16</sup> and Bulaq.<sup>17</sup> Both were intended for the production of fine fabric from wool. Being difficult to process, wool faced insoluble practical problems during production. In consequence, the two factories were re-purposed for cotton. Over the ensuing decades, there was rapid growth in spinning and weaving factories and ancillary enterprises, such as workshops for bleaching and dyeing.<sup>18</sup> These new industries suffered from a wide range of problems, and yet their number and diversity were pronounced.<sup>19</sup> The armed forces used a significant proportion of the goods produced. Most of the remainder were either given to growers in payment for agricultural produce or

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<sup>16</sup> Referring to the notes extracted from the documentation of the Egyptian state administration, we understand that in 1816, upon the Pasha's initiative, a textile factory was established in the city of Khurunfish, where technical workers from Florence, Italy, were invited to work in the spinning of silk threads, mainly for the production of velvet and fine satin (Al Rafi-i Bey, 1951, p. 587) and (Kasim, 2010, p. 33).

<sup>17</sup> The factory in Bulaq, called "Malta" due to the large number of Maltese workers employed there, was managed by the Frenchman Jumel. This factory was established for cotton spinning and later expanded into textile production (Al Rafi-i Bey, 1951, p. 588).

<sup>18</sup> When Muhammad Ali made his regular visits to the textile factory in Bulaq, all the wheels were set in motion to entertain him with the activity and noise of the mill. "Even great men have their weaknesses," was Drovetti's comment at the time (Overton, 1971, p. 83).

<sup>19</sup> "Lavinson, a Russian consular official, reported the following establishments to be in operation during 1837: 29 cotton spinning and weaving mills, 14 munition factories, 1 iron foundry, the Alexandria Arsenal, 3 sugar refineries and rum distilleries, 1 printing centre and 1 fez factory. August St. John further mentioned chemical works, cooper mills and a paper mill. In addition, traditional native industries such as indigo production, rice husking (there were 12 indigo processing establishments and 4 rice mills in 1837), oil presses, and flour mills were also under government control. Expenditures on industrial development are estimated to have reached £12,000,000 sterling by 1838" (Overton, 1971, pp. 82-83).

sold – sometimes forcibly – to local and low-level merchants. A small percentage of the goods produced in Egypt were exported, such as woven cotton going to Europe and a certain amount of cotton fabric going to different parts of the Ottoman Empire (Overton, 1971, p. 83). But there was a rapid increase in the export of long-staple cotton, named Jumel after the French engineer who developed it.<sup>20</sup> This phenomenon may be seen in the fact that a weight of 944 *qantars* was exported in 1821, the first year of cultivation, and 222,070 *qantars* in 1824. The government sold this cotton for at least three times what it had paid the farmers. European demand for Egyptian cotton fluctuated during the Pasha's administration, but it remained the country's main export until late. In 1834, for instance, it represented more than 80% of Egyptian exports, whereas before the Pasha came to power, it had been 5%. According to Hunter, Jumel cotton provided the Pasha of Egypt between one-fifth and one-quarter of his annual income in years of good harvest and around one-tenth in other years (Overton, 1971, p. 78; Hunter, 1999, p. 15).

In 1833, Egyptian cotton had the second-highest price in the English market. Egyptian linen surmounted Russian linen in the Italian market and fetched a higher price (Urquhart, 1833, p. 179). Hunter notes that by 1837, the Pasha had established 29 cotton factories (Hunter, 1999, p. 17).

Inspired by the approach taken by Napoleon Bonaparte, the Pasha also strove to foster industrial development in territories outside Egypt but for the time being under his control, such as the Syrian lands. This is well illustrated in an official exchange between Muhammad Ali Pasha and his son Ibrahim Pasha, while the latter was on a military campaign in Syria and gaining consistent success. In his letter of 17 May 1833, the Pasha asked his son to gather twenty or thirty young men from the region and send them to Egypt to be

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<sup>20</sup> "To permit summer irrigation and facilitate the cultivation of Jumel, the government launched the construction of new deep-water canals, a Nile barrage north of Cairo, and other public works projects that would eventually lead to establishment of a perennial irrigation system" (Hunter, 1999, p. 17).

trained in the experience of fabric- and fez-making, with the aim that these processes could be established in the Syrian lands as well (Rustum, 1940, Doc. No. 2943, p. 313). The Pasha intended that the textile industry in Syria could supply his troops with uniforms and other clothing more easily and cheaply than if these were produced in Egypt and transported.

Aiming to stimulate silk production, the Pasha organized the planting of mulberry trees and brought specialists in silk processing from Istanbul. This effort led to an increase in spinning and the production of silk textiles. According to contemporary sources, it was reckoned that silk production had attained Istanbul's and India's levels of quality (Al Rafi-i Bey, 1951, p. 592).

In any case, the linen and wool industry witnessed the greatest productivity, bearing in mind its simplicity and its fulfillment of the chief needs of domestic demand. The cotton textile industry was the most important civilian sector, not only because of its production volume but also because of the number of people it employed. In the textile factories at Khurunfish and Bulaq in 1823, more than 800 workers were employed under the supervision of Italian and Swiss engineers. In the face of the low profits of these two factories, the Pasha was not deterred and even opened others – in Mansoura and El-Mahalla El-Kubra. Other plants for linen and textiles were opened in Samannoud, Tanta, Minya, Farshut, Girga, and Esna. Between 1821 and 1825, linen and textile factories spread across Egypt's regions. A high decree of the government in 1830 shows that there were 22 such in 1830; by 1833, they had grown to 30 (El Gritly, 1952, pp. 54-56).

As the output of these factories exceeded what was needed for domestic consumption, a portion of the cotton spun in domestic plants was exported directly to Europe through ports on the Adriatic and in Tuscany, from which it continued to the Italian interior and then Germany. The remainder of the spun cotton was used to make textile products for the domestic market. Textile products were sold in towns and villages across Egypt, and some were exported to Syria, Asia Minor, and the Aegean archipelago. According to Al Rafi-

i Bey, “the growth of factories for spinning and textiles was the principal basis for the advance of industry in the country” (Al Rafi-i Bey, 1951, p. 597).

The pace of opening new factories in the country had not improved. The fez-making factory in Fuwwah was built in 1824 and managed by a merchant with experience from Morocco. In 1829, it produced some 120 fezes per day, and over time, its capacity reached 720 per day (Kasim, 2010, p. 38). This factory made Fuwwah unusual and very important because it was among the most successfully established in the sector by the Pasha, achieving production of satisfactory quality and profitability based on modest investment. Its success was also attributed to foreign trainers brought in to improve the skills of local workers, who subsequently shared their knowledge with a new generation of pupils (Al Rafi-i Bey, 1951, p. 593). Bowring<sup>21</sup> also emphasizes the value of the Fuwwah factory, noting that it also furnished the military with essential industrial products (El Gritly, 1952, p. 58)

Since Tunisia has been known for its high-quality fezes industry, the Pasha brought in experts from there. Better quality wool for fez production was imported from the Alicante region of Spain. This imported material was mixed with local wool, usually for the production of slightly lower-quality products because of the poorer quality of domestic wool, which was full of dust containing potassium nitrate, giving it strength and dryness (Kasim, 2010, p. 38).

The reason the Pasha devoted particular attention to the fez industry was that this item enjoyed such widespread use. The fez was worn by intellectuals, senior military officers, social elites, common soldiers, administrators, students, and other classes of national society. Indeed, under Muhammad Ali Pasha, it was obligatory for workers in his administration to wear the fez. Respect for this tradition endured for a considerable time, even into the rule of the Pasha’s successors.

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<sup>21</sup> Sir John Bowring (1792-1872) was an English author and diplomat. He excelled in various spheres of public life and was also an internationally renowned trader.

Despite the widespread participation of qualified industrial workers who traveled to Egypt from Europe to train and supervise Egyptian personnel, their number still seems insufficient. Indeed, even in that context, the Pasha was occasionally obliged for reasons of simple economics to let go of several foreign workers because they were paid much more than the well-drilled Egyptians. A Western source observed after the First Syrian War that many foreigners had returned to Europe, and Arabs ran the factories. However, such measures damaged industrial activity because the Egyptians who replaced foreigners lacked sufficient skill for the work to be completed to the right standard. It is reckoned that the departure of European workers was also prompted by the fact that they knew they would be released from duty as soon as enough Egyptians had gained the necessary industrial abilities. From their side, the transfer of knowledge was glacial, to the extent that an English engineer working at the time in Egypt could observe that: "the Frank [the European]... does all in his power to keep the Arabs in the darkness of knowledge" (Overton, 1971, pp. 86-87).

## 5. The establishment of other factories

During the dynamic years of Muhammad Ali Pasha's rule, a whole series of workshops and factories of diverse characters were opened. Concerning honey, accordingly, the French scholar Mazuel notes that in 1818, there were 100 workshops for the production of black honey in Egypt. Meanwhile, the Pasha organized sugar processing in the village of Ar Rayramun near Minya. 100 workers were employed there, but the machinery was turned by animal power. This factory's management was first entrusted to an English engineer, Brinam, and subsequently to two Italian engineers. The sugar industry thus continued to operate without interruption and with additional intensity (El Gritly, 1952, pp. 58-59). In the early days, sugar was exported to Marseilles in France for refining. But from 1830, refining began to be performed in the Ar Rayramun factory as well. Later, in 1840-1845,

the Pasha's administration established five more factories for the sugar industry. In the meantime, another was founded for dairy products (Kasim, 2010, p. 39).

In 1819, a factory for the production of ropes was established in Cairo as essential equipment for ships. This factory produced ropes from European hemp fibers, the cultivation of which had recently entered Egypt. The products of this factory were sent to Alexandria as necessary equipment for the Egyptian fleet (Kasim, 2010, p. 45). In the same manner, the Pasha likewise established two factories for the production of glass, one in 1821 and the other in 1846 (El Gritly, 1952, p. 59). He then ordained a factory for the production of gunpowder, administered by a French expert. This establishment incorporated six departments. By 1836, the Pasha had founded 14 gunpowder factories. The establishment of an iron foundry was of capital importance, especially for the production of equipment and tools for the military and the navy, as well as to meet the needs of the plants themselves because they ran on steam power. The most famous of these was the smelter at the shipworks in the Citadel, but the largest iron smelting plant was the one the Pasha founded at Bulaq (Kasim, 2010, pp. 42-43).

Bearing in mind that Egypt had neither combustible materials nor useable metal deposits nor local workers competent in smelting, the establishment of a large metal foundry at Bulaq was – even for the Pasha of Egypt – a colossal undertaking. Built at the beginning of the 1820s under the direction of the English engineer Calloway, it employed some 400 workers. Metal ore would be melted, and machinery, spinning equipment, weaving looms, and the like would be produced and repaired. Nevertheless, it is hardly a surprise that the foundry did not operate with the proper efficiency. Its eight furnaces, with a productive capacity of 50 cwt of iron per day, consumed a proportionately large volume of fuel as a result of faulty design. The moulds frequently became deformed because of worker negligence. The sand used for casting, for example, was often insufficiently sifted, and the moulds were often not as dry as they were supposed to be. A Western source reported that the foundry floor at Bulaq was

covered in unsatisfactory castings. In fact, industrial machines produced in Egypt were copies of European models, and they incorporated no modifications in response to the particular challenges and atmospheric and climatic conditions of Egypt. For example, the high volume of dust in the air caused blockages of machinery, leading to frequent breakdowns. This was a particular problem with weaving and spinning machines. The coal mined in Syria, which came under the Pasha's control during the 1830s, was sulphurous and could not be used in the existing smelting processes. The import of coal from Europe was therefore necessary, regardless of the high cost. Like the Bulaq foundry, other armaments factories, in theory, demanded a significant proportion of qualified workers; as a rule, these were in short supply. Some artillery pieces and small arms were made in Egypt in the first years of the Pasha's rule, but with traditional and insufficient methods, obliging the Pasha to import cannons at a relatively high cost. Egypt's vulnerable strategic position forced him to expand domestic arms production during the 1830s. As mentioned above, in 1837, there were fourteen munitions factories. The metal for arms production naturally came from the Bulaq foundry. Because of worker shortcomings and production errors, many of the arms produced had to be scrapped. Considering these circumstances, contemporary Western sources accordingly reckoned that an Egyptian rifle cost six times as much as a French one. The practice of maximum use of machinery with no attention given to periodic repair rendered machines in all of Egypt's industries totally unusable. This occurred because neither the *nazirs* (overseers) nor the workers dared to halt the machines for repair or adjustment. If a factory's production quotas were not met, the management and workers were severely punished. In any case, even had this threat not hung over them, there were not enough mechanics to maintain and repair machines adequately. Besides this, machines often stood idle for prolonged periods because of the difficulty of sourcing spare parts (Overton, 1971, pp. 84-86).

## 6. Infrastructural building, worker wages, and sabotage

Because the waters of the Nile were existential for the population, the Pasha of Egypt initially focused his infrastructural investments on the river. Its ancient irrigation system had been left largely untouched since the end of the age of the pharaohs, degrading agriculture to the point that the continuous fear of drought and food shortages had, over centuries, become part of life for the country's inhabitants. The Pasha commanded that the canals and waterways be dredged and dykes repaired and constructed. These infrastructural interventions ensured that the Delta region soon produced three harvests instead of one while the workable land grew by 30 percent. Now that the waters of the Delta were being managed, villagers no longer feared years of drought (Hassan, 2000, p. 9). The Pasha also ordered his regents around the country, together with the headmen of rural districts, not to allow a single piece of land to be left unworked, given how fertile it was to cultivate all kinds of agriculture (Al Rajabi, 1997, pp. 177-178).

Many roads and ports were paved by order of the Pasha of Egypt, helping the trade succeed. However, the trail of the Pasha's infrastructure projects was particularly marked by the building and rebuilding of bridges around the country's towns and villages.

The Pasha insisted that bridges be built as well as possible, and the local inhabitants became skilled at this work because the currents and impacts of the waters of the Nile did such frequent damage. Bridges were accordingly to be constructed like fortifications (Al Rajabi, 1997, p. 177). Among the bridges built at the height of the Pasha's power, those over the Nile stand out – especially those from Gebel el-Silsila (one of the villages of the town of Kom Ombo, in the Aswan region) and towards the Mediterranean, thus on two branches of the river. According to Clot Bey,<sup>22</sup> their combined span

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<sup>22</sup> Clot Bey (His original name: Antoine Barthelemy Clot) [1793-1868] was a French physician who spent most of his life in Egypt. After Muhammad Ali Pasha entrusted him with the organization and management of the Egyptian army's healthcare system, he became the chief medical official in Egypt. In recognition of his efforts in the health-

covered some 2,320 meters, with an average width of six meters and a height of two meters (Shafi-i, 1950, p. 35).

The low wages paid to workers had negative effects on industrial production. The possibility of motivation was never discussed at all, nor was an increase in the daily stipend of factory workers. Similarly, weavers were paid a nominal  $1\frac{1}{2}$  *piastres* per day.<sup>23</sup> Meanwhile, diverse other factors reduced still further the amount and real value of wages. Factory administrators would not infrequently lower wages with the alleged justification of covering the costs of repairing machinery. Besides this, wages would be paid late – with delays running even to several months. Workers would be obliged to borrow from money lenders at 15-25% interest. When the workforce was weakened by the recruitment of men into the armed forces, women and children were enlisted as factory workers. This was no doubt a dramatic social change for those women, who would traditionally have lived close lives. It should be noted that during their factory work, they were likewise segregated. Because of the burdensome working conditions, many women avoided industrial labor by crippling or blinding themselves. Moreover, the mortality rate for children working in factories was extraordinarily high. The professional competence and work ethic of the factory *nazirs*, who were all Ottoman, was judged by analysts of the time to be a problem and a serious obstacle to Egypt's industrial development. The *nazirs* officially had authority over all workers in industrial enterprises, even over European subordinates who were paid substantially more. They had negligible grounding in management and, in general, little knowledge of industrial procedures and products. Above all, they had no interest in the wages and social conditions

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care reform he introduced in Egypt, the Pasha of Egypt bestowed upon him the title "Bey". For more details, refer to G.N. Burrow, "Clot-Bey: Founder of Medical Practice in Egypt", in *Yale Journal of Biology and Medicine*, vol. 48, no. 3, 1975.

<sup>23</sup> "The value of piastres, to the worker, is reflected in the following list of prices for various items during 1835: 1 litre of rice – 1.3 piastres, 1 ratle (15 3/4 ozs.) of mutton – 1 piastre, 1 fowl – 1.5. piastres, 3 eggs – ½ piastre, 1 ratle of coffee – 6.7 piastres, 1 ratle of sugar – 2 piastres" (Overton, 1971, p. 89).

of their workers, nor in the condition of the machinery; all that concerned them was their own pay and avoiding responsibility for irregularities in the factory. The *nazirs* and other factory personnel, including clerks, those in charge of stores, and quantity surveyors, all abused their responsibilities and pocketed immeasurable quantities of funds and goods. But corruption was common to all in authority. British military sources then judged that some 40% of the total sums levied in taxes never reached the state treasury. Drawing attention to the stratospheric corruption in Egypt, another British source related that government agents had bought indigo from its cultivators at a price of 100 *piastres* per *oke*<sup>24</sup> and sold it at a price two or three times higher, while the government only gained 40% of the original purchase price. Some European observers went as far as to blame the *nazirs* for the eventual failure of the Pasha's industries because they could have been much more profitable had they had managers of competence and integrity. Thus, because of the excessive costs of production and ineffective craftsmanship, most industries functioned at a substantial loss. Even the Pasha's subordinates deceived him for years with distorted reports of production costs: in practice, in reckoning the cost of a manufactured article, they would consider only labor and materials, with no consideration whatever of the costs of building the factory, general expenses, wastage, repayment of interest on loans or debt repayments for buildings and machinery. Even the cotton industry thus operated at a considerable loss. Precisely as a result of this, in 1838, Egyptian cotton cost its producer 8.7 *piastres* per yard, while English cotton of the same quality could be bought in Egypt at 7.5 *piastres* per yard (Overton, 1971, pp. 89-93).

Being informed about the damage that the widespread use of hashish was causing to the functioning of the industry, an official decree was issued by Pasha to prohibit the cultivation of hashish

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<sup>24</sup> The old unit of weight: small *oke* = 1250 grams; big *oke* = 1408 grams. See: *Fjalor i Shqipërisë së Sotme*, ed. A. Kostallari (Tiranë, Akademia e Shkencave e RPS të Shqipërisë & Instituti i Gjuhësisë dhe i Letërsisë), 1984, p. 819.

strictly. Such a decision was made because the use of this drug by factory workers and government officials had led to frequent work shortages. Thus, through the 1836 order, the revenues derived from hashish cultivation were canceled, and state officials in the provinces were mandated to cease hashish cultivation everywhere (Rizk, 2005, p. 49).

## **7. The impact of the Ottoman Empire's trading conventions on the Egyptian economy**

By an imperial decree of the Sublime Porte in 1820, foreign goods permitted to enter all parts of the Ottoman Empire – including Egypt – were to pay an import tax of only 3%. Muhammad Ali Pasha strove to ignore this decree, but the European consults in Egypt – most of whom were merchants – put pressure on him to abide by its principles. Egypt was, therefore, not in a position to protect her newborn industries with high import tariffs. Some historians are even inclined to judge the Anglo-Ottoman Convention of 1838<sup>25</sup> as the principal cause of the failure of Egyptian industry. Under the terms of this agreement, British merchants were permitted to (i) import and sell goods in any part of the Ottoman Empire upon payment of a 5% duty and (ii) buy products of the soil or industry directly from producers within the Empire. The first point only refreshed the Imperial Decree of 1820, which had been in force for the best part of two decades. The second, which was more significant for Egypt, exposed a shared Ottoman and British objective based on a common strategic

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<sup>25</sup> The Treaty of Balta Liman of 1838, or the Anglo-Ottoman Convention, is a formal trade agreement signed between the Sublime Porte and Great Britain. The trade policies imposed on the Ottoman Empire following the Treaty of Balta Liman were some of the most liberal and open decisions ever adopted during that time. The treaty's conditions emphasized that the Ottoman Empire would abolish all monopolies, allow British merchants and their collaborators full access to all Ottoman markets, and subject them to taxes on an equal basis with local traders ((Geyikdağı, V. Necla Foreign Investment in the Ottoman Empire: International Trade and Relations 1854-1914. Tauris Academic Studies, London and New York, 2011, p. 23).

interest: to reduce the military might of Muhammad Ali by destroying his monopoly system, his primary source of revenue. As a result, soon after the treaty's promulgation, France and other European powers sought and obtained similar concessions.<sup>26</sup> In connection with the Convention's implementation, British diplomats emphasized that:

"The first great obstacle to the application of the treaty, is the authority and power of Mehemet Ali in Egypt. He has not, we believe, openly declared that would not submit to its provisions and abolish his monopolies; but has rather given the Porte and the consuls of European powers a promise that he would do so, and submit to the arrangements agreed to by the Sultan. He may be induced to abolish his monopolies on the condition of his retaining the independence of Egypt; but taking all circumstances into deliberate consideration, we do not see the practicability of the treaty becoming conveniently practical in that country; in Syria it may, now that the country is restored to the Sultan; but the resources of that region will never be available until anarchy be suppressed, and order security be established. We can scarcely hope for these blessings under the feeble power of the Sultan and the extortion of a Pasha's administration" (British Library, Account and Papers (28), 1843, LVII, 57, [513]).

However, the Pasha of Egypt did not abide by the terms of the Anglo-Ottoman Convention and subsequent treaties until 1842. However, after the Syrian War and under significant pressure from foreign consuls, he was forced to allow European traders to purchase Egyptian cotton and other products directly from Egyptian farmers.

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<sup>26</sup> See Edward A. Van Dyck, *Capitulations of the Ottoman Empire since the Year 1150*, Part 1, Washington, Government Printing Office, 1881; J. Ewis Farley, *The Resources of Turkey: Profitable Investment of Capital in the Ottoman Empire*, Longman, Green, Longman and Roberts, London, 1862; Derek James Overton, *Some Aspect of Induced Development in Egypt under Muhammad Ali Pasha and Khedive Ismail*, MA Thesis Manuscript, Simon Fraser University, 1971; Bruce McGowanEconomic, *Life in the Ottoman Empire: Taxation, Trade and the Struggle for Land, 1600-1800*, Cambridge University Press, Cambridge, 1981; Reşat Kasaba, *The Ottoman Empire and the World Economy: The Nineteenth Century*, State University of New York Press, New York, 1988.

## Conclusion

The history of Egypt in the first half of the 19th century is not only related to the Franco-British rivalry for dominance over this important African country but also connected to the personality of Muhammad Ali Pasha, known in world historiography as the founder of modern Egypt. During this century, Europe experienced the peak of the Industrial Revolution, which was the most significant turning point in its modern history. It was truly remarkable that a character such as Muhammad Ali Pasha, with so little education himself but with so much ambition, daring, and vision, managed not only to expand the borders of Egypt in Africa as well as in Asia but at the same time to reform Egypt's political, economic and cultural life wholesale.

The path the Pasha chose for the country's modernization and industrialization was defined not only by the politico-economic context but, above all, by the irrepressible ideas and ambitions of the man himself, who contrived by means of fundamental military, agricultural, economic, and cultural reforms to reinforce his position as absolute ruler and even to challenge the nominal superior authority, that of Sultan's sovereignty over Egypt. The Pasha was confronted with many challenges on this path, domestic and foreign, which he grappled with and overcame by shrewdness and the force of his authority. The modernization of Egypt required radical changes in all spheres of life, so in the beginning, the Pasha nurtured and welcomed foreign professionals from Europe and Asia. He likewise initiated the sending of Egyptian students to European schools and universities to specialize in diverse fields of knowledge, especially industry. He was sufficiently flexible in his relations with the non-Arab population of Egypt and, thereby, with the non-Islamic religions. He monopolized agriculture and trade and organized and personally oversaw the development and functionalization of workshops and factories in the armaments, textile, and other industries. He organized and oversaw infrastructure projects all over Egypt. However, the dearth of experience in operating modern machinery

and a lack of spare parts did considerable damage to the country's fragile industry. Yet, it was also the human factor and Ottoman economic policies that hampered and harmed this process. Indeed, sabotage by factory managers (*nazirs*) and the Sublime Porte's related treaties with the European Great Powers in the twenties and thirties of the 19<sup>th</sup> century struck a heavy blow not only to the Pasha's system of monopolies but also to the whole remarkable history of Egypt's reform and rapid industrialization. Regardless, for those who succeeded in his dynasty, the economic foundations established by Muhammad Ali Pasha would prove a significant help in sustaining the country's industrialization and economic progress in more favorable international circumstances.

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