t

Lisandra Franco de Mendonça

HE SEWERAGE WORKS AND THE CONSTRUCTION OF THE FIRST AVENUES IN LOURENÇO MARQUES, MOZAMBIQUE

ABSTRACT

This paper focuses on some aspects of the implementation of the "Enlargement Project of the City of Lourenço Marques" (Port. *Projecto* de Ampliação da Cidade de Lourenço Marques), in Mozambique, carried out from 1887 onwards and set in the context of the village's transition to city (1887) and capital of the colony (1898). Above all, the research allowed us to draw conclusions on the technical difficulties and lack of material and human resources encountered by the Public Works Administration of Lourenço Marques during the last quarter of the nineteenth century, in contrast to the ambition of the city's enlargement project. This research was based on reports made by the Public Works Office of Mozambique to the Portuguese Ministry of the Navy and Overseas Territories and correspondence of the directors of the Public Works Administration of Lourenço Marques written during the last two decades of the nineteenth century and the first decade of the twentieth century, as well as cartography and iconographic collections of this period found in the Overseas Territories Historical Archives (Port. Arguivo Histórico Ultramarino — AHU) in Lisbon, in the Historical Archives of Mozambique (Port. Arquivo Histórico de Mocambique — AHM). in the Society of Geography of Lisbon —SGL, and in the Centre for Research and Development of Habitat (Port. Centro de Estudos e Desenvolvimento do Habitat — CEDH), of the Faculty of Architecture and Physical Planning (Port. Faculdade de Arquitetura e Planeamento Físico — FAPF) of the Eduardo Mondlane University (Port. Universidade Eduardo Mondlane — EMU).

Keywords

Mozambique. Urbanisation Plan by Joaquim Araújo. Portuguese Public Works. Urbanization Plan of Lourenço Marques.

RESUMO

Este artigo põe o enfoque em alguns aspetos da implantação do "Projecto de Ampliação da Cidade de Lourenço Marques" em Moçambique, levada a efeito a partir de 1887, inserido no contexto da transição da vila a cidade (1887) e a capital da colónia (1898). A pesquisa permitiu sobretudo concluir sobre as dificuldades técnicas, materiais e de recursos humanos encontradas pelas Obras Públicas no pequeno assentamento urbano de Lourenço Marques ao longo do último quartel do século XIX, em claro contraste com a ambição do seu projeto de ampliação. A pesquisa teve por base relatórios das Obras Públicas de Moçambique ao Ministério da Marinha e Ultramar (Portugal), correspondência dos diretores de Obras Públicas de Lourenço Marques das duas últimas décadas do século XIX e primeira do século XX, cartografia e coleções iconográficas desse período presentes no Arquivo Histórico Ultramarino — AHU (Portugal), no Arquivo Histórico de Mocambique — AHM, na Sociedade de Geografia de Lisboa — SGL e no Centro de Estudos e Desenvolvimento do Habitat — CEDH da Faculdade de Arquitetura e Planeamento Físico — FAPF da Universidade Eduardo Mondlane — UEM.

AS OBRAS DE SANEAMENTO E O

TRAÇADO DAS PRIMEIRAS AVENIDAS EM LOURENÇO MARQUES, MOÇAMBIQUE

Palavras-chave

Moçambique. "Plano Araújo". Obras Públicas de Lourenço Marques. Plano de urbanização.

Introduction

The arrival in Mozambique of the Public Works expedition of 1877¹ was followed by a campaign of civil works in the Portuguese colony, which led to the definition and implementation of the "Expansion Project of the City of Lourenço Marques" (1887-1895). These events were a direct consequence of a process of actual occupation and exploration of the colonised territories, imposed by the Race for Africa in the last quarter of the 19th century.

The establishment of Lourenço Marques as a major city within the set of urban settlements along the vast Mozambican coast, at the end of the 19th century, may be explained by its proximity to South Africa, a locus of great technological and demographic growth due to the discovery of vast deposits of coal, gold and diamonds². These developments called for the construction of transportation infrastructures to and from the nearest ports: the geographic proximity of Lourenço Marques made it a natural point of transit for goods and people connected to ore extraction in South Africa.

The Treaty of 1876, signed by the Transvaal and the Portuguese Crown, was intended to ensure previously established agreements and committed the Portuguese Government to undertake major civil works in the province of Mozambique. Accordingly, the aforementioned Public Works expedition was sent to Mozambique from the metropole in 1877. Three sections of Public Works were formed in the province (1st Mozambique, 2nd Quelimane, and 3rd Lourenço Margues), which were supervised by a general director: initially the major of engineers Joaquim José Machado (1847-1925), and subsequently the major engineer António José de Araújo (ALBERTO, 1907, p. 178; MACHADO, 1879; MORAIS, 2001, p. 32).

In 1877, Lourenço Marques was constituted by 110 houses and 304 inhabitants (both Portuguese and other foreigners). The "indigenous" population in the district comprised an estimated 50,000 to 80,000 individuals, and was organised in several political units that divided the plateau located north of the Estuary of the Holy Spirit (LIESEGANG, 1887, p. 29; MORAIS, 2001, p. 70). The small settlement of Lourenço Marques was confined by a line of defense and by flooded land all around (Fig. 1). The connection to the solid ground was made by crude, narrow footpaths, later to be replaced by the Central/ Manuel de Arriaga/ Karl Marx Avenue and the Augusto de Aguiar/ D. Luís/ Samora Machel Avenue, built from 1887 onwards (Figs. 2 and 3). The small urban settlement had the Fortress as its primary and structuring element, with the south flank on the water line. The settlement developed towards the west, along the river, "[...] structuring the direction of its tracings in relation with the Picota Square [...]"³ (MORAIS, 2001, p. 67-68; trans. by the author). With some minor alterations, this primitive urban organism accompanied the expansion of the city at the end of the 1800s. It constituted the structuring core of the "new city" and its commercial and administrative area, tightly connected to the port and the railway, its motors of development.

Richard Thomas Hall (1825-1889), who had been sent to Lourenço Marques by the South African Republic to proceed with the survey of the "country" and the definition of the railroad path, also carried out, at the request of the government of Lourenço Marques, in the person of the governor Augusto de Castilho (1873-1879), the first topographical survey of the village (dated 1876) and an initial plan



Figure 1 – Extract of "PLANO/ do/ projectado esgoto e aterro/ do/ PANTANO/ DE/ Lourenço Marques/ por/ S.T. HALL/ Dezembro 1876./ Copia de/ Augusto de Castilho. Escalla do Plano e secção/ Horizontal 200 pés = 1 poleg.ª/ vertical 10 pés = 1 poleg.ª/, Lourenço Marques, 1876. The plan includes the sewage and landfill project of Maé (northwest of the village) and a new settlement next to the "Estrada de Lydemburgo" (Lydemburgo road). Source: AHM (D1.03/2021).



Figure 2 – Junta de Investigação do Ultramar [signature unreadable], extract of the "PLANTA GERAL" COMPREHENDENDO/ Planta da nova povoação/ Progecto de esgôto do pantano/ Progecto de melhoramentos na povoação antiga e porto", Lourenço Marques, 1878. The project for the improvement of the colonial settlement included the sanitation of the Maé marsh (1) and the expansion of the port to the downstream (2). The new hospital and the new parish church appeared under the plan of a "new town" in Alto da Maxaquene (indicated by the circle). Source: CEDH-FAPF.

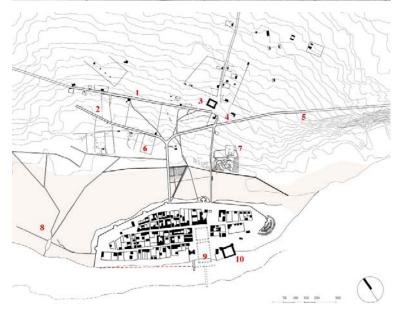


Figure 3 - Plan of Lourenço Marques, ca. 1887. Source: Author, based on S.T. Hall's 1876 plan, AHM (D1.03/ 2021) and on the "Planta da Avenida António Augusto de Aguiar" of 1887, AHU (ACL_SEMU_DGU_Cx. 1389/ 1L_1886_1888). The numbers indicate: the new road to Lindemburgo (1); the former road to Lindemburgo (2); the new Hospital (3); the Parrish Church (4); the road to Ponta Vermelha (5); the cemetery of S. Timothy (6); the Garden of the Society of Arboriculture and Floriculture (7); the tracing of the sewer in the Maé marsh (8); the project for the expansion of 7 de Março Square with a new bridge (9); and the Fortress (10). The settlement was surrounded by marshland (indicated by the hatched area), which separated it from solid ground.

for the sanitation of the Maé marsh and the construction of a separate settlement, just off the road to Lindemburgo, with a structuring quadratic layout (Fig. 1).

According to some authors⁴, S.T. Hall also outlined an urbanisation plan (of which there is the record of a copy made by the Junta de Investigação do Ultramar (Overseas Research Board)), dated 1878, which included the "Progecto de melhoramentos na povoação antiga e porto" (Improvement project in the old town and port), the "Progecto de esgôto do pantano" (Swamp drainage project) and the "Planta da nova povoação" (Project of the new settlement) in Alto da Maxaquene, in the shape of a regular hexagon (Fig. 2). The swamp drainage project established a network of collecting ditches at the base of the Maé and Maxaquene slopes to collect water from the springs that, together with the tidal water, fed the Maé swamp. Subsequently, a sophisticated system of ditches, near the base of "[...] the slopes, began to collect water discharged by the springs and transported to the central collector through diversion ditches, and dumped it into the sea [...]" (LIMA, 1968, p. 48; trans. by the author) during low tide.

The works to drain the Maé marsh were initiated by the 3rd Public Works Department in mid-1877, with the opening of ditches, the placement of drains and the construction of a riparian embankment where the railroad was later built (MACHADO, 1881, p. 31-32, p. 47-52, SOEIRO, 1895, p. 5). This dike started at the northwest end of the village, completely surrounding "[...] the muddy ground exposed to the small tides [...]" (LONGLE, 1887, p. 6; trans. by the author), and preventing its flooding with salty waters (Fig. 1). The sanitation works in the swamp continued until the first decades of the 20th century (GALVÃO, 1920, p. 18-21). The construction of the railroad connection to Transvaal, whose first section was inaugurated at the end of 1887 (FOWLER, 1887), allowed the drainage of an extensive strip of riparian land, subsequently enlarged by the land conquered to the river throughout the phased construction of the port (TERRA VIANA, 1907, p. 13). However, in spite of the commitment to the works, until the beginning of the 20th century a great part of the Maé lowland (Port. Baixa do Maé) remained undrained and below sea level. As might be expected, water continued to accumulate in this area (LONGLE, 1887, p. 14; SOEIRO, 1895, p. 5).

Concerning the works carried out by the Public Works expedition in the town/city, it was possible, in the words of João Morais (2001, p. 79; trans. by the author), "With access to new resources, materials and technicians, [...] to erect [...] a set of buildings, even if they were of a provisional nature, built using prefabricated models, in wood and metal [...]" in order to meet the most urgent needs of the public sector's functioning. Among those, and along the Avenida D. Carlos -the former Rua da Linha (Line of Defence Street) and current Avenida 25 de Setembro-, the following stood out: the buildings of the Public Works Department⁵ and the Press and Post Offices (in wood and zinc) and the Civil Prison (in masonry, with stones from the demolition of the line of defence)6 (Fig. 4). Upon arriving in Lourenço Margues, the expedition immediately undertook the construction of the Civil and Military Hospital, which begun in 1877, and the construction of the Parish Church, beginning in 1878 (MACHADO, 1881, p. 33, p. 35). The two buildings were placed in a"[...] high, well ventilated site, far from the marshland, and subordinated to the town's plan [...]" (MACHADO, 1881, p. 45; trans. by the author), which corresponded to a hexagonal matrix, delineated by S.T. Hall (Fig. 2).

THE EXPANSION PROJECT OF THE CITY OF LOURENÇO MARQUES

On November 10, 1887, Lourenço Marques was granted the status of city⁷. In December of that same year, António José de Araújo, then Director of the Public Works Department of the Province of Mozambique, presented the "Expansion Project of the city of Lourenço Marques"8, which designed a continuous matrix over the swamps, in opposition to the common opinion that stated that the growth of Lourenço Marques should avoid areas near swamps⁹. The anteplan, executed by the 3rd Section of Public Works (between 1887 and 1895), focused on two imperative issues: greater accessibility for intraregional and regional trade and the sanitation of the town. The design solution for these issues was found precisely in the beneficial relationship between the port/ railway and the city, allowing more economical and efficient access to construction materials and other goods. The enlargement of the city began with the filling of the marsh with an average 2 m of infill, to enable the construction of the Avenida D. Carlos (MOÇAMBIQUE, 1901). This initiated the opening of the new routes delineated in the anteplan: a series of longitudinal avenues, parallel to the major axis of the city, connected by transverse avenues with a spacing of roughly 100 to 200 m (Fig. 4).



Figure 4 - Plan of Lourenco Margues, ca. 1887-1888, with the outline of the expansion project of 1887 (indicated by the dashed lines), the first avenues (indicated by the shaded outlines), the plantation of eucalyptus trees for the sanitation of the area (indicated by the irregular shading north of the settlement) and the new buildings and plazas built by the Public Works Department from 1877 onwards. The numbers indicate: the Hospital (1); the Parrish Church (2); the Public Works Department (3); the jail and the Police Station (4); Magazine (5); Police Headquarters (6); Slaughterhouse (7); Customs (8); Praça da Estação (Station Plaza) (9). Source: Author, based on the "Plano do projectado esgoto e aterro do pantano de Lourenço Marques por S.T. Hall, Dezembro de 1876. Copia de Augusto de Castilho", AHM (D1.03/2021), on the "Planta de Lourenço Marques levantada em 1886, Escala 1:5000", AHM (N.º 1711/D.29/ 2006) and on the "Planta da Cidade, Lourenço Marques, 1903, Escala 1: 5000", AHM (2014/D.37).

The swamp next to the city was crossed by three longitudinal avenues (Port. *avenidas*): the first one, Avenida D. Carlos, with an extension of approximately 2 000 m; the second, Avenida Pedro Alvares Cabral, 140 m north of Avenida D. Carlos; and the third, Avenida Fernão de Magalhães, 120 m away from the second, partly on the slope and partly on the marsh. These avenues were linked by ten transverse avenues. All of them were built on land fill and at least 2/3 of the volume of land needed for this purpose came from the east end of the city, from the elevations that dominated the (idealised) port in Maxaquene cove¹⁰. Infilling work was carried out with the help of "indigenous" labor, the Police Corps and a *Decauville* line (PEREIRA, 1888). The earth was carried down the slope to the marsh in wagons on iron rails that were then pulled by human traction, up the slope, to be loaded once again¹¹.

At the same time, between 1887 and 1893, the Public Works Department built the Alto Maé Police Headquarters¹² (see Fig. 4), near the Mpfumu cemetery, as a city outpost to the west (LEMOS, 1987, p. 16 footnote 52). This building was urgently needed, as the Police Corps had been precariously housed in a wooden barrack located on Rua D. Luis I (now Consiglieri Pedroso), very close to the marsh. By mid-1888, approximately three-fifths of the Police Corps (91 elements), part of the first contingents that arrived in Lourenço Marques coming from the metropole, were hospitased in the Civil and Military Hospital of the city with marsh fevers. This Police Corps was recruited by the Public Works Office for the ongoing works, due to the lack of manpower and given that "[...] everywhere the land was being excavated to open avenues and streets and to build houses [...]" (PEREI-RA, 1888; trans. by the author).

Around the same time, a series of other public works was carried out: the construction of the Magazine (see Fig. 4), located on the slopes of Maxaquene, begun on May 10, 1878 (MACHADO, 1881, p. 45) and was completed in 1888¹³; the Municipal Slaughterhouse, initiated on October 23, 1887¹⁴; the aforementioned Civil Prison and Police Station, which began on October 9, 1887¹⁵, and the building for the Public Works Office, initiated on September 24, 1888¹⁶. Thus, by mid-1888, the Public Works Office of Lourenço Marques was engaged, among other civil works, in the construction of the Police Headquarters, the Civil Prison, the Magazine, the Iron Foundry Factory (initiated on May 27, 1888), and the Customs Hangar, as well as in several improvements in the Church and Hospital¹⁷.

Regarding the new avenues, the following were under construction: (1) Augusto de Aguiar (nowadays Samora Machel), the city's widest boulevard —crowned in the 1940s by the monumental square of Mouzinho de Albuquerque and the Municipal Palace— was initiated on August 14, 1887¹⁸, paved during the months that followed and received more than two hundred trees; (2) General Joaquim José Machado (present-day Guerra Popular), whose construction begun on October 17, 1887, was located north of Station Square (Port. *Praça da Estação*) and was leveled, paved and received a tree line after the demolition of the "31 de Julho" bastion and the line of defense¹⁹; (3) Augusto de Castilho (now Vladimir Lenin), which marked the eastern limits of the urban matrix (demarcated by the *non aedificandi* area around the Magazine) and whose construction began on January 16, 1888, next to the old line of defence; (4) Fernão de Magalhães, initiated on February 19, 1888; (5) Alvares Cabral (now known as Zedequias

Manganhela), begun on February 12, 1888, following Augusto Castilho Avenue to the west on top of the old sewer that marked the southern limit of the Garden of the Society of Arboriculture and Floriculture (the genesis of the current Tunduru Garden) (Fig. 7); (6) D. Carlos (current 25 de Setembro), begun on May 7, 1888, located between Augusto de Aguiar and Augusto de Castilho Avenues; (7) Rei D. Manuel (present-day Rua da Rádio and Avenida Josina Machel), which began on July 1, 1888, and was leveled and paved up to the height of the Police Headquarters of Alto Maé in December 1888; and finally (8) Henrique de Macedo (current Avenida da Zambia; the southern section was interrupted, and now corresponds to Rua Paulino Santos Gil), whose north part, adjacent to Alto Maé Headquarters, begun on July 23, 1888²⁰, between the Avenues of Pinheiro Chagas (current Eduardo Mondlane) and El Rei D. Manuel (the section that is now known as Avenida Josina Machel).

Around the same time, in 1885, the Arboriculture and Floriculture Society of Lourenço Marques was founded. The purpose of the Society was the afforestation of the swamp that separated the old colonial settlement from the solid ground and the creation of a garden (LONGLE, 1887, p. 20). Armando Longle (who arrived in Mozambique in the abovementioned expedition of 1877), conductor of the Public Works in the province and promoter of the Society, stated that it was intended"[...] to deal with all matters relating to [arbori]culture in the District, such as sanitation by the use of plantations, fixation of dunes, introduction of useful plants [...]" and that these works of the Society proceeded in such a way that "[...] the eucalyptus woods started to cover previously wet lands, and thousands of trees of various species were introduced."21

Along with the Garden of Arboriculture and Floriculture (see Figs 3 and 4), several nurseries were established and provided with seeds and plants of various species and provenances, which supplied the district government and the municipality with thousands of seedlings that were handed to the Section of Public Works for the afforestation of the area (LONGLE, 1887, p. 31). Some species (e.g., the casuarina tenuissima) were used to steady the dunes located near the village, given that, due to the wind, they were constantly blocking the road to Ponta Vermelha, "[...] causing serious and endless expenses [...]" (LONGLE, 1887, p. 37; trans. by the author). In the flooded and paludous areas, as in the new avenues, the intensive plantation of eucalyptus was used.

The works towards the railway and the expansion plan of the city, with the tracing of the avenues and the embankment of the swamp, naturally required the progressive demolition of the old line of defense. The rubble from the demolitions was used in land fills, and the stone in the construction of the Civil Prison and in the pavement of Square Station and the new routes²². The civil works on the avenues, however, proceeded with enormous difficulties. A large part of the land in the area was leased, forcing the government to pay heavy compensations²³. The technical and financial difficulties in the access to construction materials also caused most of the streets and avenues to remain unpaved and awaiting macadamisation until the end of the XIX century, limiting the construction of new buildings (MOÇAMBIQUE, 1901).

Mouzinho de Albuquerque's (1855-1902) outburst, while serving as governorgeneral (1896-1898), was eloquent as to the extension of works and improvements in the province during this period: in Lourenço Marques, a water bridge had been

built for loading and unloading, only suitable for small boats at the flood tide, along with the Police Headquarters and the Public Works Office, and, on the Island of Mozambique, the Civil and Military Hospital. The Public Works had repaired palaces, churches, fortresses and residences of governors, but not works with a real impact on the economic development of the province. The money was spent"[...] on embassies, gifts to kinglets, money and arms to potentates who raised indigenous forces, with which it was thought, uselessly and unsuitably, to supplement the lack of regular troops [...]" (MOUSINHO DE ALBUQUERQUE, 1934, p. 82-83; trans. by the author). Adding to the obstacles caused by the lack of capital and the deficit of material and human resources to the continuation of civil works, there was the substantial bureaucracy that administered the Portuguese Empire from Terreiro do Paço (MOUSINHO DE ALBUQUERQUE, 1934, p. 81-82, p. 84, p. 89). According to Mouzinho de Albuquerque (1934, p. 84; trans. by the author), the metropole sent out laws and regulations"[...] to countries they were completely *unknowledgeable of* [...]" and made the colony"[...] a true caricature of the metropole [...]" which "[...] contrasted painfully [...] with what was happening in the neighbouring countries [...]".

By 1900, an average of twenty houses per month was built in the city of Lourenço Margues, of which about 1/4 was built in masonry (MOÇAMBIQUE, 1901). Until the end of the first decade of the 20th century, the city had experienced very little growth. In addition to the old Baixa, the occupation of the city blocks was limited to the area between the Avenues Augusto de Castilho (now Vladimir Lenin) and General Machado (current Guerra Popular). To the west of Avenida General Machado, between the Avenues of D. Carlos (now 25 de Setembro) and Fernão de Magalhães, the city blocks built on the Maé marsh remained unoccupied (Fig. 5). The built area continued to the northwest, in Alto Maé, where constructions in wood and zinc prevailed, occupied by the unpriviledged social classes. According to the Engineer Terra Viana (1907, p. 13; trans. by the author), the lowest points of the commercial and densely populated district were found on Avenida Central (now Karl Marx), "[...] 2,46 metres above sea level and lower than those of the old town [...]", which, together with the remaining lowland avenues of the Baixa, continued, for a long time, to be flooded by water that flowed freely on the surface of the soil, due to the lack of a sewer system (SOEIRO, 1895, p. 7). To the west of the Alto Maé Headquarters, there continued to be marshy areas well into the 20th century, devaluing the neighbourhood west of Avenida Central and making it unsanitary (GALVÃO, 1920, p. 21).

The urban network delineated by the "Araújo Plan" was successively extended until it met the perimeter of an arc of circumference with a radius of 2,000 m, with 7 de Março Square (current 25 de Junho) in its center —the, town's administrative limit from 1895 (ENNES, 1896, p. 55-56). This arc acquired "[...] a status of permanence, as it was the origin of the Estrada da Circunvalação [...]" (MORAIS, 2001, p. 106; trans. by the author). The transfer of the capital from the city of Mozambique to Lourenço Marques (on December 1st, 1898), in the underdeveloped South of the colony, entailed the planning and development of political, administrative and service infrastructures in the city (MENDES, 2008, p. 517). Until then, public investment had focused mainly on the development and expansion of the freight port25 and on the "[...] studies for the Transvaal railway and its subsequent construction [...]" (LONGLE, 1887, p. 12; trans. by the author). The influx of goods, foreigners on their way to the Transvaal mines and workers for the

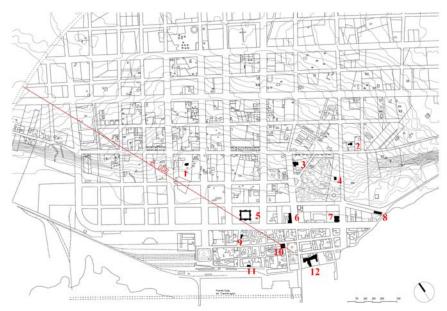


Figure 5 - Plan of Lourenço Marques (central area), ca. 1903, with the tracings of the expansion of the port and of the northern city limits. Some buildings from that period that persist to today (although with some changes) are indicated: the Dona Amélia Institute, now Iron House (Port. Casa de Ferro), which was moved, in the early 1970s, from the Office of Surveying (Port. Repartição de Agrimensura) to the area neighbouring the Vasco da Gama/Tunduru Garden (1); the British Consulate (2); Hotel Clube, currently the French-Mozambican Cultural Centre (Port. Centro Cultural Franco-Moçambicano) (3); Vila Jóia, currently the Supreme Court (4); the Central Market (5); the Pott building (6); the Civilian Jail, currently an annex of the National Press (7); the Mayor's Hall, currently the Administrative Court (8); the Mosque (9); the Yellow House (Port. Casa Amarela) (10); the House of Tiles (Port. Casa dos Azulejos) (11); and the Fortress (12). Source: Author, based on the "Plano do projectado esgoto e aterro do pantano de Lourenco Marques por S.T. Hall, Dezembro de 1876. Copia de Augusto de Castilho", AHM (D1.03/2021), the "Planta de Lourenço Marques levantada em 1886, Escala 1:5000", AHM (N.º 1711/D.29/2006) and the "Planta da Cidade Lourenço Marques 1903, Escala 1: 5000", AHM (2014/ D.37).

expansion of the port and the construction of the railway line transformed Lourenço Marques into a commercial interposition in full development.

The expansion of the urban area to the east, towards Polana and the former town of Ponta Vermelha, ²⁶ where the wealthy classes and the provincial government headquarters established themselves, began with sharing and ceding contracts between the state and the concessionaires of large tracts of state-owned land (provided to foreign investors for economic development). This enabled the state to draw up a new plan for the enlargement of the city in 1907 and new boundaries for the municipality in 1919 (MOÇAMBIQUE, 1919; MUNICÍPIO DE MAPUTO — MP, 2008, v. I, p. 26). The new county limits stipulated the city limits, which roughly corresponded to the perimeter of an arc of circumference with a radius of 2 017 metres. They also defined the new limits of the suburban area, indicated by the perimeter of a second arc concentric to the first one with 7 017 metres of radius (MP, 2008, v. I).

The improvements in the city were visible from the first decade of the 20th century, with the regular supply of electricity and water (which came from the

Figure 6 - Plan of Lourenço Marques (central area of the city), ca. 1903, overlapping the current scheme of the road structure. Source: Author, based on the "Planta da Cidade, Lourenço Marques, 1903, Escala 1: 5000", AHM (2014/ D.37) and the current scheme. In this part of the city, the most substantial alterations of the urban structure made during the 20th century were: the construction of the Mouzinho de Albuquerque/Independence Plaza, from the end of the 1930s to the mid 1940s (1); the successive expansions of the railway and port infrastructures (2); and the embankment of Maxaquene cove (3).

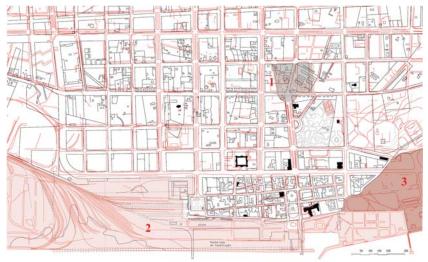


Figure 7 - Baixa of Lourenço Marques, Avenida Augusto de Castilho (current Vladimir Lenin), [unknown author], February 13, 1968. A partial view of the former Vasco da Gama Garden (former Garden of the Society of Arboriculture and Floriculture, current Tunduru Garden) can be seen on the right, along the avenue, including the former Vila Joia (in the centre of the image). Source: AHM, Coleção Iconográfica da Câmara Municipal de Lourenço Marques, Box. 8, Icon 357.



Figure 8 - Baixa of Lourenço Marques, [unknown author], February 13, 1968. Partial view of the former Vasco da Gama Garden and the former Vila Joia (current Supreme Court). The harbour cranes and the river can be seen in the background. Source: AHM, Coleção Iconográfica da Câmara Municipal de Lourenço Marques, Box. 8, Icon 506.



Umbeluzi river, thus replacing the collection of water at the numerous springs located at the foot of the slope near the old marsh), under the concession of the Delagoa Bay Development Corporation Ltd., also responsible for the management of the streetcars and the telephones (MORAIS, LAGE, MALHEIRO, 2012, p. 38; TERRA VIANA, 1907, p. 14-15). In the Maé marsh infilling and sanitation works continued, and in the second decade of the 20th century, the infilling of Maxaquene began, using soil from the Barreiras/ hills located in the surrounding area (Fig. 6). The so-called Maxaquene Land Fill (Port. Aterro da Maxaquene) was later extensively afforested, thus becoming a recreational space that highly contrasted with the intensive occupation of the downtwon (Port. Baixa). Due to the construction of the port, the old downtown had lost its privileged visual relation with the estuary and the other margin. Formed by the founding nucleus of Lourenco Marques and the "new city" of the late 1800s, the old downtown maintained the status of civic centre until the end of the colonial period. The concentration of trade and services and the proximity to the port, railways and recreational areas effectively ensured new investments by the state and private investors (Figs 7 and 8).

The various phases of the planned expansion of the "European city"—the urban planning fostered by the colonial administration was largely confined to the "settler city"—allowed the design and progressive occupation of new city blocks to the north-east, along the bay, in the privileged neighborhoods of Polana and Sommerschield. However, a regular design characterised by long tree-lined avenues and the functional and socio-racial division of the city and its suburbs was not abandoned²⁷. In fact, these functional and socio-racial divisions were heightened by the ring road (*Estrada da Circunvalação*) that for a long time marked the boundaries of the city²⁸.

Conclusion

The urban layout of the old central neighbourhood (Port. *Bairro Central*) of the city of Lourenço Marques remained practically unchanged throughout the 20th century. It became physically consolidated throughout the 1940s and 1950s with the improvements made in Avenida 5 de Outubro (in the tract corresponding to the current Rua da Rádio), that is, with the demolition of the old Hospital and the Parish Church, which were replaced with the monumental Mouzinho de Albuquerque Square, the new Cathedral (1944) and the Municipal Palace (1947), as well as other facilities in this avenue.

The matrix of broad avenues and the interdependence between Baixa and Alta (uptown) takes us back to the old "Araújo Plan" and the impressive transposition of urban planning models to *other* territories and subjects, which is inseparable from the history and the built heritage of the city and the country. The built area reflects the encounter/ direct confrontation with ancestral cultures of the Indian Ocean coast of Africa and the subaltern status of the Portuguese colony with the neighbouring Anglophone colonies, which was consolidated in a spatial and conceptual structure that responded to an specific cultural, social and economic referential. These conditions have deeply marked the aesthetic, functional and social configurations of the urban fabric and were translated into material conformations with a recognised historical value that is worth exploring.

Notas

- ¹ About the constitution of this expeditionary body, see ALBERTO, 1907, p. 178; CAPELA, 1998, p. 266-267; LIMA, 1968, p. 39; MORAIS, 2001, p. 69, p. 218 footnote 2.
- The Directorate of Public Works, in the Portuguese kingdom, initially under the tutelage of the Ministry of Public Works, was founded by the Regeneração/Fontes Pereira de Melo, by a decree of August 30, 1852 (MORAIS, 2001, p. 29; OLIVEIRA MARQUES, 1998, p. 124; PEREIRA, 2011, p. 2), following a policy of promotion of public works and railway development. This policy was subsequently guaranteed by João de Andrade Corvo (1824-1890), who was appointed Minister of Foreign Affairs on September 13, 1871 (1871-1878) and accumulated the Navy and Overseas Affairs (1872-1877). João de Andrade Corvo was responsible for sending public works shipments to the "Portuguese possessions" af Angola, Mozambique, CapeVerde and São Tomé (BETHENCOURT; CHAUDHURI, 1998, v. 4, p. 104-108; MORAIS, 2001, p. 44; PEREIRA, 2013, p. 45-46. By the end of the 19th century, the Public Works of the overseas provinces were under the purview of the Ministry of Public Works and Ultramarine Railways (MORAIS, 2001, p. 211 footnote 26).
- 2 Around 1870, diamonds were discovered in the area of present day Kimberley, followed, a decade or so later, by gold lodes in the Transvaal (Witwatersrand) (CABAÇO, 2007, p. 76 footnote 20). The production and accumulation of mining wealth was the foundation of a process of industrialisation that is unique in the continent and constitutes the focus of a migratory flow (originating mainly in Europe) with great impact on the region.
- ³The *picota* (a propped up stick that served as pillory) and the pillory (stone pillar) were landmarks erected in a public place (a square or crossing), where the sentenced were exposed, punished and subjected to popular scorn. This location became the public place of encounter and later the "plaza" (CORVAJA, 2003, p. 55 footnote 11).
- ⁴ See, GABINETE DE URBANIZAÇÃO..., 1969, v.VI, Peça 41; LIMA, 1968, p. 48; MORAIS, 2001, p. 75, p. 220 footnote 43.
- ⁵The architectural project signed by the director of the Public Works Department, António José de Araújo, dates from August 25, 1888, and was attached to the Ofício n. 377, of August 31st, 1888, from the Public Works Department of Lourenço Marques, AHU (ACL_SEMU_DGU_Mç_Box 1389/1L).
- ⁶This information was taken from the chapter "Construcção d'uma cadeia civil", "Mappa dos trabalhos executados no mez de janeiro de 1888, Obras Publicas da Provincia de Moçambique", AHU (ACL_SEMU_DGU_Mç_Cx.1389/1L, pasta 27_1886_1888). For the project, see "Projecto e Orçamento/da Construção/de uma/ Cadeia Civil/e/ Estação de Policia/ Reis 26:980\$000/Lourenço Marques, 27 de Outubro de 1887", AHU (ACL_SEMU_DGU_Mç_Box 1389/1L, folder 27_1886_1888).
- ⁷ For the royal decree, see "CRÓNICA do Trimestre...", 1937, p. 121-122.
- ⁸The original document —"PROJECTO de AMPLIAÇÃO/ DA/ CIDADE/ DE/ LOURENÇO MARQUES/ Escala 1/2000 Desembro 87. António José de Araújo/ Director de Obras Públicas/ de Lourenço Marques"— is found at the AHM (D1.02/2020). The plan was approved by the portaria n. 598, of December 1st, 1892, signed by general-governor Rafael de Andrade, and published in *Boletim Oficial* n. 49, of December 3rd 1892
- ⁹Throughout the 19th century, the transference of the town to the airy highlands of Maxaquene was often discussed by the locals (cf. LIMA, 1968, p. 16, p. 48; MORAIS, 2001, p. 74-75), but the proximity of the port, the railroad and the road of the wagons (the connection with the hinterland), effectively monopolised the establishment of the settlers, attracted by the commercial activity fomented by the transit of outsiders.
- ¹⁰The expansion of the port towards the downstream, between the Customs Bridge and the PontaVermelha foothill, in the late 19th century, with the construction of the quay wall next to PontaVermelha, was permanently abandoned due to lack of funds (SILVA, 1901). At the beginning of the first decade of the 20th century (1902-1903), the entire riverside limits, south of the old city centre, between the Customs Bridge and the Railroad Bridge, had been infilled and redesigned with a quay suitable for large ships, the Gorjão quay, designed to cover the extension between 7th of March square and the bridge of the Dutch Company (ALBERTO, 1907, p. 179, LIMA, 1971, v. III, p. 34).
- ¹¹ Ofício n. 235, of January 7th, 1888, signed by António José d'Araújo, AHU (ACL_SEMU_DGU_Mç_Box 1389/1L, folder 27_1886_1888).

- 12 Cf."PROJECTO/ de/ Um quartel de policia na villa de Lour.º Marques/10 de Outubro de 1887", signed by the director of the 3rd Department of Public Works António José de Araújo, AHU (ACL_SEMU_DGU_Mç_Box 1389/1L, folder 27_1886_1888).
- ¹³ According to the "Mappa dos trabalhos executados no mez de janeiro de 1888" of the Public Works Office of the province of Mozambique, the work was stopped several times over the years and was completed in August 1888, AHU (ACL_SEMU_DGU_Mc_Cx.1389/1L, pasta 27_1886_1888). See also Corvaja, 2003, p. 67.
- 14 Cf. Information from the "Mappa dos trabalhos executados no mez de janeiro de 1888, Obras Publicas da Provincia de Moçambique: Construcção d'um edifício para matadouro municipal", AHU (ACL_SEMU_DGU_Mc_Cx.1389/1L, folder 27_1886_1888).
- ¹⁵ Project dated from October 27, 1887. Cf. "Mappa dos trabalhos executados no mez de janeiro de 1888, Obras Publicas da Provincia de Moçambique: Construcção d'uma cadeia civil", AHU (ACL_SEMU_DGU_Mç_Cx.1389/1L, folder 27_1886_1888).
- $^{16} Project \, dated \, from \, August \, 25, 1888, signed \, by \, António \, Jos\'e \, de \, Ara\'ujo. \, Cf. \'\'e Mappa \, dos \, trabalhos \, de \, Ara\'ujo \, de \, Ar$ executados no mez de outubro de 1888", from the Public Works Office of the province of Mozambique; and architectural project attached to Oficio no. 377, August 31, 1888, Public Works of Lourenço Marques, AHU (ACL_SEMU_DGU_Mç_Cx.1389/1L, folder 27_1886_1888).
- ¹⁷ Ofício no. 357, of July 10, 1888, 3rd Department of Public Works of the province of Mozambique, Section of Lourenço Marques, AHU (ACL_SEMU_DGU_Mç_Box 1389/1L, folder 27_1886_1888).
- ¹⁸"Mappa de trabalhos executados no mez de março de 1888, Direcção das Obras Publicas de Lourenço Marques, Provincia de Moçambique, Secretaria das Obras publicas de Lourenço Marques", AHU (ACL_SEMU_DGU_Mc_Box 1389/1L, folder 27_1886_1888).
- 19 "Mappa de trabalhos executados no mez de janeiro de 1888" and "Mappa de trabalhos executados no mez de marco de 1888", Department of Public Works of Lourenco Marques, province of Mozambique, Secretariat of Public Works of Lourenço Marques, AHU (ACL_SEMU_DGU_Mç_Box 1389/1L, folder 27 1886 1888).
- $^{20 \prime\prime} Mappa\,dos\,trabalhos\,executados\,no\,mez\,de\,fevereiro\,de\,1888''; ^{\prime\prime} Mappa\,dos\,trabalhos\,executados\,no\,mez\,de\,fevereiro\,$ de outubro de 1888" and "Mappa dos trabalhos executados no mez de dezembro de 1888", Department of Public Works of Lourenço Marques, province of Mozambique, Secretariat of Public Works of Lourenço Marques, AHU (ACL_SEMU_DGU_Mc_Box1389/1L, folder 27_1886_1888).
- 21 Letter from Armando Longle, July 22, 1887, to Conselheiro Francisco Joaquim da Costa e Silva, AHU (ACL_SEMU_DGU_Mc_Box 1389/1L); trans. by the author.
- ²²"Mappa dos trabalhos executados no mez de janeiro de 1888", Public Works Office of the province of Mozambique, 3rd Department, AHU (ACL_SEMU_DGU_Box 1389/1L_1886_1888).
- ^{23"}[...] difficult to excavate between indicated avenues, since almost all the land in the area is leased [...] substantial compensation was required/[...]/Araujo", telegram from the Department of Public Works of Lourenço Marques to the Ministry of the Navy, August 9, 1888, AHU (ACL_SEMU_DGU_Mc_Box1389/ 1L, folder 27_1886_1888).
- 24 Sousa Morais (2001, p. 106), refers an arc of circumference with a radius of 7 km to the ring road (the aforementioned Estrada da Circunvalação), however this first arc had, as already mentioned, radius of 2 km, and by the Foral of 1919, 2017 m (MOÇAMBIQUE, 1919).
- ²⁵ See LIMA, 1971, p. 9-12, p. 34 ss.; MORAIS, 2001, p. 29-39, p. 67.
- ²⁶The town of PontaVermelha developed separately, and was the object of an urban plan in 1887 (FRANCO DE MENDONÇA, 2016, p. 122). It was integrated into the city of Lourenço Marques in 1895 (cf. ENNES, 1896, p. 244-245) and constituted an aristocratic neighborhood of Lourenço Marques "[...] suitable solely for those who had more means of fortune, being able to separate their dwellings from their warehouses or offices, and having transport facilities [...]" (LONGLE, 1887, p. 9).
- ²⁷While at the beginning of the occupation many Europeans and Indians (from Portuguese India)"had African neighbours" (LIESEGANG, 1987, p. 22), in the 1880s a division of urban structure into social and racial groups began to emerge. The situation worsened for the "indigenous people" with the coming into force of a regulation that established their status (PORTUGAL, 1899) and of the Regulation of Indigenous

Workers and Workers in the District of Lourenço Marques (Port. Regulamento dos Serviçais e Trabalhadores Indígenas no Distrito de Lourenço Marques), in 1904. The latter stipulated the conditions necessary for the "indigenous" to be admitted into the city. The "admissible" (except some professionals) were barred from circulating in the city from 9:00 p.m., and were obligated to return to the suburbs by that hour (OLIVEIRA, 1987, p. 97).

²⁸ It was only in the late 1970s that the suburbs became part of the urban area in the city's administrative division, after the Independence, as the country's new political and cultural project sought to correct the asymmetries in the access to urban infrastructures inherited from colonialism (see FRANCO DE MENDONÇA, 2016b, p. 316-317).

LIST OF ACRONYMS

AHU: Arquivo Histórico Ultramarino (Overseas Territories Historical Archive), Lisbon

AHM: Arquivo Histórico de Moçambique (Historical Archive of Mozambique), Maputo

CEDH: Centro de Estudos e Desenvolvimento do Habitat (Centre for Research and Development of Habitat), Maputo

DGU: Direcção Geral do Ultramar (Directorate General of Overseas)

FAPF: Faculdade de Arquitetura e Planeamento Físico (Faculty of Architecture and Physical Planning), Maputo

MÇ: Moçambique (Mozambique)

SEMU: Secretaria de Estado dos Negócios da Marinha e Ultramar (Secretariat of State of the Navy and of the Overseas Affairs)

UEM: Universidade Eduardo Mondlane (Eduardo Mondlane University), Maputo

REFERENCES

ALBERTO, Caetano. Viagem de S. A. o Príncipe D. Luiz Filipe às Colónias. O Occidente, Lisboa, v. 30, n. 1031, 1907, p. 178-181.

BETHENCOURT, Francisco; CHAUDHURI, Kirti. (Eds.). *História da Expansão Portuguesa*. Lisboa: Círculo de Leitores, 1998-1999. v. 4. 568 p.

CABAÇO, José Luís. *Moçambique*: identidades, colonialismo e libertação. 2007. 475 p. Dissertation (PhD in Social Anthropology) - Faculdade de Filosofia, Letras e Ciências Humanas, Universidade de São Paulo, São Paulo, 2007. Available at: https://www.teses.usp.br/teses/disponiveis/8/8134/tde-05122007-151059/ >. Accessed: June 21st, 2017.

CAPELA, José. O Ultimatum na Perspectiva de Moçambique. In: SEMINÁRIO MOÇAMBIQUE: NAVEGAÇÕES, COMÉRCIO E TÉCNICAS, 1996, Lisboa, *Actas do Seminário Moçambique: Navegações, Comércio e Técnicas: Maputo.* Lisboa: Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 1998. p. 261-279.

CORVAJA, Luigi. *Maputo*: Desenho e Arquitectura. Translation by Matteo Angius; Fernanda Angius. Maputo: FAPF, 2003. 114 p. Translation of: Maputo città capitale del Mozambico: Disegno e architettura.

CRÓNICA do Trimestre: Lourenço Marques; Quatro datas: Feitoria-Presídio: Vila-Cidade. *Moçambique*: Documentário Trimestral, Lourenço Marques: Imprensa Nacional, n. 12, dez. 1937, p. 116–140. Available at: http://memoria-africa.ua.pt/Library/ShowImage.aspx?q=/MDT/MDT-N012&p=117. Accessed: June 21*, 2017.

ENNES, António. Providências publicadas pelo commissário régio na província de Moçambique... Lisboa: Imprensa Nacional, 1896. 252 p.

FOWLER, C. S. Views of Lourenço Marques (DelagoaBay) and Transvaal Railways: presented by Colonel E. McMurdo 1887. [S.l.: s.n.], 1887. 71 f. Available at: http://purl.pt/17379. Accessed: June 21, 2017.

FRANCO DE MENDONÇA, Lisandra. As obras de saneamento e o traçado das primeiras avenidas em Lourenço Marques. In: PÓVOAS, Rui Fernandes; MATEUS, João Mascarenhas (Eds.), 2.º CONGRESSO INTERNACIONAL DE HISTÓRIA DA CONSTRUÇÃO LUSO-BRASILEIRA, 2016, Porto. *Livro de Actas*. Porto: Centro de Estudos de Arquitetura e Urbanismo, Faculdade de Arquitetura da Universidade do Porto, 2016a. v. 2, p. 1041-1054.

FRANCO DE MENDONÇA, Lisandra. Conservação da arquitetura e do ambiente urbano modernos: A Baixa de Maputo. 2015. 726 p. Dissertation (PhD in Architecture and Urbanism; History and Conservation of Architecture) – Instituto de Investigação Interdisciplinar, Universidade de Coimbra, Coimbra – Dipartimento di Storia, Disegno e Restauro dell'Architettura, "Sapienza" Università di Roma, Rome, 2016b. Available at: https://estudogeral.sib.uc.pt/handle/10316/29573. Accessed: June 21st, 2017.

GABINETE DE URBANIZAÇÃO DA CÂMARA MUNICIPAL DE LOURENÇO MARQUES. Plano Director de Urbanização de Lourenço Marques. Lourenço Marques, 1969. v. 6.

GALVÃO, João A. L. As Obras Públicas e o Fomento da Província em 1918: Relatório da Inspecção das Obras Públicas /Ministério das Colónias. Coimbra: Imprensa da Universidade, 1920. 227 p.

LEMOS, Manuel J. C. de. Maputo, deste lado da baía. Considerações sobre a toponímia da cidade. *ARQUIVO*, Boletim Semestral do Arquivo Histórico de Moçambique, Maputo: Imprensa Nacional, n. 2, p. 5-18, 1987.

LIESEGANG, Gerhard. Lourenço Marques antes de 1895. ARQUIVO, Boletim Semestral do Arquivo Histórico de Moçambique, Maputo: Imprensa Nacional, n. 2, p. 19-75, 1987.

LIMA, Alfredo Pereira de. Casas que fizeram Lourenço Marques. Separata de: *STVDIA – Revista quadrimestral*. Lisboa: Centro de Estudos Históricos Ultramarinos, n. 24, ago. 1968. 71 p.

LIMA, Alfredo Pereira de. História dos Caminhos de Ferro de Moçambique: v. 3. Lourenço Marques: Edição da Administração dos Portos, Caminhos de Ferro e Transportes de Moçambique, 1971. 340 p.

LONGLE, Armando. *Do saneamento e alargamento da Villa de Lourenço Marques...* Lisboa: Typ. de A. da Costa Braga, 1887. 58 p.

MACHADO, Joaquim José. *Relatório dos trabalhos executados pela direcção das obras públicas da província de Moçambique durante o anno de 1877*. In: RELATÓRIOS dos Directores de Obras Públicas e Outros Documentos 1876-81, Primeira Série. Lisboa: Imprensa Nacional, 1879. p. 91-131.

MACHADO, Joaquim José. *Relatório das obras públicas e outros documentos*. Lisboa: Imprensa Nacional, 1881. Segunda Série. v. 1.

MENDES, Maria Clara. (Coord.). *Urbanismo Colonial:* Os Planos de Urbanização nas Antigas Províncias Ultramarinas: 1934-1974 [policopied document], Faculdade de Arquitetura, Universidade Técnica de Lisboa. Lisboa, 2008.

MOÇAMBIQUE. Direcção das Obras Públicas da Província de Moçambique. *Relatório da gerência do anno económico de 1899-1900* [manuscript document]. Lourenço Marques, Jan. 1st, 1901. AHU (2510_IB_SEMU_DGFTO_MÇ_1892_1901)

MOÇAMBIQUE. Portaria n. 1131, April 5th, 1919. It disposes on the Foral of Lourenço Marques and on the limits of the county. *Boletim Oficial*, Maputo, n. 16, I Série, April 19th, 1919.

MORAIS, João Sousa. *Maputo*: Património da estrutura e forma urbana: Topologia do lugar. Lisboa: Livros Horizonte, 2001. 247 p.

MORAIS, João Sousa; LAGE, Lage; MALHEIRO, Joana Bastos. *Maputo*: Património arquitectónico. Casal de Cambra: Caleidoscópio, 2012. 227 p.

MOUSINHO DE ALBUQUERQUE, 1934. *Moçambique 1896-1898*. Lisboa: Agência Geral das Colónias, 1934. 1st ed. 1899.

MUNICÍPIO DE MAPUTO. *Plano de Estrutura Urbana do Município de Maputo*: Análise da Situação Actual do Município de Maputo. Maputo, 2008. v. 1. 246 p.

OLIVEIRA MARQUES, António Henrique de .História de Portugal — Volume III: Das Revoluções Liberais aos Nossos Dias. Lisboa: Editorial Presença, 1998. 704 p.

OLIVEIRA, Teresa dos Santos. Recordações sobre Lourenço Marques, 1930-1950. ARQUIVO, Boletim Semestral do Arquivo Histórico de Moçambique, Maputo, n. 2, p. 85-108, 1987.

PEREIRA, António Aluisio Jervis. Relatório sobre as condições higiénicas do aquartelamento provisório, Lourenço Marques. In: OFÍCIO n. 520, de 3 de outubro de 1888, 1. e 3. Rep. de Obras Públicas da Província de Moçambique, Secção de Lourenço Marques. In: OFFICIOS dando conta das obras em construcção, 1888. AHU (ACL_SEMU_DGU_Mç_Box 1389/1L, folder 27_1886_1888).

PEREIRA, Hugo Silveira. Caminhos-de-ferro e instituições: Ministério das Obras Públicas, parlamento e Associações dos Engenheiros Civis (1852-1892). In: XXXI ENCONTRO DA ASSOCIAÇÃO PORTUGUESA DE HISTÓRIA ECONÓMICA E SOCIAL (APHES), 2011, Coimbra. Available at: http://www4.fe.uc.pt/aphes31/papers/sessao_1c/hugo_pereira_paper.pdf>. Accessed: June 21st, 2017.

PEREIRA, Luísa Villarinho. MOÇAMBIQUE: Manoel Pereira (1815-1894): Fotógrafo comissionado pelo Governo Português. Lisboa, 2013. 223 p.

PORTUGAL. Ministério da Marinha e Ultramar. Decreto de 9 de novembro de 1899. Regulamento do Trabalho dos Indígenas. *Boletim Oficial*, n. 3, 1900, p. 23-29.

SILVA, Silverio Augusto Pereira da. Notícia acerca das Obras do porto de Lourenço Marques. Separata de: Revista de Engenheria Militar, v. 114, n. 2, 1901.

SOEIRO, António Cerdeira de Almeida. Estudo do saneamento da cidade de Lourenço Marques. Lisboa: Imprensa Nacional, 1895. 52 p.

TERRA VIANA. *Relatório sobre o saneamento de Lourenço Marques (Parte Técnica)* [typewritten document], June 18th, 1907. AHU (Box 3038_1A_SEMU_DGU_MÇ_1904-1908).

Acknowledgments

This study was in the scope of the author's PhD dissertation, which was directed by Giovanni Carbonara and Walter Rossa and co-directed by Júlio Carrilho. This article was presented at the 2nd International Congress on History of Portuguese-Brazilian Construction, at the University of Porto, Portugal, in September 2016 (see FRANCO DE MENDONÇA, 2016a).

In the captions of images taken from public archives, the allocation of the archive follows its designation.

The reference to streets and squares of the city of Lourenço Marques follows the denomination of the colonial period, followed by the present one.

The project was co-funded by the European Social Fund, within the framework of the Human Potential Operational Programme, and by a PhD grant awarded by the Foundation for Science and Technology (Port. *Fundação para a Ciência e a Tecnologia* — FCT), with the reference SFRH/ BD/ 73605/ 2010.

Editor's note

Submitted: 06/21/2017 Acceptance: 10/10/2017 Translation: Celina Agostinho

Lisandra Franco de Mendonça

Instituto de Investigação Interdisciplinar. Universidade de Coimbra. Coimbra, Portugal. lisandramendonca@gmail.com

regate dag.

re S. Sodo em green de gendendo a barra daguetta banda per ende se pedemento a

renforma de bio 52 a 58 braces men de des polonos per braca Tem green

mui procepto de gente de la la la mara de como per braca Tem green

canalism de universita como como 11.2. La polo polo

responso 11.2. La polo

Tinus libras emen a

recopinel de recha visu

3 fare a proceso.