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# Colonial and Post-Colonial Landscapes: Architecture, Colonialism and War. Papers' Booklet

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Disseminating and accessing colonial records: exploring the Portuguese "Public Works" database

Sónia Pereira Henrique

Dinâmia'CET-Iscte; sonia.isabel.henrique@iscte-iul.pt, Lisbon, Portugal

**Abstract** 

circuits.

The documentary research and treatment developed over the last decade at the Portuguese Overseas Historical Archive (*Arquivo Histórico Ultramarino*, Lisbon) have enabled contact with several Public Works archives. It happened most significantly during three international research projects, namely "The Colonial Urbanisation Offices" (2010-2013), the "Coast to Coast" (2017-2019) and the "ArchWar" (2021-2024) - both projects hosted by DINAMIA'CET, Iscte-IUL. Since 2019, a display of this archival work has been available for consultation on the historical archive research portal, in a database named "Public Works" (*Obras Públicas* in the original). This paper explores the content of the database, considering archival records as markers of colonial memories, this paper explores the content of the database. Accessing the Portuguese Public Works archives enables the study of colonial actors, missions, constructions, and technology once they are recurrent presences in these records - layers upon layers uncovering a complex colonial information system. Colonial Public Works shape landscapes and archives, unravelling several typologies of technical documents such as studies, consultations, projects, reports and information's - bureaucratic rigour evidence demonstrating architectural informational

**Keywords:** architectural records, colonial archive, information systems

Session: Colonial heritage: wars, nationalisms and identities

#### Introduction

Intending to explore the process of building a Portuguese landscape overseas (1830-1975), this text resorts to the research output "Public Works" database (*Obras públicas*), a direct manifestation of a research path of over ten years. The work is indebted to the academic and human merit of Professor Ana Vaz Milheiro, who gathered a team of experts to it<sup>1</sup>. From 2010 until the present moment the colonial public works records, produced by the central administration cabinets have been managed, described and made accessible to the public.

The Portuguese colonial empire entered a new phase with the emancipation of Brazil in the beginning of the XIX century. After 1807 and without Brazil, The Portuguese Empire comprised several African territories including Cape Verde, Guinea, the islands of São Tomé and Príncipe, Angola, and Mozambique, and in the State of India Goa, Daman and Diu, and the cities of Macau and part of the island of Timor. Although the empire was broad and it needed an update, it did gain momentum during the second half of XIX. The dynamism of Minister Rebelo da Silva in 1869 remodelled the administrative structure of the colonial ministry. Later, the minister Andrade Corvo also developed accordant policies during the 1870s contemplating an operational bureaucratic structure and a more efficient communication system focusing on Public Works. The defence and enhancement of Portuguese Africa naturally involved a commitment to Public Works.

Considering the interest in archival and records production systems, this text will focus on three axes: the resources available for the study of colonial public works in Portugal, the main typologies of the technical documents (namely studies, consultations, and projects), and the

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¹ Coast-to-Coast research team (in alphabetic order): Alexandra Areia (FAUP), Ana Silva Fernandes (FAUP), Ana Canas (AHU), António Deus (CES/III-UC), Beatriz Serrazina (CES/III-UC and DINAMIA'CET-Iscte), Elisiário Miranda (U-Minho), Filipa Fiúza (CES/III-UC and DINAMIA'CET-Iscte), Hélder Pereira (Atelier Mulemba), Jéssica Lage (FAPF-UEM), João Vieira (FCG), Jorge Figueira (CES-UC), Johan Lagae (U-Ghent), José Luís Saldanha (Dinâmia'CET-Iscte and DAU), José Quinhones, Juliana Guedes, Luís Lage (FAPF-UEM), Maria Manuela Portugal (AHU), Mónica Pacheco (DINAMIA'CET-Iscte and DAU), Paul Jenkins (University of Edinburgh / University of the Witwatersrand, Johannesburg), Paulo Tormenta Pinto (Dinâmia'CET-Iscte also DAU), Peter Scriver (University of Adelaide) and Rogério Vieira de Almeida (Dinâmia'CET-Iscte). *ArchWar* research team (in alphabetic order): Alessandro Petti (DAAR), Ana Canas, Ana Fernandes, António Pereira Gameiro (IPGUL), Beatriz Serrazina, Francesca Vita (FAUP), Geraldo Pina (Dinâmia'CET-Iscte), Inês Lima Rodrigues (DINAMIA'CET-Iscte), Jéssica Lage, Johan Lagae, Leopoldo Amado, Luís Lage, Major Cunha Roberto (AHM), Maria Alice Mendes Correia (IPGUL), Patricia Noormahomed (UPM / UniTiva), Peter Scriver, Ricardo Agarez (FCG and Dinâmia'CET-Iscte), and Samia Henni (Cornell University), Tiago Castela (CES/III-UC). Principal Researcher of both projects, Ana Vaz Milheiro (DINAMIA'CET-Iscte). I am grateful to engage with the team and to cooperate in this journey from 2017 onwards.

implementation of the works through contracts and their subsequent reporting. The third axis explores railways, and the infrastructural development that shaped landscapes, presenting some examples of documents in use in those territories.

#### Studying the Portuguese colonial public works (1830-1974)

While the metropolis was still trying to recover from the financial and economic rift that both the loss of Brazil and thirty years of invasions and political struggles (1807-1834) represented, overseas possessions in Africa were "virtual possessions". In the first half of XIX, they were still "simple trading posts with cities and ports occupied on the coast and inland, with their income almost exclusively from customs" (Galvão, Selvagem, 1950: 53-54).

The debate on the legal continuity and discontinuity of overseas territories was a long one. One of the first topics included the extension of the regulations approved to the metropolis to those possessions. Whereas legal discontinuity of colonial policies questions the fact that there weren't imperial projects coherently defined in which the purpose of building/standardizing previously delimited territories was pursued (Silva, 2017: 15-38). The construction of a legal space resembles the limitations that preceded the landscape. Several constraints and vulnerabilities have later been transformed into scientific domination devices (Roque, 2015). This is exemplified by the regulation applied to labour in the evolving context of a transition from non-free labour to free labour, with the abandonment of slavery during the latter half of the nineteenth century.

The landscape shaping hadn't been much different from the legal frame, pointing both - legal continuity and legal discontinuity - as processes. The study of the modern diaspora and the built heritage, especially in Angola and Mozambique, necessitates a re-examination of their modernization plans. The transfer of the island of Mozambique to Lourenço Marques (now Maputo) and the founding of the city through the *Araújo Plan* (1887). Already with the Republic and directed to Angola, the efforts of Norton de Matos to create Nova Lisboa (now Huambo) with the *Plan of Carlos Roma Machado* (1912). The plan for Beira by Carlos Rebelo de Andrade, followed by the Plan for Porto Amélia (1936) of Januário Moura<sup>2</sup>. Although, contemporary development had its effectiveness after the Colonial Act already in the 1940s. It

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<sup>&</sup>lt;sup>2</sup> Influenced by the French School (Tostões, 2017: 81).

was cemented with the Colonial Urbanization Office (GUC) and launching the Development Plans (Tostões, 2013: 64).

Regarding the "public architectural output" of the final phase of the Portuguese colonisation, Ana Vaz Milheiro asks what territorial occupation processes were at the basis of the homogenisation of the African landscape. What was the role of the Portuguese architectural culture imported to Africa in these processes? And how did that culture evolve locally (Milheiro, 2017: 21). The development plans, manifestations of the architectural culture promoted by the *Estado Novo*, described unequal scenarios in the Portuguese case with the larger provinces presenting another type of attraction - both from the point of view of investment and from the European emigration. That's the reason that from a historiographic perspective - if considering Public Works - Angola and Mozambique distanced themselves from the marginal condition experienced by Cape Verde, Guinea-Bissau and São Tomé and Príncipe (Alexandre, 2017: 432-442). Approaching the end of the empire, in the last decade, the colonial war contributed to further intensifying those territorial asymmetries.

#### Pre-existing resources to study the colonial Portuguese public works

The database "Public Works" is accessible online through the search portal of the Portuguese Overseas Historical Archive. However, to characterize this scientific output and the relevance it may present to postcolonial studies implies recovering the contributions made by the research projects that enabled its uprising, exploring also the initiatives that preceded these endeavours.

In the past decade, there were about a hundred scientific journals dedicated to African studies. In Portugal, the African Studies Notebooks (Iscte-IUL)<sup>3</sup>, the African Studia (University of Oporto) and the African of the Portucalense University are references to this scientific field. Also, as Franz-Wilhelm Heimer pointed out at the 7<sup>th</sup> Iberian Congress of African Studies, the constitution in Iscte-IUL of a Central Library of African Studies<sup>4</sup> was quite relevant (Heimer, 2010: 27). Another scientific infrastructure to highlight in this scope is the portal Memories of Africa and the East [Memórias de África e do Oriente]. Since 1997, it has been recognised as "a fundamental and pioneering instrument in the attempt to enhance the historical memory of

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<sup>&</sup>lt;sup>3</sup> In the original Cadernos de Estudos Africanos (Iscte-IUL).

<sup>&</sup>lt;sup>4</sup> Funded mainly by the Portuguese Foundation for Science and Technology (acronym FCT) and supported by the centres mentioned previously.

the bonds that unite Portugal and Lusophony" as stated at the infrastructure's homepage. This initiative, a joint effort of the Portugal-Africa Foundation and the University of Aveiro, in collaboration with the Centre for Studies on Africa and Development, has been instrumental in preserving and promoting this rich historical and cultural legacy<sup>5</sup>.

#### The records mapped

The archival records managed at the Arquivo Histórico Ultramarino (AHU) in the scope of Public Works stem from several investigation projects funded by the Portuguese Foundation to Science and Technology (FCT). Prior to the research project "Archwar" the AHU hosted as partners two other research projects interested in cooperating with the management and study of this archival shared heritage: "The Colonial Urbanization Offices" and the "Coast to Coast".

In total, both managed c.18,900 archival descriptions. "Archwar" managed c.1,500 archival descriptions extending the archival management until June 2023. Both projects covered a timeline (1830-1975) and enabled to process approximately 21,500 records (this figure comprises over 52,200 draws and 15,000 photographs). Since 2019, these archival descriptions integrate a database available online at the Archive's research portal. In consideration of the prevailing circumstances in Portugal until the 2010s, it becomes clear that the establishment of collaborative initiatives between research projects and the Arquivo Histórico Ultramarino (Lisbon) is well-justified. The custodial history of the records managed throughout the aforementioned projects is also accessible online.

#### The Portuguese colonial public works records

The investigation topics, within the universe of Public Works, cover the empire landscapes and the adaptations of public administration to promote structural and infrastructural development. Personages, missions, constructions, technology landscapes and structures likewise legal devices are a constant presence in these architectural records. Architectural records and archives

<sup>&</sup>lt;sup>5</sup> Fundação Portugal-África (2022-11-03), O portal das memórias de África e do Oriente.

<sup>&</sup>lt;sup>6</sup> Reference: PTDC/ART-DAO/0592/2020.

<sup>&</sup>lt;sup>7</sup> Reference: PTDC/AUR-AQI/104964/2008. Concluded in 2013-07-31 and managed 13,900 archival descriptions.

<sup>&</sup>lt;sup>8</sup> Reference PTDC/ATP-AQI/0742/2014. Concluded in 2019-12-31 and managed 5,000 archival descriptions.

<sup>&</sup>lt;sup>9</sup> AHU. *Obras Públicas*. <a href="https://digitarq.ahu.arquivos.pt/">https://digitarq.ahu.arquivos.pt/</a>

<sup>&</sup>lt;sup>10</sup> AHU. Obras Públicas, custodial history. https://digitarq.ahu.arquivos.pt/details?id=1119732

are a focal element of a nation's heritage<sup>11</sup>. Just as an archive is not a closed system an architectural project also sustains several dialogues with the landscape that it embraces - though presenting common ground and features no project despite being the same interacts in a narrow manner with the environment just as the architecture archive. A historical public archive is characterised by a number of features that diverge from those of a contemporary public archive. However, it is imperative to recognise the significance of both in order to comprehend and contextualize the work of an architect. The study of architecture must be undertaken in context and considering these information circuits. Historical public archives are not evaluated whilst current are, and this simple trait - as if it could ever be that simple - is enough for a historian to know that if they are conducting research in a historical state archive, access may be granted to a broader landscape by comparison to current public archive or even a private archive.

#### Technical documentation: studies, consultations, and projects

Exploring the database by doing a brief search in the records "title" and "scope and content", the preponderances of studies, consultations and projects are significant. In a total of 19,536 objects, are represented, with 411 studies, 59 queries and 1,755 projects. Avoiding generalizations, which offer little to scientific work, this ratio seems regular. Some documents do not present these controlled terms implicitly in the "title" or the "scope and content" however, that doesn't prevent it to inferred. And the reason lies in the fact that description units resemble macro criteria regarding their indexing. It is important to note that questions concerning the allocation of time were frequently addressed. This led to the determination to optimise the resources allocated to document processing in the context of archival management.

It is not uncommon for a composite document - a record that is composed of two or more simple archival records - to contain a single identifier OP (the acronym of *Obras Públicas*), although it can represent several description units. Each of which could receive by itself an identifier. In order to elucidate this point for those not versed in the intricacies of archival science, it is necessary to provide some concrete examples. In the event of an aggregation of requisitions being discovered, with all documentation relating to a specific commercial entity (for example, railways), geographical location (Benguela, Angola) and chronological reference (year 1930),

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<sup>&</sup>lt;sup>11</sup> Regarding the semantics associated with architecture archives (Godinho, 2011: 7-9).

a systematic grouping and designation is to be applied. This may be expressed as, for example, "Benguela railways. Requisitions of oil, 1930". Within the scope and content, it would be necessary to mention that the requisitions were a group of 10, 20 or 30, for example, and to move on to the following archival unit.

As previously outlined, the archival management revealed the prevalence of two records within the bureaucratic events and practices exemplified by the documentary circuits within a public works business process. These record types were contracts (regarding goods and services) and reports.

#### Conditions to execute the works: the contracts

The construction of a railway in Mozambique was initiated in 1869, while in Angola, the proposal for a railway from Luanda to Calumbo was presented to the Portuguese government in 1863 by General Governor José Baptista de Andrade (Costa 1902: 7; 27). Contracts centralise much information from the railway information systems<sup>12</sup>. In 1889, the Portuguese Ministry of the Navy and Overseas printed a documentary compilation of the concession contract of this railway. This monograph gathers 838 documents (MMU, 1889).

The construction of the Lourenço Marques to the Transvaal border railway was approved and decreed through the contract signed on December 14<sup>th</sup> between the Portuguese government and João Burnay, representative of Edward Mac-Murdo<sup>13</sup>. Its project comprised 49 written and drawn pieces dated from 1879-09-21 and others on 1883-04-30 prepared by the Engineer Joaquim José Machado<sup>14</sup>. All of it is subjected to the Overseas Advisory Board<sup>15</sup> appreciation<sup>16</sup>.

The railway construction included expropriations, landfills and excavations, works of art, track settlements, stations and small and large repair workshops, all accessory buildings, guardhouses, barriers, level crossings, retaining walls, fence walls and other works. And such as railway

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<sup>&</sup>lt;sup>12</sup> In another study, I had the opportunity to explore what, at the time, the centralization of information represents to a given production service. The *Boletim e Annaes do Conselho Ultramarino* was published between 1854 and 1867 that displayed a remarkable number of official documents, some produced by the Conselho Ultramarino in a time frame that the central administration of Portugal had no historical colonial archive. A feat that only came to fruition in 1931 (Henrique, 2019). Moreover, the service provided an informative discourse on matters pertaining to the imperial system. Its profile rallied public opinion to the cause of colonisation (Henrique, 2023).

<sup>&</sup>lt;sup>13</sup> Docs. 1, 3, (MMU, 1889: 3-4).

<sup>&</sup>lt;sup>14</sup> Director of the Lourenço Marques Railways.

<sup>&</sup>lt;sup>15</sup> In portuguese *Junta Consultiva do Ultramar*.

<sup>&</sup>lt;sup>16</sup> Doc. 6, (MMU, 1889: 7).

concession contracts, this project also involved tackle the supply, conservation and renovation of locomotives, passenger carriages and wagons for goods, machines and tools for the workshops, turntables, hydraulic equipment, cranes, among others. As stated, "everything that was designated or not designated and necessary to keep the line in a perfect state of operation"<sup>17</sup>.

The concession lasted 90 years, at the end of which the railway and the attached works reverted to Portugal without compensation. But the government couldn't build or grant another railway line in the District of Lourenço Marques that could compete with that one at less than 100km<sup>18</sup>. In addition, the establishment of an electric telegraph with kilometre markers and a survey to describe the works of art and the dependencies of the railway was deemed necessary<sup>19</sup>. In the context of land concessions, the dimensions of the territory to grant, their duration and benefits (including tax exemptions) suffered several adjustments from 1856 to 1973 (Amaral, 2017) (RPPA,1967)<sup>20</sup>. One of the concessionaires' obligations was to establish, within six months, a public limited company with its head office in Lisbon to carry out the purposes referred to in the contract<sup>21</sup>. To this end, its statutes had to be approved by the government, notwithstanding the Law of June 22<sup>nd</sup>, 1867<sup>22</sup>. However, the company would be Portuguese for all purposes<sup>23</sup>. And that's how the *Companhia do Caminho-de-ferro de Lourenço Marques ao Transvaal*<sup>24</sup> came about.

Contractual issues associated to railways also comprise treaties of friendship and commerce. The specific Lourenço Marques's conventions with the South African Republic dated back to the 11<sup>th</sup> of December 1875<sup>25</sup>. The consultations with the Consultative Board of Public Works<sup>26</sup> and Mines contain technical advice. The document points to construction-related issues,

<sup>&</sup>lt;sup>17</sup> Track and rolling materials. Doc. 7, 8, (MMU, 1889: 8-15).

<sup>&</sup>lt;sup>18</sup> Art. 20, doc. 8, (MMU, 1889: 11).

<sup>&</sup>lt;sup>19</sup> Art. 3, doc. 8, (MMU, 1889: 10).

<sup>&</sup>lt;sup>20</sup> Just the regulations from 1961 to 1967: legislative diploma n°3280, the Decree n°43894, the Decree n°47167 and the Decree n°47486.

<sup>&</sup>lt;sup>21</sup> The detail of these contracts is such that they even stipulate the compensation of the State to the company in case of war (art. 24, doc. 8, MMU, 1889: 12).

<sup>&</sup>lt;sup>22</sup> Law of 22<sup>nd</sup> June 1867, pg.173-180. Legislation complete references can be found at the end of this paper.

<sup>&</sup>lt;sup>23</sup> Art. 51, doc. 8, (MMU, 1889: 15).

<sup>&</sup>lt;sup>24</sup> Regarding the company statutes: Docs. 31-39, (MMU, 1889: 26-46).

<sup>&</sup>lt;sup>25</sup> As stated in the Convention of the 17<sup>th</sup> of May 1884. To facilitate the construction and operation of that railway linking Mozambique to Pretoria, the agreement contemplated concessions of fixed and rolling materials and importations duty-free. Doc. 48, (MMU, 1889: 60-61).

<sup>&</sup>lt;sup>26</sup> In portuguese Junta Consultiva de Obras Públicas e Minas.

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including budgets <sup>27</sup>. By the end of 2022, the "Obras Públicas" database contained 44 pages with documentary references (437 results) referring to the Lourenço Marques railway comprising statutes amendments, minutes of the meetings from its companies, requests, etc.

#### **Enhancing Africa through Public Works**

This section of the text explores the semantic universe that may be found in the database. Although we can group it into large blocks, such as sanitation, dams, railways, and others, railways are predominant in our database. Doing a simple search, in the "Public Works" collection, checking the controlled term "railway" returned 2,633 results<sup>28</sup>. The examination of railway records facilitates the exploration of a wide array of documentary types, which pertain to diverse scientific disciplines. These include, but are not limited to, architecture and engineering, as well as hydraulics, among others. Consequently, the documentation encompasses a wide range of subjects, including studies of various kinds, as well as administrative matters, the procurement or acquisition of materials and services, in addition to the technical projects themselves and the reports on the construction of the railway.

Public works reports, obeying a fluid structure in the XIX century, presented law proposals and the occurred development in each province (Obras Públicas, 1879). In the XX century, its structure gained complexity. Nevertheless, reports acquaint us with work and workers. Records produced by public works services have several authors: directors of services, directors of railways, governors, and explorers. Also, contain references to subalterns. For example, in the reports of the Directors of Public Works published in 1879, one can see the importance of the slave trade for public revenues, still evoking the abolition of the slave trade of 1836<sup>29</sup> and the treaty celebrated between Portugal and Great Britain in 1842<sup>30</sup>.

Colonial railroads: Angola and Mozambique record topics

The "Regulation for the Administration and Supervision of Public Works in the Province of Angola" promulgated by Minister Andrade Corvo in 1877 delineated the aforementioned

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<sup>&</sup>lt;sup>27</sup> Doc. 61, (MMU, 1889: 79-85).

<sup>&</sup>lt;sup>28</sup> AHU, Search portal, Simple search on the controlled term "railway".

<sup>&</sup>lt;sup>29</sup> Decree of 10<sup>th</sup> December 1836, pg. 21-28.

<sup>&</sup>lt;sup>30</sup> Treaty of 3<sup>rd</sup> July 1842, pg. 209-252.

services in six distinct domains<sup>31</sup>: 1. Geography and Hydrography; 2. Geology, research and mining; 3. Studies, construction and conservation of roads, bridges and telegraphs; 4. Works on rivers, canals, seaports, lighthouses, desiccation of swamps and irrigation; 5. Construction, repair and conservation of public buildings and fortifications; 6. Studies and construction of the Luanda and Ambaca railways<sup>32</sup>. In 1909, the Directorate of the Railways of Luanda published a monograph on the Malanje Railway line. This monograph comprises graphic documents, photographs and drawings. These visual aids include depictions of notable bridges such as the Caririmbe Bridge, the Lutete Bridge, the Caballe Bridge, and the Ramada Curto Bridge. The monograph also includes drawn pieces of the chorographic sketch of the region and a longitudinal profile of the line, among other elements (DCFL, 1909).

The Malanje Railway construction contract dates from 1881, September 25<sup>th</sup> enabling to build 364km of line. In October 1888, the first 45 km of this line were inaugurated. It reached Lucala in September 1899. Prior to this, two contracts had been signed on March 11<sup>th</sup> of 1897. One with the *Companhia Real dos Caminhos-de-ferro-Através de África* replacing the tariffs from Luanda to Ambaca. And another for the construction and operation of a railway departing from the terminus of the Luanda-Ambaca line going to Malanje (Martins, 1963: 18).

Railway tariffs included general determinations of traffic, such as transport conditions, the responsibilities held by non-insure goods, postage payment, current accounts and deposits, wagons, freight trains, deliveries, traffic into stations without permanent staff, traffic to detours, traffic on holidays, collection of goods, refunds, transport of goods, cattle, and other articles, etc. (CFLM, 1908: 1-8). In addition to general provisions, the tariff books, apart from general determinations, also specify the following regulations: "passengers," <sup>33</sup> "luggage," <sup>34</sup> "transportation of goods" <sup>35</sup>, "funeral transports", "animals" <sup>36</sup>, "vehicles", "merchandise" <sup>37</sup>,

<sup>&</sup>lt;sup>31</sup> Decree of 19<sup>th</sup> February 1877, pg. 18-21.

<sup>&</sup>lt;sup>32</sup> AHU, Luanda Railway Management Statistical Utilisation Report 1909 (PT/AHU/ID-OP/OP17590), Angola. Port and Railway Directory of Luanda. Report on the financial year 1932-1933 (PT/AHU/ID-OP/OP02331), Angola. National Development Plan, Angola Development Fund Administrative Commission, Luanda Railway Gauge Widening Brigade. Report of 1958 (PT/AHU/ID-OP/OP13068); Idem, Report of 1963 (PT/AHU/ID-OP/OP13030), etc.

<sup>&</sup>lt;sup>33</sup> Types of passengers, tickets, carriages, compartments, etc.

<sup>&</sup>lt;sup>34</sup> What should be considered luggage: essential passengers' essential personal use items, workers tools, travelling chairs for invalid passengers, sewing machines and saddles. Merchandise intended for trade wasn't considered luggage (CFLM, 1908: 75).

<sup>&</sup>lt;sup>35</sup> Half-price tariffs, insurance, and specific transportation.

<sup>&</sup>lt;sup>36</sup> Food and water, wild animals, sick animals, transport conditions, animal fees according to species, etc.

<sup>&</sup>lt;sup>37</sup> Munition, guns, weight and transportation, types of merchandise, deliveries, insurance, tariffs, etc.

"branches" and "detours". Another important topic in the railway universe was the water supply to locomotives. In the specific case of the Malanje Railway, there was a leftover pipe from the Porto Alexandre<sup>38</sup> pipeline and a hot air pump that the Luanda municipality provided to the railway. In addition to these amenities, which were necessary for the proper functioning of the railway, there was also the study of public lighting (Galvão, 1917: 47).

The topics related to the railway can be diverse, from construction works to exploitation issues. In the transport of goods and passengers, colonial customs were an important undertaking to Portugal. In Angola, there were several custom services namely Ambriz, Benguela<sup>39</sup>, Luanda and Novo Redondo, Moçâmedes, Ambrizete, Cabinda, Cacongo, Santo António do Zaire and S. Salvador do Congo (Sousa, 1902: 57). Another effort related to the railways concerned the granting of land. In 1902, the legislation on this subject was still to be that of 1856, with amendments. Between 1896 and 1897, the increases in this matter focused mainly on the value of the land. This varied from province to province, from region to region. It is possible that after 1897 several concessions of 1,000 hectares did not go through the Chamber of Deputies or the Chamber of Peers of the Kingdom<sup>40</sup> (Sousa, 1902: 137-143).

#### Moçâmedes railway

In 1963, the total length of the railway network in Angola was 3,067km of which 1,581km were administrated by the Portuguese government and 1,486km by private companies. The Portuguese public administration had significant interests in colonial railways, with a total of 788km in the line in Moçâmedes, and 638km in Luanda (Marques, 1963: 12).

The historical process of the colonisation of Angola demonstrates that the first recognition of Moçâmedes occurred in 1839, as documented by P. Alexandrino and J. Francisco Garcia (Freudenthal, et al., 2006: 159), which subsequently led to its foundation. In 1846 the fortress

<sup>&</sup>lt;sup>38</sup> On the topic of "Channelling and water supply to Porto Alexandre" the database contains several results from 1940 to 1952, for example: "Urbanisation works" (PT/AHU/ID-OP/OP05870); "Water supply project for the village of Porto Alexandre. I) Descriptive memory and calculations" (PT/AHU/ID-OP/OP02261); *Idem*. II) Measurements, price bases and budget (PT/AHU/ID-OP/OP02262); *Idem*. III) Drawings (PT/AHU/ID-OP/OP02263).

<sup>&</sup>lt;sup>39</sup>AHU, Angola. Benguela railway. Four hangars for the Lobito customs (1911-1913), (PT/AHU/ID-OP/OP18317) <sup>40</sup> In Portuguese *Câmara dos Pares do Reino*.

of S. Fernando was added to the town<sup>41</sup>. In 1849, Moçâmedes received 170 Portuguese migrants "displaced from Pernambuco by Brazilian nativism". These Pernambuco refugees were its first settlers. A further influx of 144 refugees was recorded in 1850. The inability of the district to accommodate the initial influx led to the second wave being directed to Huíla (Galvão, Selvagem, 1952: 100). Moçâmedes underwent a transformation into a village and subsequently into a city in 1904. It gained the customs office in 1851 and the municipal court in 1852. During the 1860s, urban development flourished, as evidenced by the construction of notable edifices such as the governor's palace, St. Adrião church, the hospital, the slaughterhouse, the market, the city hall, and the peer (Freudenthal, et al., 2006: 49). In the 1960's, the annual traffic on this route was estimated to be at between 200,000 and 300,000 tons of goods and 70,000 to 80,000 passengers (Marques, 1963: 13).

The Moçâmedes railway construction began in 1905 for military purposes. Hugo Pereira studied the technodiplomatic clashes between Portugal, England, and Germany from 1894 onwards (Pereira, 2019: 163-169). As the work progressed, sections of the line have been inaugurated. And until 1914, this railroad ran up to km176 (Bela Vista). In order to continue the work, the unemployed former contractors of the Benguela railway were hired. A. Montalvão, a former Director of the Public Works Department, oversaw this railway, as the province did not have a single engineer or conductor to supervise the service (Galvão, 1917: 43).

The "General Regulation of the Public Works Directorates and Inspections of the Colonies" defined these services' responsibilities. Including the study, construction and conservation of public buildings and monuments, hydraulic works, railways, quarries, and mines. Accordingly, they had as many sections as necessary<sup>42</sup>. In Angola and Mozambique, there were permanent inspection services for public works. These were competent for superior management and inspection, technical or administrative covering from public works to railways and ports, surveying and mines, and postal and telegraph services<sup>43</sup>. Each province had a Technical Council for Public Works to support the feasibility of the works. The diploma categorises the works into three categories: new works, major repairs, and conservation works/minor repairs.

<sup>&</sup>lt;sup>41</sup> AHU, image of the *Fortaleza de S. Fernando*, AHU\_ICONI\_ANGOLA\_REGIÕES-PANORÂMICAS-EDIFÍCIOS, D. 275, (PT/AHU/ICONI/001/00275)

<sup>&</sup>lt;sup>42</sup> "General Regulation of the Directorates and Inspections of Public Works in the Colonies", Chapter I "Services" (MC, 1918: 3-5).

<sup>&</sup>lt;sup>43</sup> Idem, Chapter VIII "Inspections", art. 66° (MC, 1918: 24-5).

These could be public buildings, roads or bridges, and hydraulic works<sup>44</sup>. In the directorates of public works, the archivist was responsible for "receiving, classifying, cataloguing and keeping the books, processes, and other archival documents, maintaining their respective places and due order, according to the catalogue"<sup>45</sup>.

The organisational and bureaucratic practice of these services, implied that in each department should exist several types of registration books: incoming and outgoing correspondence, confidential information, circulars, service orders, budgets, presentation and exit guides, inventory of instruments, furniture, utensils and materials<sup>46</sup>. In addition to these, there should also be books for the registration of staff. It was also stated that "to the special services of public works, such as railways and commercial ports, surveying and mines, postal services and telegraphs and agriculture, the provisions of this regulation are applicable unless they are subject to specific legislation"<sup>47</sup>.



Figure 1. Resume of the matters contained in this box (AHU, OP20038. Photographed by the author, 2022)

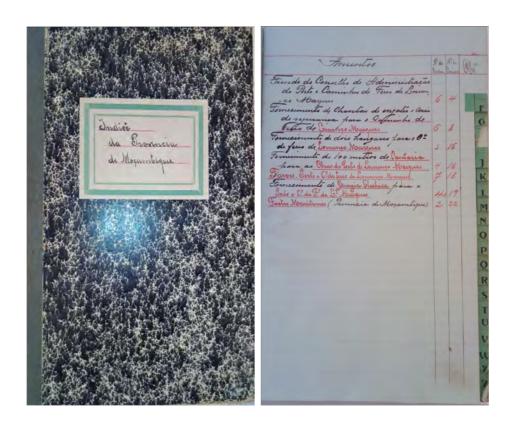
<sup>&</sup>lt;sup>44</sup> Id., Chapter X "Organization of works projects and distribution of funds", art. 107° (MC, 1918: 33-4).

<sup>&</sup>lt;sup>45</sup> Id., Chapter V "Personnel duties and responsibilities", art. 44° (MC, 1918: 19).

<sup>&</sup>lt;sup>46</sup> There are not many tools for recovering archival information, specially at the level of the installation unit. But this is a good example. AHU, "Caminho-de-Ferro de Moçâmedes. Nota dos assuntos arquivados nesta caixa" (1910-1916), PT/AHU/ID-OP/OP 20038.

<sup>&</sup>lt;sup>47</sup> Id., Chapter XII "General provisions", art. 154; 156 (MC, 1918: 46).

The will to create indexes is comprehensible. It is an instrument that enables the organisation and retrieval of records rigorously. And there are several idiosyncrasies in this regard. In OP19827, there's an index of the Public Works Department of Mozambique. Although the notebook doesn't present an opening term, considering the subjects listed, suggest that it must have been a production by the bureau responsible for railways and ports. In addition to this inference, the document contains four sheets from this bureau presenting data relating to the description of four installation units<sup>48</sup>.



Figures 2 and 3. Cover and interior of the index of Mozambique (AHU, OP19827. Photographed by the author, 2022)

In the indexes, in addition to "subject" each entry also had the "order number", the "container number" and "observations". Nevertheless, a subject could be registered according to the verb that occurs on the object<sup>49</sup>. Also, there could coexist the object and the collective author<sup>50</sup>.

<sup>&</sup>lt;sup>48</sup> AHU, "Index of Mozambique province", OP 19827.

<sup>&</sup>lt;sup>49</sup> Letter A - "Acquisition of the *Draga Paredo*, plan and information".

<sup>&</sup>lt;sup>50</sup> Letter B - "Steamboat of 40 to 50 tons for the Inhambane District Improvement Commission"

Considering this practice, and how railways were relevant to colonial administration it is not surprising that "railways" are quite well represented in these indexes, as are "concessions" and "contracts".

The reports received by the central services regarding railroads were the result of a landscape produced by the local services, including stations. Data that was assembled in monthly reports, that later were compiled into annual reports<sup>51</sup>. Notwithstanding this, there were also some demonstrative exercises providing further information. For example, in the image below, we can see the expenditure made on the Moçâmedes railways, from its construction beginning in 1905 until 1910<sup>52</sup>. This time frame in the Portuguese political and administrative context is relevant, since the year 1910 signals the end period of the monarchical regime.

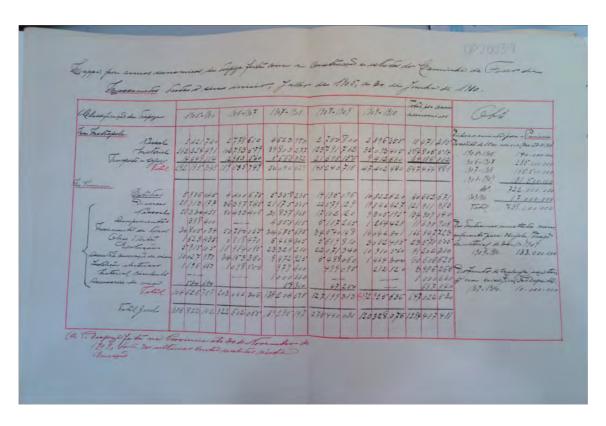


Figure 4. Moçâmedes railway expense map (AHU, OP20039. Photographed by the author, 2022)

<sup>&</sup>lt;sup>51</sup> Without wanting to be exhaustive, the following are some of the reports published on this railway covering the years 1906, 1907 and 1908. AHU, "Process n° 28. Moçâmedes Railway. Reports, 1908" (PT/AHU/ID-OP/OP20023), "Process nr 28. Moçâmedes Railway. Reports, 1907" (PT/AHU/ID-OP/OP20025) and "Process nr 28. Moçâmedes Railway. Reports, 1906" (PT/AHU/ID-OP/OP20024).

<sup>&</sup>lt;sup>52</sup> AHU, "Moçâmedes railway. Construction cost (maps)", (PT/AHU/ID-OP/OP20039).

Part of this control was provided by the information registered in the stations. Railway administration and traffic were managed on a tight note, from the control of train timetables to the movement of goods and people, which were translated into current account maps. These were all daily maps.

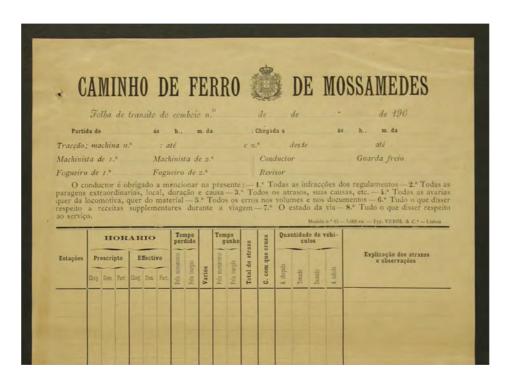


Figure 5. Traffic sheet (AHU, OP20304-01. Photographed by the author, 2022)

The traffic sheet registers several types of information identifying the machine, the team, and the timetables. Trains received an identification number. Operating the machines was a team of 2 locomotive operators (1<sup>st</sup> and 2<sup>nd</sup> class), the driver, the brakeman, the inspector, and the stokers (1<sup>st</sup> and 2<sup>nd</sup> class). In the timetable form, the driver should identify the time of arrival and departure, stating the amount of time gained or lost. Also, there should be an explanation about possible delays. The categories of railway expenditure were diverse, ranging from infrastructure and fixed equipment <sup>53</sup>, rolling stock <sup>54</sup>, miscellaneous materials <sup>55</sup>, workshops and their

<sup>&</sup>lt;sup>53</sup> Including earthworks, civil engineering works, rails, and railway sleepers.

<sup>&</sup>lt;sup>54</sup> Including locomotives, carriages, vans, and wagons.

<sup>&</sup>lt;sup>55</sup> Machinery and self-propelled equipment.

equipment, construction<sup>56</sup>, and operation costs. The latter category represented a wide range of expenditure including the railway administration, its traffic, matters of traction and workshops, the railroad and its works, furniture, fuel, but also losses, and breakdowns, among others.



Figures 6 and 7. Goods and luggage identifiers (AHU, OP20304-6 and OP20304-8<sup>57</sup>. Photographed by the author, 2022)

Those were the identifiers for goods and luggage. Both items were subjected to specific tariffs and were recorded separately in daily sheets. This later allowed the station staff to fill in a monthly report. The same occurred to tickets.



Figure 8. Sold tickets map (AHU, OP 20304-558. Photographed by the author, 2022)

Including personnel and materials.
 Record reference code: PT/AHU/ID-OP/OP20304.

<sup>&</sup>lt;sup>58</sup> Record reference code: PT/AHU/ID-OP/OP20304-5.

This form, entitled "sold tickets map" recorded the ordinary and return tickets sold on the same day. For ordinary tickets, a distinction was made according to the class to which they belonged (1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup>), and whether they were full tickets or half tickets. The same applies to return tickets. Finally, the map presented the total number of sales.

All the information gathered at the stations concerning locomotives traffic, passengers and merchandise was registered daily on the current account maps, as displayed bellow.

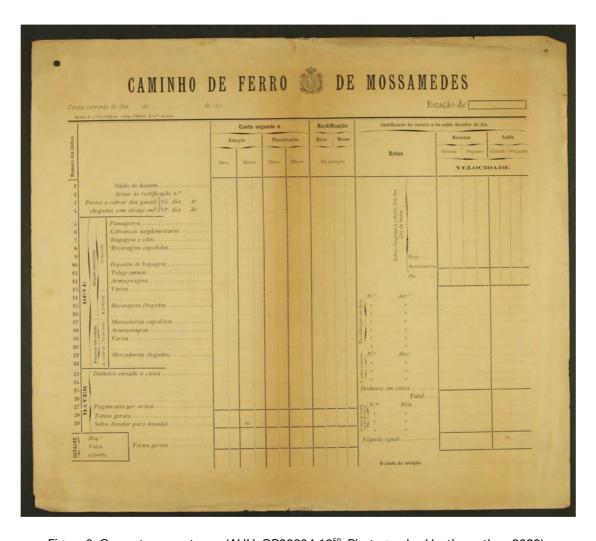


Figure 9. Current account map (AHU, OP20304-13<sup>59</sup>. Photographed by the author, 2022).

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<sup>&</sup>lt;sup>59</sup> Record reference code: PT/AHU/ID-OP/OP20304-13.

Expenses regarding colonial railways are incurred both in the metropolis and locally. Within the metropolis, expenditures were allocated to pay the remuneration of hired personnel, the procurement of materials, the transportation of supplies, and the provision of insurance for said materials<sup>60</sup>. In contrast, overseas expenditures were allocated to the conduct of studies, the remuneration of personnel, the establishment of temporary encampments, the construction of stations, earth movements, works of art, rolling materials, track accessories, and miscellaneous other expenses. The reception and the inspection of materials, which were regulated in 1902, also constituted a significant expense<sup>61</sup>.

The importance of railways to colonial projects is multifaceted, being instrumental in military purposes, facilitating the establishment of settlements, and enabling the extraction of minerals and the exchange of goods, thus connecting them to other public works. The construction of dams, for instance, not only harnessed the potential energy resultant of water accumulation, translated into other works of importance. The "Mabubas" waterfalls, as documented by the "Obras Públicas" dataset, serve as a case in point, with 92 results of this hydroelectric use<sup>62</sup>. Mabubas played a pivotal role in the economy of Luanda, benefiting the industries of Cacuaco, and the agriculture that was established around the Dande and Bengo rivers (Galvão, 1917: 62-63).

However, regarding hydroelectric uses, the development of Cabora Bassa in Mozambique served as a symbol of Portugal's colonial development policy. In addition to supplying energy to South Africa, this was a complex development model for Mozambique that included the regulation of the Zambezi River, the introduction of hydro-agricultural practices, the establishment of complementary to agriculture, the promotion of tourism, among other initiatives (MU, CSFU, 1969: 1). In 2004, the Portuguese Institute for Development and Support (IPAD)<sup>63</sup> as the responsible stakeholder of that documentation edited the inventory of archival documentation relating to the Cahora Bassa project. The work presents several sections:

<sup>&</sup>lt;sup>60</sup> The document containing the identifier OP20039 comprises a list of suppliers to this railway. AHU, "Moçâmedes Railway. Construction cost (maps)", (PT/AHU/ID-OP/OP20039).

<sup>&</sup>lt;sup>61</sup> Decree of 6<sup>th</sup> November 1902, 1781-1783. Regarding this topic, the clauses and conditions for public contracts and overseas materials supply improved in 1900 hadn't been amended since 1861. Ordinance of 20<sup>th</sup> October 1900, 387-410.

<sup>&</sup>lt;sup>62</sup> (AHU), Search portal, simple search on the controlled term "Mabubas" (2023-02-08)

<sup>&</sup>lt;sup>63</sup> In Portuguese, *Instituto Português para o Desenvolvimento* (acronym IPAD). This organism was created in 2003 by a merger of the *Instituto da Cooperação Portuguesa* (ICP) and the *Agência Portuguesa ao Desenvolvimento* (APAD). Instituto Camões, *IPAD's history* (2013-02-10).

studies, projects, contests, and reports (IPAD, 2004: 11-66). Currently, these documents are stored in the Arquivo Histórico Ultramarino, Lisboa. However, the "Obras Públicas" dataset contains twenty results of this enterprise<sup>64</sup>. Another representative project on hydroelectric uses was the case of Cunene (Cruz, Furtado, 2022), also archival managed by IPAD, there are just eleven results in the database<sup>65</sup>.

Conversely, a survey of the database reveals 285 results pertaining to smaller enterprises involved in hydroelectric developments. In Angola several rivers are worthy of note, including the Catumbela, Biópio, Quihita, Luachimo, Cambambe, Quiminha (Bengo), Cutato das Ganguelas, Cuebe, etc.<sup>66</sup> In Mozambique the focus is on the south of the Save (the Incomáti-Movene), the Umbeluzi, the Limpopo, the *Revuè*, and the Messalo<sup>67</sup>. In the Guinea-Bissau the focus is on the Geba valley<sup>68</sup>. In India the Pilerne lagoon, the Dude Sagor falls, the Candeapar river, the Molem channel and the Taleigão river are of particular interest<sup>69</sup>. In Macau, the Taipa and Coloane regions are of relevance<sup>70</sup>. In Timor-Leste, notable works were undertaken in Baucau and the Sarim River,<sup>71</sup> while in S. Tomé and Príncipe the Contador River was subjected to similar development<sup>72</sup>.

#### Conclusion

The development of the Portuguese colonial space until independence can be explained through the prism of public works. Analogous to the processes occurring within the metropolis, the imperial project overseas, seen through the lens of public works, brings together several actors

<sup>&</sup>lt;sup>64</sup> AHU, Search portal, simple search on the controlled term "Cabora Bassa" (2022-11-22).

<sup>&</sup>lt;sup>65</sup> AHU, *Hydroelectric development* (Cunene): PT/AHU/ID-OP/OP6414-OP6421, PT/AHU/ID-OP/OP9202, PT/AHU/ID-OP/OP12917 e PT/AHU/ID-OP/OP12988.

<sup>&</sup>lt;sup>66</sup> AHU, *Hydroelectric developments* (Angola): PT/AHU/ID-OP/OP234-240, PT/AHU/ID-OP/OP1264, PT/AHU/ID-OP/OP1265, etc.

<sup>&</sup>lt;sup>67</sup> AHU, *Hydroelectric developments* (Mozambique): PT/AHU/ID-OP/OP1181-OP1183, PT/AHU/ID-OP/OP2654-OP2657, etc.

<sup>&</sup>lt;sup>68</sup> AHU, *Hydroelectric developments* (Guinea-Bissau): PT/AHU/ID-OP/OP647-OP655, PT/AHU/ID-OP/OP3058, PT/AHU/ID-OP/OP3071, PT/AHU/ID-OP/OP11433, etc.

<sup>&</sup>lt;sup>69</sup> AHU, *Hydroelectric developments* (India): PT/AHU/ID-OP/OP1177, PT/AHU/ID-OP/OP1178, PT/AHU/ID-OP/OP3564-OP3568, etc.

<sup>&</sup>lt;sup>70</sup> AHU, *Hydroelectric developments* (Macau): PT/AHU/ID-OP/OP11642, PT/AHU/ID-OP/OP11786, PT/AHU/ID-OP/OP12608, etc.

<sup>&</sup>lt;sup>71</sup> AHU, *Hydroelectric developments* (Timor-Leste): PT/AHU/ID-OP/OP8013, PT/AHU/ID-OP/OP9508-OP9511, PT/AHU/ID-OP/OP11343, PT/AHU/ID-OP/OP13539, etc.

<sup>&</sup>lt;sup>72</sup> AHU, *Hydroelectric developments* (S. Tomé and Príncipe): PT/AHU/ID-OP/OP9529, PT/AHU/ID-OP/OP9589, PT/AHU/ID-OP/OP9624, PT/AHU/ID-OP/OP9634, PT/AHU/ID-OP/OP9660, PT/AHU/ID-OP/OP13502, etc.

in attributing another harmony to space. Infrastructures and structures, including buildings, benefited from the contributions of science and technology, in which the Portuguese Polytechnic School and the Army School were of paramount importance (Macedo, 2012: 31-112).

Very briefly, from the abolition of the slave trade (a theme that has occupied national politics since 1835) to the reforms of 1843, 1859, 1868, 1969, 1878, 1892 and 1902, and then to the central organisational structure, the Secretariat of State for the Navy and Overseas (Henrique, 2020: 70-72), and all the increments that it brought to overseas politics, a strong commitment to Public Works is evident. Particularly from 1869 onwards. At the conference held in 1901 at the Lisbon Geography Society, Henrique Barahona e Costa, an official with extensive experience in the Public Works Directorate overseas, identified several moments of renovation that proved to be pivotal to this sector. The issues concerning the progress of African domains were emphasised, and the contribution of several ministers of the Ministry of Navy and Overseas was highlighted.

In 1869 Rebelo da Silva, assumed the role of Minister shortly after Andrade Corvo was nominated Rebelo da Silva's successor. By the end of the century, Ferreira do Amaral had followed suit. Following Rebelo da Silva's intervention, the 1877 expedition enabled the Minister Andrade Corvo to advocate for the opposition's stance on combating the un-healthiness overseas by implementing measures such as draining the marshes, channelling rivers to facilitate navigation and irrigating fields, illuminating the ports, constructing piers, bridges<sup>73</sup> and customs to facilitate trade, opening roads and building railways to reduce the distances between products and markets. It is noteworthy that over the course of nearly a century, the colonial Public Works Service continued to evolve in its design of the territory overseas.

The "Obras Públicas" database is a valuable source for the study of this evolution. This includes the works themselves, the technicians involved, the indigenous peoples engaged in the projects, the regulations, the reports, all the communication around these topics, and all the documentary types drawn upon this thematic area. This colonial information system is of immense value in

*Novo Redondo bridge*, PT/AHU/ID-OP/OP13941, *Bungo bridge*, PT/AHU/ID-OP/OP15441. It is anticipated that these figures will increase in line with the outputs of ArchWar.

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<sup>&</sup>lt;sup>73</sup> Angola, as an example, in the dataset contains so far 118 results of bridges of which 11 projects before 1902. From 1878-1890: AHU, *Moçâmedes bridge project*, PT/AHU/ID-OP/OP 13905, *Ambriz bridge project*, PT/AHU/ID-OP/OP13953, *Luanda customs bridge project*, PT/AHU/ID-OP/OP13954, Gunzu bridge project (1880), PT/AHU/ID-OP/OP13961, Lucala's bridge Pinheiro Chagas, PT/AHU/ID-OP/OP17415 e OP13924. From 1890-1902: metallic over structures for the Luanda do Ambaca railway, PT/AHU/ID-OP/OP6344-OP6346,

enabling the study of the Portuguese administration through the lens of Architecture, encompassing a landscape of projects and vulnerabilities.

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<sup>76</sup> Work published within the scope of the research project EWV - Exchanging worlds vision: modern architecture in lusophone Africa (1943-1974) seen through the Brazilian experience established since the 1930s. (Ref: PTDC/AUR-AQI/103229/2008). Ana Tostões, Coord.

<sup>&</sup>lt;sup>75</sup> In the direct references in the text this authorship is abbreviated to MU, CSFU.

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