

Kilwa, the first European overseas' fortification built in the East

João Campos

Architect / Historian, Porto, Portugal, arch.jcampos2@gmail.com

Abstract

The Portuguese Fort of Kilwa, 300 km south of Dar-es-Salam, is part of the archaeological landscape of Kilwa Kisiwani and Songo Mnara (Tanzania), classified as World Heritage in 1981. Together with the Fort they stand out the ruins of the Great Mosque (11th/13th c.) and the Husuni Kubwa Palace (14th c.). Since the 10th century there were flourishing cities at , through which passed much of the trade in the Indian Ocean. As the control came to the Portuguese hands in the 16th century, the region went into decline.

Built in 17 days (23 July – 9 August 1505) during the inauguration voyage of Francisco de Almeida, the designated 1st Viceroy of India, the Fort was enshrined in royal rules for the ordering of the colonial direction of the Expansion. Therefore, it can be considered as the first construction of stone (coral) and lime made by Europeans in the eastern side of the world, 500 years ago.

The Portuguese occupation only last for 7 years, but its use remain until the mid-nineteenth century, during the operational city. Despite the evolutionary adaptations that lend some contours of Swahili culture to the Fort, its original compositional principles are clearly identified. It is a practical and expeditious example of military architecture, in transition to pyrobolic architecture, designed with a square shape and two round bastions at opposite angles. This model possibly corresponds to the one idealized by Leonardo da Vinci, serving the requirements of the first phase of the Expansion (although it was also adapted in the remodeling of the medieval castles on the border with Spain). The period in which it occurs is called *Manueline* (King Manuel, 1495-1521), important examples remaining in Africa (Morocco with El Jadida and Aguz, or Ghana with Mina) and in India (Cranganor, Chale), some abandoned or destroyed, and others replaced by more advanced equipment. Kilwa's Fort (located on the seashore served by ships, like all Expansion forts) had internally 2 floors with flat cover in the bastions for artillery.

Keywords: Portuguese Transitional Military Architecture; Expansion; Tanzania.

1. Introduction

During Francisco de Almeida's voyage to take office as the first Viceroy of India, a small fort (almost 1000 m²) was erected in August 1505, on the island of Kilwa (Tanzania), inaugurating the royal injunction to create a logistical network for the support of an Eastern enterprise, which began with the discovery of Vasco da Gama's route in 1498.

The traces of the Portuguese presence are now part of a vast archaeological site of the Swahili Civilization, declared by UNESCO in 1981 as a World Heritage Site (*Ruins of Kilwa Kisiwani and Ruins of Songo Mnara*).

The exceptional importance of the small fort of Kilwa comes from the fact that it is the first stone (coral) and lime building made by Europeans in the then unknown Eastern part of the world. There was already a Portuguese trading post in Cochin, which constituted the base of operations established in India, but these were adaptations of facilities provided by the Sultan.

The creation of Kilwa is in accordance with a pre-Modern architectural model that would be repeated in identical circumstances in the first phase of the Portuguese Expansion, particularly in the Eastern domain. The master of the fortification was Tomás Fernandes (following the



Fig. 1- Between the island of Kilwa and the mainland. In the context of a remote location on the African coast, the Fort has a great landscape impact, sharing a cultural singularity embedded in an Arab-African environment. (Photo by the Author)

Manueline model of composition), who drew up the plans and began the work on site, leaving a subordinate in each trading post, when he left for a new mission, in another trading post or support point for the fleets.

The Portuguese fort of Kilwa is equally notable because it is a building that has survived, evolving with its Swahili additions, but without losing its original characteristics. The last maintenance work was carried out at the beginning of the 19th century by the Omanis. The facilities housed a small garrison until 1843, when the Sultanate of Zanzibar and Pemba was abolished.

In the 20th century, first the Germans and then the English carried out several archaeological reconnaissance works. In 1900, Bernhard Perrot took some archaeological remains to Germany; In turn, the British, in 1935-1936, began prospecting works on the spot (Kirkman, 1958); more recently Neville Chittick proceeded to publish the results of a systematic campaign of archaeological research (Chittick, 1974/75).

2. Inauguration of the East side

The Portuguese occupation did not last more than seven years, as the Fort was abandoned in 1512. In addition to difficult maintenance, it seemed preferable to concentrate military and commercial efforts in Sofala and Mozambique.

Kilwa is a highly innovative building from the point of view of the theory and history of military architecture. In fact, Francisco de Almeida was expressly tasked with building fortifications in Kilwa and other strategic points, for which a regimental project was created, probably designed by the brothers Diogo and Francisco de Arruda, the king's architects. Only by this way would it be possible to take directives to achieve, in a very short time, a new form, largely

postponing medieval principles and subordinated to the superiority of artillery. This piece of transitional Portuguese military architecture precedes the Manueline reform of Castro Marim, at the mouth of the Guadiana River (1508) or Aguz (1519-1520), in Morocco, this one marking the end of the cycle.

It is, therefore, the surviving specimen of the first constructive expression of the first phase of the *Portuguese Empire of the East*. Despite its Swahili additions, according to studies by Neville Chittick (the English archaeologist who intensely explored the site between 1957 and 1965), the composition of the ruin of *Gereza* (a corruption of the Portuguese word *igreja* - church - which locally designates the fort, with the meaning of *prison*) owes something to Omani additions from the early 19th century, *apparently on the orders of Yaqut, then the representative of the Sultan of Muscat in Zanzibar. (...) We know from Owen's Travel Narrative that in 1824 there was still a garrison of Omani troops there. (...) The building was described as ruined in 1842 (...), but still had a Baluchi garrison in 1850... The north wall, undermined by the sea, had certainly collapsed before 1857* (Albuquerque, A. 1884).

3. The Transitional Military Architecture

Built close to the sumptuous palace and the beautiful mosque of the Swahili Lord of Kilwa, the Fort embodied a new feature of military architecture, in the first phase of Portugal's imperial enterprise.

Francisco de Almeida left Lisbon in 1505, appointed Governor-General for a period of three years. Together with Kilwa, he brought other precise instructions to build fortifications, such as that of Sofala, south of Kilwa, for which he had left a garrison in place (but which would take time to be executed). This can be seen in the *Letter of*

Power, given on February 7th, and in the *Regimento* dated March 5th, saying that *he should ensure the bases for the fleets, but not the lordship of the lands, also King Manuel ordering him to build some fortresses, as well the strengthening of ties and alliances with the rajas of Malindi and Cochin, and imposing that, next to the fortress to be constructed in Coulão, he should build a church and a convent for friars. Francisco de Almeida should also build the fortress of Cananor, complete that of Cochin and on the African coast erected those of Kilwa and Sofala (this being in charge of Pedro de Anaia), building yet another one at the mouth of the Red Sea, for which the island of Socotra was chosen* (Dias-Farinha, 1991).

In the field of transitional architecture during the reign of D. Manuel (1495-1521), among the first forts there are some that are quite paradigmatic due to the extreme situation of almost breaking with the medieval model. In Castro Marim, of the Order of Christ, improvement works were carried out before 1509, with a large central quadrangle, and straight walls uniting, at each angle, round towers of low height.

The bastions at the corners can be square or (most frequently) round, sometimes with a taller tower either attached to the wall or in a central position. The clarity of Aguz's design, a late example of Portuguese transitional architecture, stands out on the Atlantic front of Morocco.

These are quick solutions, carried out in between a late-medieval culture and the avant-garde, with

a situation of compromise to which, not even later, the most important military constructions exempted themselves (Baluarte do Paço da Ribeira, Torre de Evoramonte). *These are clearly transitional forms of fortification between two systems (neuroballistic and pyroballistic), which were practiced overseas, both in the Maghreb and in the distant East. (...) The truly typical shape of our Manueline fortresses was that of a quadrangle with towers at the corners and a raised keep, in the center, or attached to one of the walls. This scheme is visible in towns such as Castro Marim and Bragança (here it gets lost among fences and other walls). If we rely on iconographic testimonies from overseas, from places where fortifications were built from scratch, such as Kilwa, Sofala, Calicut or Malacca, there we will have the most typical examples* (Dias, 1998).

In Portugal, it was the *Castelo Artilheiro* of Vila Viçosa, dating from the 1530s, that ratified the full innovations of Modern military architecture, putting an end to the period of the Manueline transition, until arriving at Mazagão Fortress (1540, the new model of European bulwarked city, constructed in the North of Africa).

With a roughly square plan (sides measuring 55 × 50 m) with two cylindrical bastions at opposite angles and a moat, the fortification in Vila Viçosa corresponds to the Italian configuration (the new design as Francisco da Holanda reports in his *Livro das Antiquallas*, 1540-48), synonymous with the Modernity of architectural features.

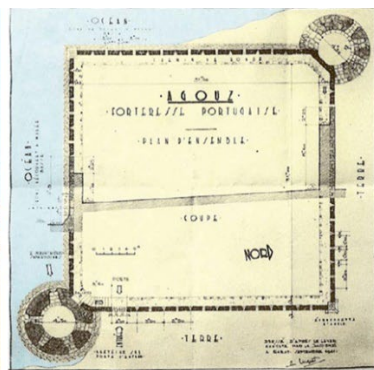


Fig. 2- Aguz (or Souira Kedima) / Morocco, castle at the mouth of the Tensift river for tactical support to the city of Safi, located 35 kilometres to the North, was built in 1519-1520 by Governor Nuno de Mascarenhas, probably designed by the Arrudas. The restitution drawing with the plan and section was carried out in 1941 by the architect A. Luquet, from the Historical Services of Morocco, during the French Protectorate. (Photo by the Author).

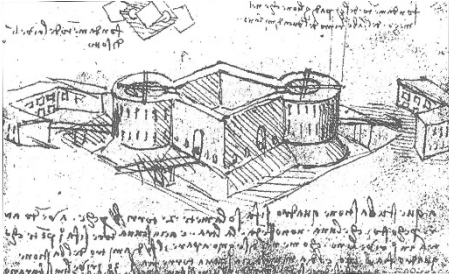


Fig. 3 – Drawing by Leonardo da Vinci in *Paris Codex B* (fl. 12)



Fig. 4– *Castelo Artilheiro* at Vila Viçosa, by Benedetto de Ravenna, c. 1535. Elevation, Plan and Aerial view (Campos, 2022)

There are similarities with a prototype, drawn by Leonardo da Vinci in the manuscripts of *Madrid Codex* and, especially of the *Paris Codex B* (folio 12), putting forward the hypothesis Bury, 1984) that, at the beginning of the 2nd quarter of the 16th century, Benedetto de Ravenna was at the service of the Duke of Bragança (1479-1532), to design the fortification of Vila Viçosa, which closely follows, both in layout and dimensions, the drawings made by Leonardo da Vinci, dating from c. 1490-1507.

4. Brief characterization of the Ruins

The Portuguese occupation only last for 7 years, but its use remain until the mid-nineteenth century, during the operational city. Despite the evolutionary adaptations that lend some contours of Swahili culture to the Fort, its original compositional principles are clearly identified.

It is a practical and expeditious example of military architecture in transition to pyroballistics, designed with a square shape and two round bastions at opposite angles. This model served the requirements of the first phase of the Expansion and, in that epoch, it was also adopted in the remodelling of the medieval castles on the Portuguese border with Spain.

Some important examples still remain in Africa (Morocco with El Jadida and Aguz, or Ghana with Mina) and in India (Cranganor, Chale), but the ruin of Kilwa Fort is an outstanding example of the Portuguese military architecture of the beginning of the 16th century.

Kilwa's Fort, located on the seashore was served by ships, like all Expansion forts. Internally it had two floors with flat cover in the bastions for artillery, and a central courtyard with a well.

At the East / South corner, near the entrance gate, a square tower (as the keep of *honors*) gave one supplementary compartment with terrace on top for artillery. The South / West round bastion has a Swahili addition in height, as well as the sequences of small crenelations ending the walls.

Coverings were made using traditional methods with branches of aquatic trees (mangroves) and lime mortars with coral stones.



Fig. 5– Aerial view (1998) of the ruins of the small Fort at Kilwa Kisiwani, 600 km South of Dar-es-Salam, one thousand of square meters built by the Portuguese in the beginning of the 16th century. (Photo by the Author).

5. Architectural survey

In this paper it is appropriate to show the drawings of the rigorous survey made on spot twenty-five years ago.

At that time, it was presented a project to rehabilitate that heritage. It contained the component of conservation of the mortars of the

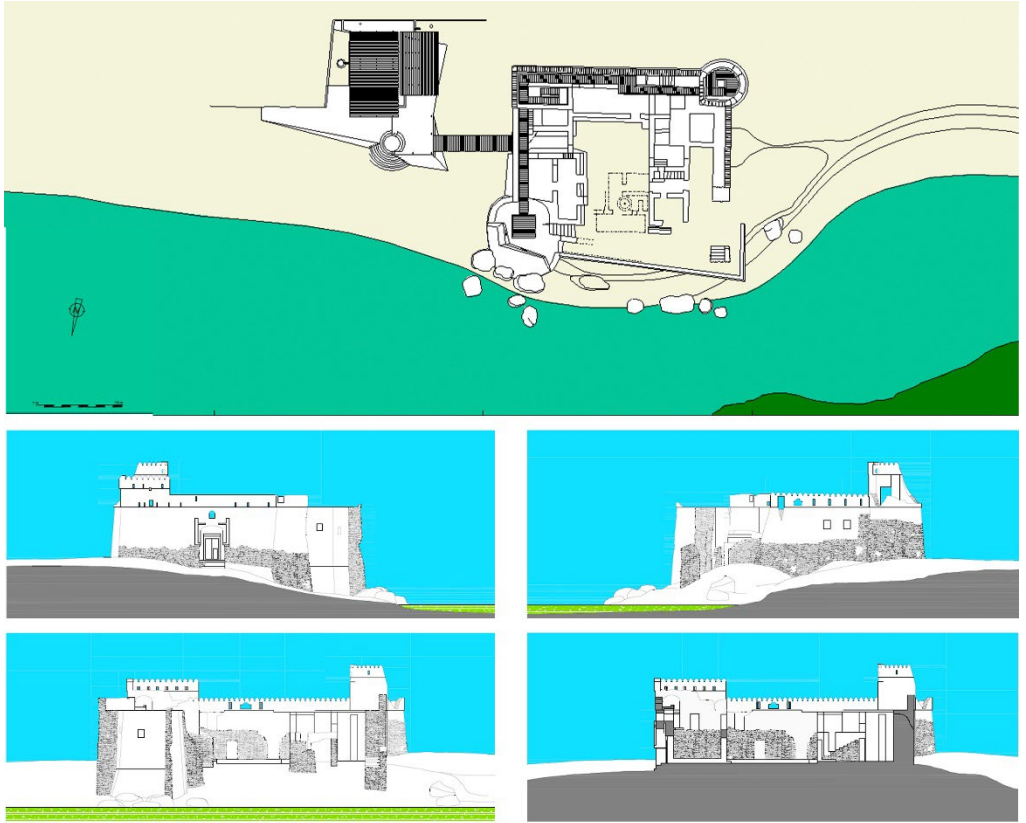


Fig. 6- Plan of the upper level, with the proposal of the new building for visitors (not implemented) and 3 Elevations and 1 Cross Section by the Entrance. (Drawings by the Author)



Fig. 7- Several aspects of the condition of the ruins of Kilwa Portuguese-Swahili Fort. (Photos by the Author)

walls and to create conditions for visit (stairs to go up to the *chemin de ronde* and the top of the bastions, with metallic /wooden paths), allowing to observe all the set.

Another component was the construction of a small building with facilities for the visitors who came in an adventurous journey until this amazing site of World Heritage. The proposed construction, in a contemporary but simple architecture, was envisaged with a different conception in scale, form and materials.

This project, or another one, waits the eventual opportunity to be realized, in order to contribute for the continuity of that mark of History, the oldest western military construction in the Eastern part of the world, inaugurating the Modern Globalization, with its phenomenon of international trading and the slavery, the religious proselytism and the constitution and interaction

of an imperialist system, both local and colonial, shaping the Humanity along centuries, practically until our days.

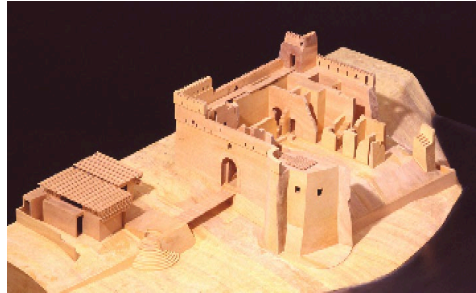


Fig. 8- Wooden model of the rehabilitation project of the Portuguese Fort of Quíloa / Kilwa Kisiwani, Tanzania, 1998. (Project and photo by the Author)

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