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LUND UNIVERSITY

CONSERVATION AND MANAGEMENT OF HISTORIC BUILDINGS

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CONSERVATION AND MANAGEMENT PLAN OF SAO BAPTISTA FORT

SAO BAPTISTA FORT

IBO Island

ABSTRACT

As a part of the Conservation and Management of Historic Building, International training, under taken by Lund University HMD, this paper present a Conservation and Management Plan of São João Baptista Fort. This plan explains the significance of the building, identifies how that significance is vulnerable and sets out policies for retaining that significance in any new use, management regime or alteration.

INTRODUCTION

The United States Agency for International Development (USAID) is providing technical assistance and funding to develop the tourism potential of three Northern Mozambican Provinces: Cabo Delgado; Nampula; and Niassa. The goal is develop and position the three provinces as major international and sustainable tourism destinations based on the region's unique historic, cultural and natural resources. Specifically, the project seeks to enhance competitiveness and sustain economic growth by creating an industry friendly policy environment and transforming tourism into a major sector that:

- Attracts large private investments and partnerships.
- Stimulates tourism related businesses and agricultural transformation.
- Creates increased opportunities for employment.
- Contributes significantly to Preserves the environment.

Ibo Island, located in Cabo Delgado Province in the Quirimbas Archipelago is currently the focus of major historic preservation and investment promotion initiatives. The largest historic Fort i.e. São João Baptista have been stabilized. Many of the spaces in the Fort have been restored. Basic stabilization works are on-going on two smaller Forts. Under the auspices of the Project, Conservation Plan and Tourism Developments have been developed and incorporated into the Urban Plan for the Island, which has been approved by the Provincial Government. Investor interest in the Island is growing.

SÃO JOÃO BAPTISTA FORT (SAINT JOHN BAPTIST FORT)

(1791 – 1795)

HISTORICAL DESCRIPTION

The **Sao Joao Batista Fort** was built by the Portuguese in 1791 on the ruin of an earlier Arabic fortification to secure and control the entrance to Ibo Island from adventurers from the sea. The fort thus protected the trading interest of the Portuguese and also provided a wintering spot to Portuguese ships on their way to and from India.

The fort was constructed from coral stone, sand and lime to create a stout, sturdy and formidable masonry construction work.

The fort is located on the western part of the island on a firm coral rock. The external height of the wall is 3.8 meters and the height of the parapet wall from the level of the inner walkway is 1.3 meters. Each of the five star points of the pentagon measures 50 meters and the total floor area is 6300 sqm. The purpose had not changed but in the last days of colonial governance, it was converted in to a political prison. A place of torture and death.

The roofs of the volumes have seen changes as established by Historic pictures and photographs.

At one time, the building had a double pitched clay tile roof. (Credit)

This Roof Later Was Reverted To The Original Morphology- Flat Roof- But This Time Constructed From Modern Material, Which Is Reinforced Concrete In The Early Forties. The walls were plastered in cement sand plaster and natural stone laid in cement mortar. Salt glazed down pipes and spouts were replaced with asbestos or galvanized pipes. The building was poorly constructed and in 1798, one section of the fort collapse and this was consequently followed by the collapse of another section in the same year. In 1882, the fortress was in complete ruin and the Military Chapel was used as a store room. In 1885, the citizens of the town of Ibo contributed money and slave labour for the repair of the fortress in anticipation of Sakalave attacks which were intensified between 1880 and 1887. The Sakalaves were marauders from Madagascar who invaded the Quirimbas and Matemo for slaves in that process bringing havoc and destruction.

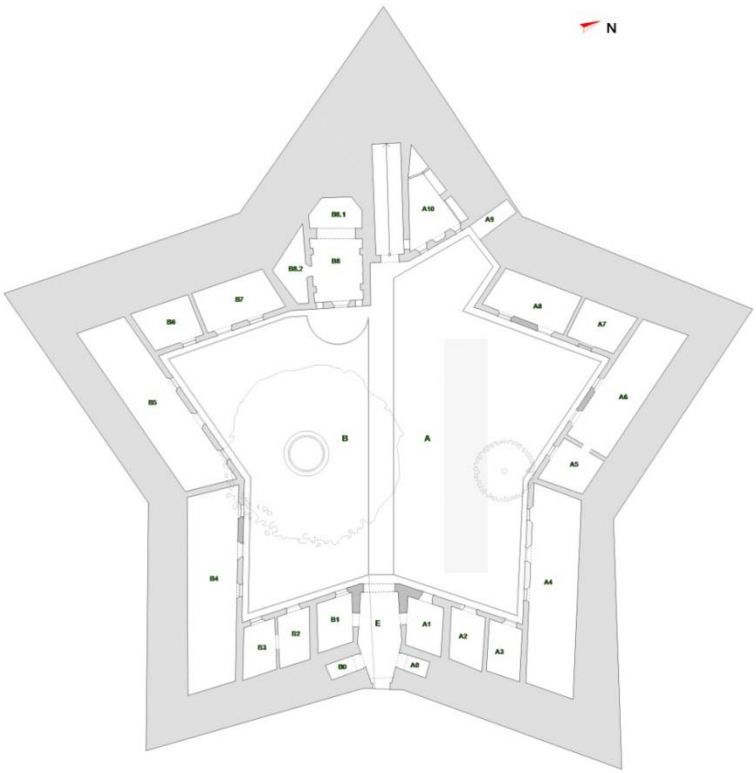
LEGAL PROTECTION

Decree nº 5:093, 3/4/94; Law nº 10/88, 22/12; Proposal for a “National Inventory for Monuments and Sites of the Ministry of Culture of the Government of Mozambique”

ARCHITECTURAL DESCRISPTION

Plan Form

The plan form is a five-sided star with two principal entrances. The main entrance on the Front or east elevation and the second entrance faces the sea on the west elevation. The sea entrance is sealed off and the lobby converted into prison toilets. The external wall is built in two leaves of solid masonry stones. The two walls are separated about 1.5 - 3meters apart with the void between the walls filled with rubbles -coral stones and sand - well ramped, compacted and casted over with cement/lime screed. Because of this construction arrangement, the open screed area becomes a continuous raised walkway around the fort. The Inner leaf wall becomes the outer wall of the peripheral rooms arranged at ground level around the open courtyard.



The Plan of São João Baptista Fort

The Walkway

The walkway is 1500- 3000mm wide. The walkways are for defense purposes and therefore are embellished with mounted cannons directed through gun ports on the parapet walls at about 3000mm interval. - Battery. At the base of the parapet walls of the walkway are 50mm diameters galvanized waterspouts at two (2) meters centres. The walkway has deteriorated and the lime/cement/sand screed has developed cracks and water penetration into the core fill of the walkway is considerably high. On the southern section, over the main entrance area, the deterioration is so bad that the saturated and leached material used for filling between the two external walls has cracked and failed exposing the soil. Plants are growing in the exposed soils and water percolation into the structure is heavy. Vegetation growth found in cracks further accelerates widening of the cracks between the screeded surfaces. The permeability of the walkway is a progressive threat to the stability of the external walls. Immediate remedial action should be undertaken to arrest the possible collapse of this section.

Access to the walkway by a ramp between the church and kitchen buildings from the courtyard.

The Mounted Cannons

About twenty mounted cannons are in various stages of conservations. The two largest cannons are mounted on the front elevation on the opposite sides of the main entrance. The cannon balls are long missing and the timber carriages of only four are present. The remaining of the cannons rest on blocks or directly on the walkway and gun ports. The guns need regular maintenance and protection against the persisting rust to arrest the exfoliation of the cannon and the subsequent thinning.

The Walls

The walls are stout stable masonry constructions under attack from plants growing on and or into them destroying the building by the physical action of their roots, the storage of water, removal of minerals from the walls etc. Roots of larger plants on the walls have grown deep into the building caused cracks. The dead large plants have left in their aftermath huge voids in the masonry causing structural movement like subsidence.

The Courtyard

The peripheral rooms are built attached to the inner leaf of the external walls at ground level to enclose an open courtyard. Rooms or volumes today are known to include, the old fort church, kitchen, prisoners toilets, dormitories two prisons, first aid room, store, torture room, interrogation room, officers quarters. The courtyard is laid in cement sand screed and this has cracked and lifted around the big old almond tree in the courtyard the open concrete drains are cracked and sections blocked or covered with debris and/or vegetative growth. The open drain is set out about 1000mm from the foot of the walls of the rooms along the periphery of the courtyards and passes beneath the floor of the main entrance to the out side from there it runs along the right spur wall of the front elevation

The Volumes in the Fort

The Entrance Lobby **-** The doors and iron mongery in the lobby are in disrepair and seriously require reconditioning. The walls are damp and decaying. The floor is finished in concrete screed. A covered drain runs from the courtyard through the floor of the lobby to the out side of the fort. This is the main drainage for the courtyard of the fort...

The Entrance Lobby Ceiling **-** The soffit of the lobby is supported by a beautiful Roman arch at the entrances. Between the soffit or the ceilings of these entrance arches, two huge concrete

beams cross the lobby ceiling. At first inspection, the ceiling had natural timber 75mm diameter set at 300mm centers as rafters to support the roof above. Unfortunately, this is only a cosmetic dressing underneath a reinforced concrete roof of the fort. These reinforced concrete beams and roof slabs are the biggest challenge of our current restoration effort of the entire roof structure of the fort.

The Two Cells (Prisons) **-** At the entrance, two small cell rooms are located on the left and right of the lobby. Each cell is about 3m by 1.7m with a high of about 4m. The cells have no windows and the walls are damp and saturated with water and depressing. The timber doors of the cells have regular square slots (100 by 100 mm) which help to ventilate the cells.

The Infirmary & Office **-** These two rooms are accessed from the entrance lobby, the office on the left and the infirmary on the right. The rooms are endowed with a window each located on the courtyard walls section of the rooms...

The Military Chapel - The Chapel is a small room of about 4000mm by 6000mm, on the northern facade of the courtyard opposite the main entrance. It has elaborate decorations in

relief- pilasters et cetera. At the front façade, are two cut-coral stone pillars on each side of the arched medieval timber door way and a beautiful pair of masonry abstract relief to the sides of the pilasters and the doorway. Along this front façade, next to the relief's is a pair of beautiful oval windows, probably they had stain glass in fills characteristic of church architecture of that period in Europe. Further to the oval window is a small slot to the extreme left of the facade with a timber crucifix. Once Inside the church, there is this bold and beautiful stout masonry alter located at the head of the room. About half way to the Masonry Alter is a roman arch on elaborate dwarf pillars of the kind found in the main exit from the courtyard through the main entrance lobby into the fort.

Front Elevation of the Chapel with Ramp to the Extreme Right (April 2006)

The Kitchen - The kitchen is located on the northern facade to the right of the ramp that leads on to the raised walkway from the courtyard. . The size of the kitchen is about 3000mm by 3000mm irregular room with two raised separate elongated rectangular (500 x 1500mm each) cooking fire places, two hoods and two separate flatten chimneys above. The kitchen floor is about 500mm below the courtyard floor level. The two window openings look into the courtyard but they are in a bad state of disrepair. A later door way with a missing door is accessed from the side of the ramp and the earlier door from the courtyard is sealed. The walls and floors are damp and floor specially is cracked in some areas. The ceiling is false concrete

reinforced flat roof and the timber pools embedded in the soffit are missing. The roof leaks like a sieve and the ceiling is stained in several areas.

Elevation of the Kitchen from the Courtyard (With Sealed Doorway)April 2006.

The Prisoner's Open Latrine - The original passage way out to the sea was blocked and converted into prison toilet for the inmate of the prison in the colonial era. The conversion included the raising of the floor by about 400mm. Thus the head room from this new level to the arch roof is reduced to about 1.4mm. A doorframe followed the arch contour of the ceiling. The arched timber door frame measure about 1.5 m by 1.4m but actual door is now missing. The toilet is consist of seven (7) pit holes tightly arranged for the prisoners use. The affluence from the toilets was carried away by a 300mm diameter asbestos pipe mounted on huge concrete up stands (450mm by 300mm) at 3000mm centers over 30meters into the open sea. The toilet is very small spaced and the pit holes are closely packed and to use.

Addition to Toilets and Bathroom - Additional toilet and bathroom facilities were added for the use of the guards and officers. Two toilets and two baths were added to the west of the walkway add one toilet hole was created in the sentinel's post in front of the ramp. The toilets and bathrooms added to the western spur has galvanized piping, WC, showers et cetera. The new addition used cement - sand blocks wall which cover a sentinel post and portions of the parapet walls was raised and this has completely disfigure the west elevation.

The poor ambient conditions of the rooms impacted directly on the interior walls, floor, and ceiling. The reinforced concrete

roof slab and ceiling has failed. The walls are damp; the screeded floor is cracked, wet and pooled in many areas.

The ceiling has a huge beam crossing the soffit with false insertion of timbers members as the supporting rafters. The false ceiling is a colossal abuse to this historic monument with the possible loss of the construction technique used in the original ceiling in here and other parts of the fortress.

All these inappropriate use of materials must be reversed sensibly.

Fenestrations - At the front elevation, the front door is symmetrically located between the two pillars of the storey. The front doorway façade is decorated with three different coats of arms. Main door is of solid timber construction, of about 1800mm by 2100 mm high, side hanged with iron hinges and a rasp and lock arrangement. It has slots arrangement for barring the door from the inside which needs to be restored. The detail study of the iron mongery reveals that the doors have metal hooks in good condition but the housings for the insertion of metal hooks are missing on the two upper hinges and one lower hinge. For this reason, the door has to be supported with poles and blocks or else it falls. An entrance passage or lobby leads from the main door into the courtyard through a roman arched opening.

The door and window openings of the fort use to have masonry arches or timber safe lentils. Unfortunately, these were replaced with reinforced concrete lintels which are failing. The window openings have 25mm diameter iron rod insertion as burglar proof to emphasis security of the prison window. These iron rods have rusted and caused the sprawling, cracking and failure of the concrete lintel above the windows and cement/ sand mortar architrave dressings.

In the colonial era, during the period of converting and reconditioning the fort as a prison, the height of the inner leaf walls where increased to accommodate high level ventilation windows -100mm by 500mm. About 14 high level ventilation windows were created. Furthermore, the windows in the east and west elevation were increased in size and fitted with burglar proof iron bars. The creation of the high level ventilation

windows aided and improved day lighting penetration, ventilation and security in the dormitories, kitchen, cells and prisons.

Today, the combined effects of these inappropriate intervention cause failing concrete components used as lintels, flat roof ceilings, plasters etc. The ingress of water into the volumes of the fort has accelerated the decay of the timber and metallic components and the building in general.

Currently, all the windows are missing and about 60% of doors are not in place. The remaining 40% of doors are in a bad state of disrepair. The timber doors are rotten and dysfunctional, because the hinges are rusted and fused.

Roof – is currently a reinforced concrete flat roof. A close inspection of the roof from the walkway reveals the seriousness of the failing concrete slabs and beams.

The concrete flat roofs are laid in bays of about 3000mm by 5000mm between ribs of beams about 450mm thick by 500 deep. The slope of the flat roof is poor and some bays do not have spouts to discharge storm water during rains. To overcome this problem, some concrete slab bays are linked with others by drain pipes. The result is the pooling of the water on sections of the roof because of the poor gradient of the flat roof. The consequence of poor work and unacceptable repairs is this massive leakage through cracks into the rooms and structures below.

Water Spouts - There are (4) four types of waterspouts used in the drainage of storm water from the concrete flat roofs and walkways of fort. They include:

- The pre cast concrete waterspout.
- The salt glazed ceramic pipe.
- The ceramic v-shaped waterspouts.
- Galvanized pipes

The historic water spouts include salt grazed ceramic pipe and the V- shaped ceramic water spouts, are misused or destroyed and replaced with pre -cast concrete spouts. The spouts draining the roof sections overlooking the courtyard are all pre-cast concrete waterspouts.

CONSERVATIONS WORKS

PHASE PROGRAMME

Phase I

Routine cleaning of the site and clearing of plants and vegetative growth on walls , floors, roofs , etc

Cleaning of waterspouts, down pipes, roof gutters, drains to ensure storm water is quickly removed away from the building during and after rains.

Undertaking remedial repairs of roof leakages, boarding up windows and doors temporarily etc. to ensure that the building is watertight.


The Flat concrete roof - the intervention

Phase II- Stabilization

Undertaking roof repairs including structure and roof finishes. Masonry repairs of walls, under pinning of foundation and foundation walls, repair and renewing plaster screed, etc to stabilize the building.


Rapair works on external wall

Repair of floors and floor finishes.

Reproduction of door and windows and installation of the doors and windows with the specified furniture

Phase III

Conversion of building volumes into adaptive re-use demands such sealing of openings, making new openings meager of spaces to create the needed flow and spaces in the new function. The provision of services hither to unknown in the most buildings is another demand on the building. These services include electricity, fire doors, and communication gargets and so on and so forth.

Installation of services to include Electricity ;

Electrical wires are placed in a conduit and fittings and fixtures should be for high quality. A standby generator is very desirable but it must run quietly and smoothly.

Provide lightening arresters in the building.

Provide smoke a fire detectors on and in suspended ceilings.

Provide fire doors, fire escapes and fire fighting equipment.

Air conditioning

The use of Air conditioning in old buildings is with respect and care to avoid causing damage to the masonry walls. It is not advisable to turn on air conditioners at full blast but rather allow the cooling or air exchange to be gradual.

Use spilt Air conditioners to avoid messing up historic elevations or hiding or distorting windows architectural features etc

Plumbing

Wet pipes could pass through walls but not embedded in walls.

Place all pipes as much as possible in service ducts and provide easy access to pipes for maintenance.

Keep septic tanks away from habitable rooms and wells at least 10 meters.

Septic tanks should not so deep to reach the water table when excavating during construction.-3meters in most cases is suitable depth.

Inspect, treat, maintain and test wells regularly.

Provide good covers and pump mechanism that prevents water contamination.

Phase IV

Identified Historic Metal works like church bells, balustrades, iron cresting, lampposts, and iron mongery is cleaned and restored.

Missing parts of components of iron mongery are replicated in the same or compatible material, colour and style.

Painting And Decoration

Use lime based paints only for the interior walls, in three coats after cleaning, repairing and restoring walls.

Paint timber door, windows and frames after restoring them in their original colours and paint type.

Paint architecture metals after applying three coats of ferrous oxide paint. Cannon, hinges and locks, bells, cresting, iron post etc

The canons on walkway before and after intervention

Use anti rust paints and oil paints of historic color for architectural metals.

Use oil paint of the original colour for

External wall are lime washed in three coats after cleaning and repairing walls.

Landscape and civil works

Streetscape, defining furniture like the old metal lamppost, walkways, parks, gardens avenues and the landscape will be retained and revitalized. The street sizes, finish, walkways, street furniture like lampposts, flowers, trees plazas and parks are retained and revitalized.

São João baptista Fort, Before Intervention(2006) and after intervention(2009)

ADAPTIVE REUSE PROPOSAL

The various rooms in the fort could provide respectable reuse function with the provision of the appropriate service and conversion. The proposed functions include the use or reuse of the existing volumes as:

1. The two Cells as Tour Areas.
2. Kitchen as a Modern kitchen
3. Infirmary as an office for the Tourist Information Centre and Tour guides
4. Office as a Jewelry Shop
5. Prisons as Tour Areas
6. Dormitories as freedom fighters Museums
7. Prisoners toilet as Tour Area
8. Walkways as tour areas
9. One (1) Dormitory for a Conservation office
10. Military Chapel as a functioning Church.
11. Courtyard for multiple social activities including Cultural drumming and dancing,

Workshop after intervention

DISCURSSION & CONCLUSION

After the stabilization of the Forts and restoration of spaces in them, it’s fundamental to establishment of a Heritage Committee and take the best and adaptive reuse of the monument in a manner that assures the historicity of the buildings and provides economic and social benefits to the local community.

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