

The State of Community and Environment Change through Observing Housing Architecture

— The Case of Pemba Island —

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Place of fieldwork: United Republic of Tanzania

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Research background

The Zanzibar archipelago is situated off the coast of Tanzania, where it has been under constant influence of foreign cultures, especially the Arabs, dating back to before the 10th century. The Arabs who once dominated the archipelago introduced the world of Islam to the area that led to the flourishing of Swahili culture, which in turn affected the local inhabitants' lives in many different ways. Architecture was one area in which Arab culture influenced local society; the Arabs built numerous Islamic style structures on the island, but did so by utilizing locally available materials. In the process of utilizing local materials and Arabic design, a unique Swahili Architecture was born and is still visual not only in urban areas but also in rural village houses in Pemba Island, one of the main islands of Zanzibar. Locally available natural resources are vital for building, yet environment deterioration is present in the area.

Research purpose and aim

The objective of this research is to clarify, through the observation of local houses, how people benefit from the environment while maintaining its limited resources (Fig. 1). This study focuses on the history of each house (construction year and process, construction materials used, household members living in it, etc.) along with observations of how the resources obtained from the environment are used in the community, and how the community relates their life with their houses. Some official data, namely maps and photos, was collected from local government or related organizations to see how the surrounding environment has changed in the past.

Results and achievements of fieldwork

The research was conducted in G ward (population around 3,000), situated in the northwestern part of Pemba Island, where I was based in one of the villages within



Fig 1. Façade of a house in G ward

A typical wooden structured mud house finalized by cement plaster, coconut leaf roofing, carved wooden main door, and a locally named *baraza* built symmetrically beside it. This house was built in November 2013 for a newlywed couple. The carved wooden door is made out of Jackfruit timber, a commonly used tree for doors.

the ward throughout my fieldwork period. The research focused on three villages with a total of 151 houses (including those under construction). Housing plans did not have much variety and were mainly composed of mangrove or clove tree timbers. Walls and floors were finalized by cement, which is a very recent building method change. These houses are located closely together according to the owners' clans. Clans are one of the units of landowners and those within the clan will build their new homes within clan-owned land, called *wakfu*. It is uncommon for one to build their houses elsewhere other than within this *wakfu* area, often leading to houses being packed closely in one area. Some conflicts were observed among clans regarding *wakfu* boundaries.

Mangrove poles have been one of the major trading commodities with the Arab world since before the 19th century and have also been used as a timber supply for local people. Timber is a vital construction material in the G ward and mangrove forests are one of its biggest timber sources; however, logging is restricted due to environmental concerns despite high demand. The decrease of mangroves is observed through aerial photographs taken in 1949, 1970, and 2005 (Fig. 3).



Fig. 3. Mangroves during low tide

A local man recalled when mangroves covered the entire stretch of this sandy beach, whereas now, mangroves have shifted their habitat nearer to the shore leaving one *Avicennia marina* behind as seen in the center of this photograph. (Photographed 21-10-2013)

To tackle this issue, local people have established three community groups to nurse seedlings and conserve the environment through planting (Fig. 4 and 5). Environmental changes are affecting people's livelihoods in their choice in home construction material, land ownership, and other various ways. Despite the fact that a growing number of houses are built with cement block, not all can afford it and the demand for timber from the nearby forest remains high. Thus, the community is conserving its environment to maintain its environment-reliant architecture.



Fig. 4. Mangrove Planting

A scene from mangrove planting. *Rhizophora mucronata* was commonly planted on the day. (Photographed 30-3-2014)

Implication for and impact on future research

Further examination of the collected data must be done to analyze how the people and housing architecture relate to each other and how building practices are connected to local culture. In order to understand how each community group functions, further examination of their duties is needed. This will help us gain knowledge of the community's actions and their understanding of their surrounding environment.



Fig 5. Tree Seedlings

Seedlings of clove and other species owned by community groups.