



BURJ ZANZIBAR, LIGHTHOUSE OF SUSTAINABLE AFRICA

Amsterdam, November 24, 2022; January 25, 2023

Author: Hans de Groot, Taalkwadratuur/Language Quadrature Amsterdam



Taalkwadratuur, bureau voor tekst, advies en organisatie
Language Quadrature, bureau for text, advice and organization
Hans de Groot, director, language architect
Louise Wentstraat 64
1018 MS Amsterdam
The Netherlands
+31-6-14 19 21 80
hans@taalkwadratuur.nl
www.taalkwadratuur.nl

Images: OMT architects Berlin, Volks.House Zanzibar City, Tanzania



Sustainability, circularity, nature inclusiveness - these concepts are not only reserved for the western world. Elsewhere pioneers start stirring, too. Like in Africa where on Zanzibar the new district Fumba Town is booming, south of the capital Zanzibar City. 60% of it is executed in timber; the wooden Burj Zanzibar is literally the pinnacle: 96 m heavenwards.

And that is a miracle. Africa, cradle of our oldest civilizations, has known a plundered past. On a large scale the continent is robbed by the Rich West of valuable raw materials and people. All this happened under the flag of imperialism, put out by power hungry states who assaulted the territories of other nations. And it happened under the bunting of colonialism, hanged out by self-empathic big enterprises who greedy-grubbed the things and souls of other man's mainland. The survival of the weakest is never counted for much.

Climate fever

And the misery continues to stuff, since Africa - and by the way also other unscrewed mainlands - threatens to be swept away now in the trap of the Filthy West. Because in fact the described processes went on otherwise, under the banner of climate torture which then started to wimple and now flies in full. The consequences hit especially the poor countries, but also rant and rave more and more on the premises of the West that finally gets his just deserts and has to help pay for its own expensive bill of three for the price of two: heatwaves, forest fires, aridities, hurricanes, floods, crop failures, famines and migration tsunamis. To address it the entire world is on the drip of sustainability, in the hope and fear that with 1.5 to 2 degrees temperature increase the earth gets no *climate fever*, and dies. Climate fever yes, because the diagnosis 'climate warming' lacks alarm and rocks us straight in sleep of death.

Furious tempo

But let's keep the faith. Very many people are on the way to Somewhere-Perspective. The real breakthrough, however, should be that leaders of the government, politicians, bankers, captains of industry and shareholders finally stop with roundabout driving. The only salvation is full speed highway, indeed. In addition efficiency and economy are essential parameters, because many finite raw materials are running out, while only more are needed. In Africa for instance the population is growing in a furious tempo from 1.2 billion now to 4.2 billion in 2100. How do you accommodate them in houses, offices, shops and other facilities, inclusive infrastructure? Example: Tanzania has a deficit of 3 million houses and that number increases with 200.000 a year. Compared to that the Dutch housing shortage is a trifle.

Not yet-reasons

Fumba Town is one of the fastest growing ecocity expansions in Africa, with the Burj Zanzibar (Burj = Tower) as literally pinnacle of 96 m. Project developer is the German family company CPS Live. Quarter concept and tower design are by the Dutch architect Leander



Artist's impression Fumba Town; in the background the Burj Zanzibar



Urban plan



The construction of Fumba Town is on its way

Moons via his company of the same name in New York and OMT architects in Berlin of which he is one of the founders. Elsewhere in Africa eco building occurs, too, like Tatu City in Nairobi, Kenya, Green City in Kigali, Rwanda and Eco Sanaa City in Dar es Salaam, Tanzania. They snail-steadily make progress or are doomed to fail, for a diversity of *not yet*-reasons. The knowledge of building and wood is lacking, the experience lags behind, the fabrication of (wood)products is limited, the financing resembles a range of two halfpennies-rub-together, the view on the social cohesion is turbid and looks rather like *slum upgrades* than of fresh eco-districts. That has to be done differently with Fumba Town and Burj Zanzibar.

1 million inhabitants

Zanzibar itself, an island in the Indian Ocean 21,75 miles east of Africa, forms a unity with Tanzania since 1964, though it has a half autonomous status. Pemba and Mafia are its little satellite islands. Zanzibar belonged from 1698 to 1862 to the Sultanate Oman. 1.6 million people live there, of which 600.000 in Zanzibar City halfway on the west coast. The new Fumba Town south of it in the point of a downward bulging peninsula will minimally count 20.000 inhabitants. In 2028 the total amount of inhabitants exceeds 1 million. The dream island is known for its spices (nutmeg, cloves, cinnamon, vanilla) and its tourism in a beauty paradise of immaculate white beaches, sapphire blue seas and green-feathery coconut palms. Attraction is further the UNESCO world heritage Stone Town, the historic centre of Zanzibar City with European, Indian, Persian and Arabian influences in the buildings and the narrow street plan. To all arcadian sweetness sticks the slur that Arabian slave traders misused Zanzibar for ages as transfer station of no-longer-human-beings.

Richly varied plan

The island undergoes at this moment a development explosion to adorn the world map circularly. Plenty is focused on the blue economy (shipbuilding, energy production, seaweed culture, freshwater supply), tourism, housing, infrastructure (a new international airport, more than 171 miles of roads, inclusive two flyovers) and the technical industry (*Silicon Zanzibar*, as gate to Africa). Fumba Town seamlessly fits in with it. The urban design of the district is a broad, elongated strip alongside the Indian Ocean. It occupies 3.7 acre, with 1 mile beach (sand, coral reef, mangrove forest). At the inland side a road separates the area from a forest plot. The richly varied plan of longer, shorter and staggering horizontal and vertical streets is cut by a long and a short diagonal lane. About two-thirds the main street is situated, a bent vertical with a square by the sea, further onwards are some higher buildings with Burj Zanzibar as the highest one and to the end rises a simple-mosque. Seen from the sea the housing climbs from low- to mid-rise buildings in mostly four to occasionally three or six storeys. It's an arrangement of cubes, rectangles and longitudinal strips. By the inland road the latter are partly set in loose single or double squares. The buildings are crowned by flat, pent- and (staggering) saddle roofs. The whole plan is princely green-permeated with trees and plants.

From Delft to New York

The design of Leander Moons didn't come out of the blue. Actually his life is one big travel story which prepared him for the preservation of earth. He studied in Delft, Dublin, Wrocław. In the last city he met his current wife who is just like him fond of travelling: Germany, France, Belgium. They lived for a while in Berlin until the Kenyan capital Nairobi was assigned to her, a UN employee, as post. And Leander went along: 'You can practice architecture anywhere. In Berlin I worked for a small bureau, managed the office of the Austrian bureau Baumschlager Eberle Architekten and started up OMT architects. For competitions I traveled in this period already a lot to other countries, and came into contact with wood and sustainable building. In Nairobi I worked three years at one of the bigger architectural bureaus. And thus I arrived on Zanzibar.' Thereupon New York became the new UN post. After three years at an architectural bureau, he founded Leander Moons Inc in 2019.



Interior impressions of the Burj Zanzibar



Lighthouse project

As an experienced globetrotter he can boast projects in Europe, Africa, Asia and North America. From New York he remains involved in Fumba Town and other projects. With project developer CPS Live he first started in Africa with small houses which were executed later on in timber. To keep up the pace on Zanzibar a team of old contacts from Europe formed. For the realization it was also important to seek alliance with African companies. The knowledge of wood species, wood products, wood building, wood regulation and wood education has absolutely to be jazzed up. 'The thing is, to import it all must be avoided. A real own African wood industry is vital. Therefore this constellation of partners to steer the process. At that time the decision was also made to realize lighthouse project Burj Zanzibar, in order to immediately attract everyone's attention and enthusiasm. A vigorous challenge, because you operate with all missing wood knowledge and experience in a grey area. For example you have to show all the drawings to authorities, whereas they don't know anything about wood. Thus, actually you approve your own drawings. That's why we handle for the time being the Eurocode within our chiefly European team of among others engineer knippershelbig from Stuttgart, fire specialist Ignis - Fire Design Consulting from Zurich and wood supplier Binderholz from Fügen.'

Five housing projects

Apart from the Burj Zanzibar the consortium is also involved in five housing projects and a sports centre in Fumba Town: Moyoni, Vizazi, CheiChei, Bustani 5 (22 six-room villas), Bustani 3 (17 four-room villas) and the Fumba Sports Club. Only the first three projects are in wood. Moyoni, 80 two-storey apartments around a collective swimming pool, is built up in timber frame with floors of CLT-concrete. In Vizazi, 11 three-storey buildings with 50 dwellings, glulam columns and beams are united with CLT floors. And the 690 apartments in 23 four-storey buildings of project CheiChei are executed in CLT walls and wood-concrete floors. The arcades in between are of South African eucalyptus. The three wood projects function as learning process for the big Burj Zanzibar.

The cheaper housing units - also in the tower - for the local population will be financed from the more expensive houses and villas. 'Problem in Africa is that common people cannot negotiate a mortgage: 93% of the houses is paid cash. In Fumba Town especially rich Omanis own a second home because of the historic family ties. Burj Zanzibar is started from Oman, too. Besides you have to overcome the bias that wooden houses count as typical poor people dwellings. If you first serve the upper class with wood building, it seeps smoothly downwards. See Apple and Tesla.'

Unique cross-pollination

Deliberately thus Leander and colleagues take in their building projects the local communities and their habits into consideration, in order that they can raise themselves dead straight economically. Traditional-workmanship and industrial-modern wood building methods and local and engineered wood products make up a unique cross-pollination of local and international parties from Germany, Switzerland, Austria, South Africa, Tanzania and the United States. In this way this overall-implementation unites with flexible, spatial floorplans in buildings which last a lifetime and permanently stay adaptable, a horizon which is new for Africa. The core quality lies in circularity, prefabrication, flexibility, affordability and agile thinking. 'That leads to smart design solutions like three in stead of two stairs as escape route. That makes fire regulations for the inner walls superfluous and you easily realize four-storey house-building.'

Matrix of wood products

Concretely the projects move from simple timber frame constructions of local wood to more complex systems of glulam and cross-, dowel- and nail-laminated timber (CLT, DLT, NLT) of European spruce and South African pine (*Pinus pinaster*). Tanzania pine (*Pinus patula*) and Tanzania eucalyptus (*Eucalyptus spec. div.*) already serve for glulam, for CLT they still are in



The construction of Vizazi (11 three-storey buildings, 50 dwellings) started in December 2023



Artist's impression Vizazi

the experiment. Advantage of winterless Africa is that the trees grow faster, disadvantage that the wood strength is less. Owing to the fact that cross-laminated timber is expensive, only the partition walls are made of it, the façades go in timber frame. For the bigger spans glulam is the solution. The floors are of cross-laminated timber with a concrete finishing layer.

It is and remains pioneering. Not only the lesser wood strength has to be overcome, but also that African pine burns in faster than European spruce (0,95 respectively 0,65 mm/min; 0.037 resp. 0.025 inch/min;). African eucalyptus reaches to 0,76 mm/min (0.029 inch/min). 'That's why all projects are part of field studies which eventually should lead to an African standardization. Also design rules tie in with this. As a first aid we have assembled a matrix of wood products, out of which can be drawn for an optimized planning, realization and mounting. And the education must be at level: there are hardly trained employees. We must encourage local authorities and universities to educate people.

Snowball

The snowball is rolling and growing. 'Two containers Tanzania pine are shipped to Germany to make test panels of it. A delegation of the TU Munich is showed round in Tanzania and will look further into the implementation of wood building. Swiss-Australian research takes place into the fire-resistance of Tasmanian and Tanzanian cross-laminated eucalyptus. There is a factory on Zanzibar with three hundred employees who get training while producing. If the demand is picking up substantially, Binderholz maybe opens a factory. Also we as architects have to design more clearly, so everybody snatches it up. Moreover, projects should be self-supporting. Development funds lack continuity: projects are already degenerated after a few years.' In the end Africa has to be self-supporting, in stead of that all is sailed and flew in global warmingly.

Modern-sustainable lifestyle

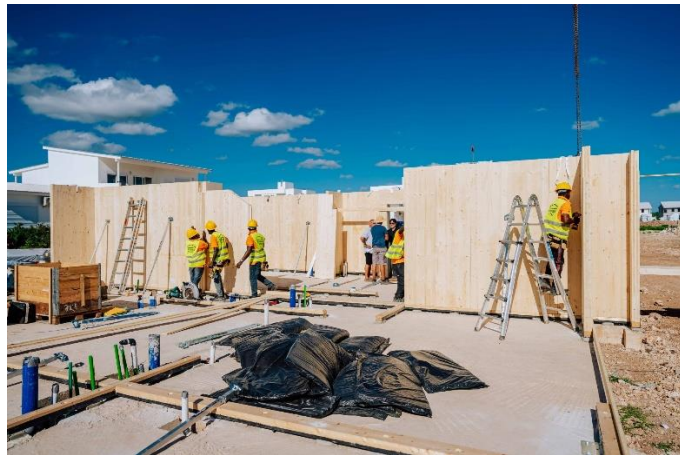
Burj Zanzibar, which rejuvenates upwards, has 266 apartment units in a mix of studios, two- and three-room flats and penthouses. The higher the flat, the groovier the view on ocean and/or town and/or island. The tower is slided into the corner of a five-storey platform and creates in this way a unity. The ground floor with entrance-hall, shops and other facilities is double height. On the platform an enormous garden with terraces and swimming pool is spread out. On the lower storeys is room for shared and private gardens and outdoor spaces; some higher-residents have this luck as well. Green façade surfaces suggest a climbing plants effect. The recesses on the upper storeys strengthen the elegance of the silhouette. The green roof gardens and balconies symbolize the integration of nature and culture or in other words a modern-sustainable lifestyle.

Modular lay-out

All housing units are modular, around a concrete core with stairwell and elevator. Partly due to the danger of termites the first six storeys are in concrete. Because of the modularity the apartments with different sizes and floorplans can be freely divided over the storeys. It also leads to a fast-optimal construction and assembly time and an excellent delivery quality. The underlying concrete grid is 8 x 8 m (26,25 x 26,25 ft), more specific to divide in flexible wooden grids of 4 m (13,1 ft) for façade and apartment. The shell of this green vertical village is modularly approached, too, with only three module elements, which makes a playful three-dimensional façade of several depths and functions possible. The recessing and protruding window frameworks provide varied awnings. The white plastered finishing cooperates in the sun protection. The deepened balconies and loggias strengthen the private character of the houses. They can be arranged as tower garden or merged with the house by closing them with a panorama window.

Beehive

The studios in the tower 26 m² (280 ft²) have a built-in kitchen and bathroom. Those in the platform have a maximum of 42 m² (452 ft²), sometimes with private garden. The two-room



apartments have the size of two studios and are 54 m² (581 ft²) in average: living and dining room, open kitchen. The bedroom gives access to a bathroom and private balcony. At the tower corners they have a bigger living room (up to 60 m²/646 ft²). The three-room apartments (80 m²/861 ft²) have a big living and dining room and kitchen. Precisely here can be played with flexible floor plans, whether or not with finishing panorama windows and extensions. Balconies with flower boxes make the bedrooms intimate. The recessing penthouses on top with two or three rooms (95 or 126 m²/1.022 of 1.356 ft²) possess a phenomenal 360°-view. The major living rooms rejoice the residential feel. The penthouses are equipped with a private garden and optionally a swimming pool. 'My daughter said: "The tower looks like a beehive." So that is included in the description.'

Hans de Groot, Taalkwadratuur/Language Quadrature Amsterdam

Translated by the author



The pioneers from Africa, Europe and America

Facts & Figures

Location:	Fumba Town, Zanzibar
Project development:	CPS Live Ltd Fumba Town, Zanzibar, Tanzania (www.cpstanzania.com)
Concept:	Leander Moons; Leander Moons Inc New York, USA (www.laud.nl)
Design:	OMT architects Berlin, Germany (www.omt-architects.com); Birk Heilmeyer und Frenzel Architekten Stuttgart, Germany (www.bhundf.com)
Contractor:	Volks.House Zanzibar City, Tanzania (http://volks.house)
Engineer:	knippershelbig Stuttgart, Germany (www.knippershelbig.com)
Fire safety:	Ignis - Fire Design Consulting Zurich, Switzerland (www.ignis-consulting.eu); Kasburg Siemon Ingenieure Zurich, Switzerland (www.ksi-brandschutz.ch)
Wood supplier Burj Zanzibar:	Binderholz Fügen, Austria (www.binderholz.com)
Wood supplier Mojoni:	ante-holz Bromskirchen-Somplar, Germany (www.ante-holz.de)
Wood supplier Vizazi:	Binderholz Fügen, Austria (www.binderholz.com); Sao Hill Industries Mafinga, Tanzania (www.saohill.co.tz)
Wood supplier Cheichei:	Mass Timber Technologies Johannesburg, South Africa (www.masstimber.co.za); Sao Hill Industries Mafinga, Tanzania (www.saohill.co.tz)
Completion Moyoni:	2023
Building costs Moyoni:	€ 3,4 million/\$ 3,57 million
Completion Vizazi:	2025
Building costs Vizazi:	€ 6,6 million/\$ 6,93 million
Completion CheiChei:	2026
Building costs CheiChei:	€ 16,1 million/\$ 16,9 million
Completion Burj Zanzibar:	2026
Building costs Burj Zanzibar:	€ 27,5 million/\$ 28,9 million
General information:	www.burjzanzibar.com