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architecture competition

MANGROVE WOOD

The mangrove landscapes characterize the entire basin of Casamance. There are two types of mangroves: the Rhinochera and Aviocenna. The latter, which better resists the salinity, is slowly replacing the first. Since the area is affected by drought, resulting in increased salinity, about 60% of the area of mangroves disappeared, causing serious problems for the population. Mangroves in fact constitute an important resource for energy and for health, but especially for the local economy as they are essential for the craft and for the oyster. Mangroves are an important ecosystem for the survive of the fauna but also an essential element for the consolidation of dunes and riverbanks.

Where to find:

lagoon with clayey substrates

zones subject to high tides

Properties:

flexibility

High workability

Dimensions of the branches:

diameter: 5 cm

length: 2 m

length of the roots: 2m

Traditional applications:

protection from salinity and oyster farming fish



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BAOBAB WOOD

The baobab characterize the inland landscapes where the fruit-growing is less dense for characteristics of the subsoil and for lack of water. In fact, the plant has a good resistance to drought feeding of minerals through massive roots. The area is not particularly rich in Baobab which become more numerous in eastern Senegal, but the trade and processing of the Baobab is practiced to obtain a high-strength wood. Even if the palm wood is mostly used in construction you have to know that the trunks of baobab are very large and have a good wood density, which allow a good application in construction. The baobab is also used to make nutritious fruit juice, not very welcome to local people for cultural reasons, but very widespread abroad. The product is then processed, packaged and sold.

Where to find:

valleys with sandy banks

inland of the Basin

Properties:

High resistance

Low workability

Excellent drought resistance

Low resistance to salinity

Maximum dimensions of trunks:

diameter: 5 m

length:8 m

Traditional Applications:

Construction



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PALM WOOD

Palm trees are a key resource for the local economy. From them it is possible to get palm oil and coconut, products widely used in the kitchen. The palms are found in natural or artificial groupings with a number of units from 10 to 50. They are at risk because, in the absence of rice crops, farmers are dedicated only to these trees, often abusing them and favoring their decay. The same wood production is particularly abused for the use in construction and craft. The dried leaves are used for the roofs of houses, but also for moments of holidays such as floral arrangements as well as for the production of baskets.

Where to find:
Bamadou Forest

Wood Properties:
Good flexibility
High resistance
Resistance to salinity

Maximum size:
1 m in diameter
18 meters high

Traditional applications:
oil production
Construction Covers (palm leaves)
Holidays and crafts (palm leaves)



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LATERITE

Continental terminal On the surface there is a lateritic layer alternated with sandbanks. The laterite is therefore the most important element of the rock, but its poor mechanical capacity does not make it perfectly suited to buildings as inert, for this reason are used the shells of Casamance. Similarly, being a soft rock, it is not suited to working for the craft. Laterite is used as a substrate for construction and for flooring (both domestic flooring and road surface). Is also used as a decorative element in rough blocks. There are several quarries distributed in the territory, open and used by the population and by the authorities. These areas (which do not exceed 1.5 meters of excavation and have a surface area of 500 square meters) are a point of degradation of the landscape but constitute, at the same time, an important resource for the population. Here they lack machinery and equipment so the resource retrieval is limited to the possibility of manual processing.

Where to find:

Bamadou Forest

Inland of the basin

quarry of Tabandian

Properties:

Crumbly

Low workability

Low resistance

Applications:

Construction

Traditional Road Paving



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RIVER SAND

The soil layer between the low funds (the clay valley) and the Continental terminal (the Balmadou forest) consists mainly of sandy layers. This area is affected by desertification, and by phenomena such as erosion of the fields, the banks of the valley and the streets of rainwater rein in villages and roads. The area is rich in sand reserves, the nature of which changes according to altitude in the basin. The most widely used, because of its mechanical properties, is the river sand, which in the valley alternates with clay benches. Some important quarries are located in both sides of the Tanaff valley, but lack machinery and equipment, so the resource retrieval is limited only to the possibility of manual processing.

Where to find:

quarries of Boukarkounda

quarries of Bissary

quarries of Sambacaounda

Properties:

good mechanical properties of the grains

Typical applications:

Construction

Road Paving



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PURE CLAY

The Tanaf valley is formed by a depression in the area, made up of clay-loam benches alternated with sandbanks up to high depths. This area of almost 3,500 hectares is now invaded by the tides and includes the shallow water table. In units from 0 m a.s.l.. up to 5 m a.s.l. the clay is mixed with grains of sand and laterite. These sedimentary areas, which in total cover an area of 10,000 hectares, is intended for the cultivation of rice and cereals. But today, because of the "saline intrusion" phenomenon, these camps are destroyed by salt. The clay, often used in various construction and craft applications, is still a material to discover in all its properties and applications. In the project "A Bridge for Life" the clay has a waterproofing and filtering role. The containment tanks for oyster farming and fish farming, as well as small embankments for rice fields, are made of clay. This is the field in which this material finds its greatest use.

Where to find:

Slum retrieval of the valley (depth 1m)

Properties:

Plasticity

Water resistance

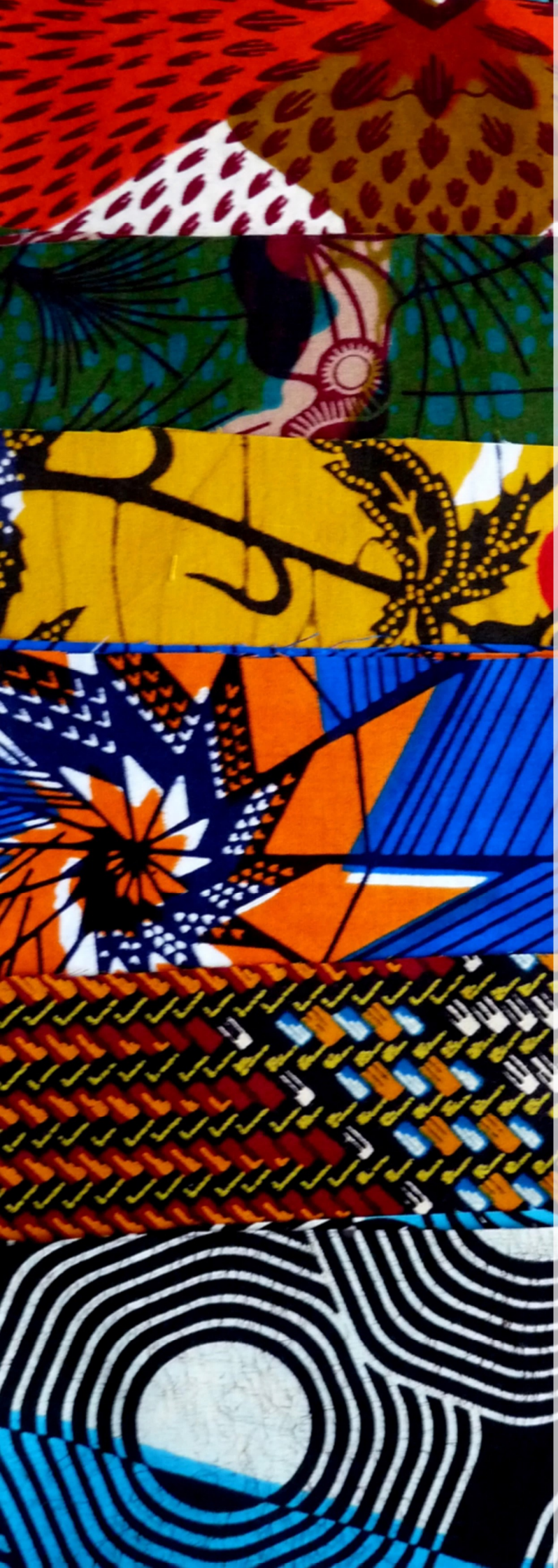
High acidity

Traditional Applications:

Construction

Oyster and fish farming

Agriculture



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FABRICS

There are many young people who are dedicated to the production of clothing from local materials or imported ones, and there are many workers who passed on their culture and traditions. The population has a dress for each occurrence, selected according to their tastes and those of the tailor, who became a real fashion designer. The fabrics are, however, also used in homes as ceilings and curtains for medium to large surfaces. Some markets have a simple curtain that creates shadows, tensioned by cables anchored to the perimeter pillars. Fabrics are a creative and functional resource for the design and especially for the principles of recognisability and identity required.

Where to find:

Market

Local roducers

Properties:

Shortly flexible

Large surfaces

Bright colors

Traditional Applications:

Tailoring Curtains

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IRON SHEETS

The iron sheets are always in the image of the architecture of sub-Saharan and are widely used due to its flexibility, possibility of re-use and low cost. The material is in fact used for various load-bearing functions, opaque or mobile. The plates are assembled with each other often creating suggestive voluminous joints as a result of strong winds. The material is subject to corrosion and possible cuts derived from its cutting edge can be a danger to the safety of the inhabitants. It also heats up quickly, and play a pejorative role towards environmental comfort: the houses become really hot, in favor of the proliferation of diseases.

Where to find:

Local market producers

Properties:

Flexibility

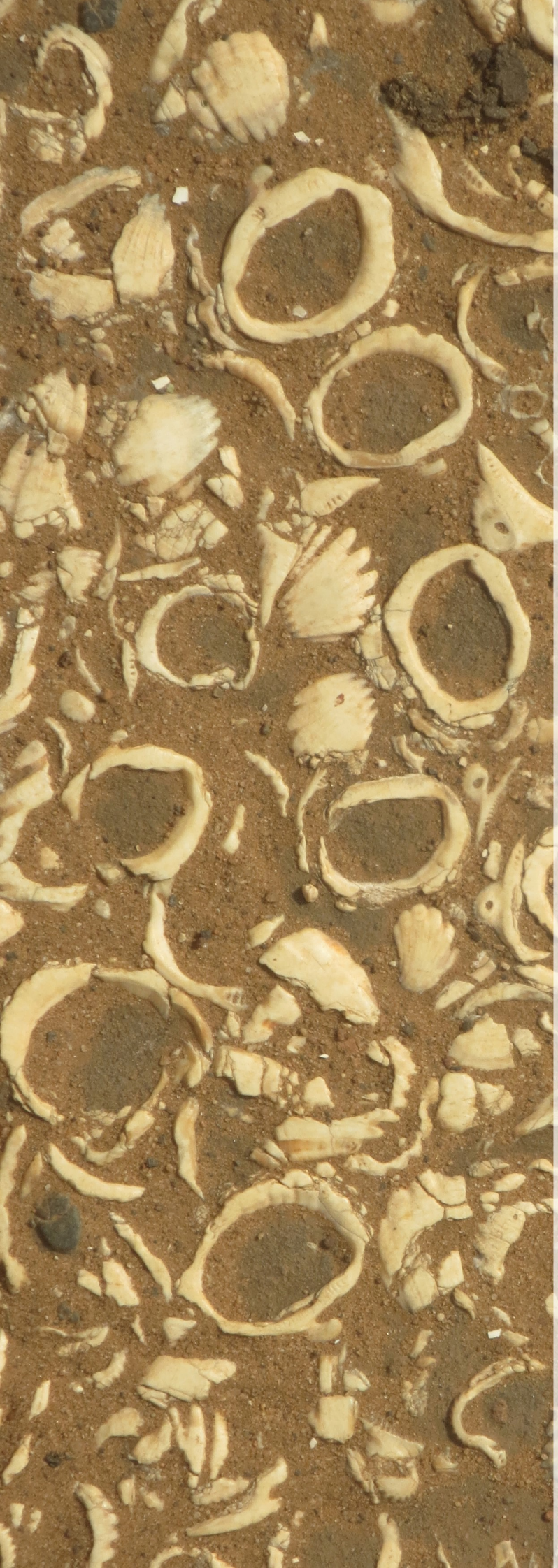
Lightness

Traditional Applications:

Temporary structures

Fixtures

Fences Covers



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SHELLS OF CASAMANCE

The breeding and fishing of oysters is a most common practice in the Casamance, because it provides an essential protein food item but also because the shell is re-used as aggregate in structural concrete and not, as well as decoration and crafts. It 's easy to find entire buildings with the shells as inert. There are also domestic or road surfaces with this suggestive and functional texture. Their use as inert material is due to their thickness and to their consistency. The shell is in fact much more resistant than laterite. However it, being full of calcium, promotes carbonation and threatens the durability of structures. This type of concrete has a strong local identity and binds strongly to the theme of reuse and savings spread in cultures of the South-Sahara. Oyster farming is indeed very popular because it can be an important source of income and power, in addition, the proliferation of mangroves and bivalve promotes growth of flora and fauna of the river, important in the development of various related activities, such as fishing.

Where to find:

slums of oyster farming valley

Properties:

Very resistant

Maximum size:

5cm diameter

Traditional Applications:

Construction

Crafts

Decorations



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WASTE MATERIALS

Often, close to the villages or urban centers, there are open dumps, with materials no longer used by the population, such as: tires, plastics, woods, rolling etc. These materials are often burned constituting, as well as the risk of fire, degradation and pollution for the inhabitants. In these abandoned places you can find items to be recycled for various functions. It often happens that the creativity of the Dweller give a new role to a tire which becomes a seat, or to the bottles that become points of light inside a ground septum. In order to preserve the safety of the inhabitants and to respect the fundamental principle of economy, these materials can be re giving it a functional value and / or aesthetic.

Where to find:

dumps near the villages

List:

Fabrics

Car covers

Wood

Plastic Bottles

Animal Bone

Animal Skin