VERNACULAR ARCHITECTURE

OF PAPUA NEW GUINEA

Kiriwina, Trobriand Islands
Photo: Fabian Prideaux

Humanitarian Benchmark Consulting

IOM • OIM

USAID FROM THE AMERICAN PEOPLE

PAPUA NEW GUINEA Climate Change and Development Authority

PAPUA NEW GUINEA NATIONAL DISASTER CENTRE

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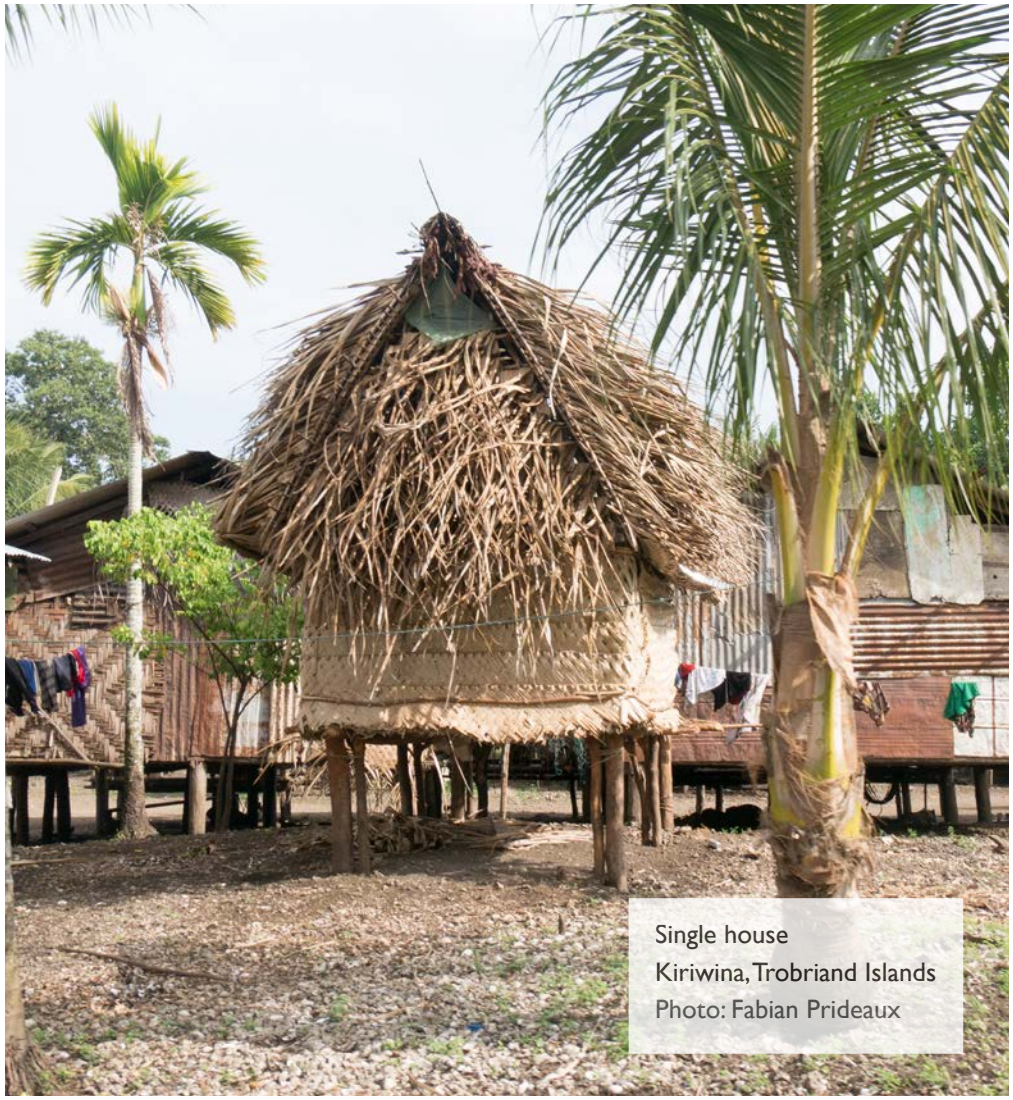
INTRODUCTION / BACKGROUND

Papua New Guinea has a rich architectural history and a diverse range of building styles. Architecture is closely linked with tradition, culture and religion, and varies significantly between regions - from the ***Haus Tambaran*** in the Sepik to the ***Yam Houses*** of the Trobriand Islands. While many communities still use the techniques and styles passed down from their ancestors, the introduction of new materials and building styles is slowly changing the architectural landscape.

This paper gives a brief overview of vernacular architecture in Papua New and explores a range of building typologies, including: domestic housing, ceremonial structures, religious and cultural buildings. It explores not only the traditional vernacular, but also how this is changing in response to external influences and modernisation.



Single house
Kiriwina, Trobriand Islands
Photo: Fabian Prideaux

INTRODUCTION / BACKGROUND

Because of the cultural differences and various architectural styles across PNG, it is difficult to provide an overview that accurately encompasses all geographical regions. Instead, this paper only details a small portion of styles found across PNG in the regions indicated on this map. Research presented in this paper is based on field assessments, interviews and a literature review of architecture in Papua New Guinea.

CEREMONIAL AND CULTURAL BUILDINGS

Ceremonial, spiritual and cultural buildings are considered to be of great importance within Papua New Guinea society. Construction techniques used in these structures are often more complex than those used in domestic housing. Materials are carefully selected based on their symbolism, structural properties or cultural significance[1].

In the Trobriand Islands, ***Yam houses*** contain highly symbolic architectural elements and adornments. The fine level of detail and craftsmanship indicate the cultural importance of such structures. Decorative features, construction quality, permanence and prominence of a ***Yam House*** are all indicators of a man's wealth and hierarchy. As the name suggests, these structures are used to store yams (a common root vegetable). However, only the most impressive yams of the harvest will be put on display in a Yam House. Food yams are stored separately in domestic storage areas[2].

Yam House
Trobriand Islands
Photo: Fabian Prideaux

1 Rahim B. Milani, Traditional Architecture of Western Highlands Papua New Guinea (Lae : The Architectural Heritage Centre, Papua New Guinea University of Technology, 1998., 1998), Bibliographies

2 Julia A. Hendon, "Having and Holding: Storage, Memory, Knowledge, and Social Relations," American Anthropologist 102, no. 1 (2000).

Yam House detail
Port Moresby
Photo: Fabian Prideaux

Yam House
Port Moresby
Photo: Fabian Prideaux

The ***Haus Tambaran*** (or 'spirit house') from the Sepik province is typically characterised by a large trussed entrance. Reserved for initiated men only, it is often windowless – to ensure privacy during ceremonial activities. These buildings serve as cultural / spiritual meeting areas or ceremonial spaces. The ***Haus Tambaran*** architectural style has been adopted as a national emblem – appearing in the entrance of Parliament House in Port Moresby (albeit controversially)[1].

Parliament House, Port Moresby -As shown on a stamp design

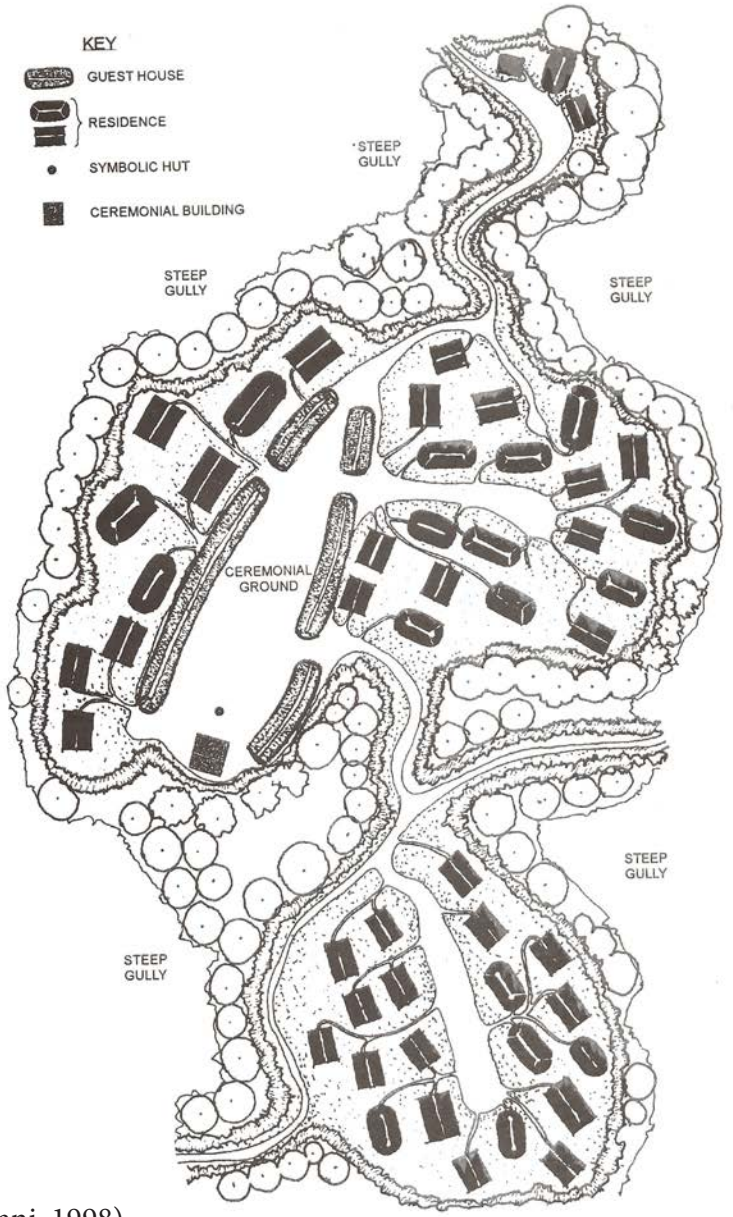
Haus Tambaran
East Sepik
Photo: Fabian Prideaux

1 Pamela C. Rosi, "Papua New Guinea's New Parliament House: A Contested National Symbol," TCP [The Contemporary Pacific] 3, no. 2 (1991).

Ceremonies such as bride-price formalities or pig-killing ceremonies play an important role in community life. The village plan (right) shows Maginpol Village, West Highlands. It depicts a typical village layout, positioned around the ceremonial space in the centre of the village. This area is reserved for temporary or semi-permanent ceremonial buildings that are erected for major ceremonies held in the village. Because of their temporary nature, structures are generally built from materials that allow rapid construction - such as bamboo, bush materials, sago roofing etc. The grandeur and size of the structure will often be an indication of the importance of the event or ceremony. Temporary shade structures or guest-houses will be erected nearby the ceremony site as required[1].

1 Rahim B. Milani, Traditional Architecture of Western Highlands Papua New Guinea (Lae : The Architectural Heritage Centre, Papua New

Bride-price ceremony
Kebara, Oro
Photo: Fabian Prideaux



(Milani, 1998)

Figure 4 : Site Plan Maginpol Village, showing ceremonial building, symbolic hut and guest houses at time of pig-killing ceremony (not to scale)

CHURCHES

Christianity was introduced into Papua New Guinea in the late 19th Century, and has been widely adopted across the majority of the country. At the time of the 2011 census, 96% of the population identified as a member of a Christian church[1]. Christianity is often mixed with local customs, traditions and spiritual beliefs.

The Haus Lotu (church) is a highly valued building amongst the community and takes on a wide variety of shapes and forms. 'Modern' materials such as corrugated iron, concrete and milled timber are often combined with traditional materials to form a hybrid style of construction. Often communities lack the tools and experience to construct with these newer, introduced materials. As a consequence buildings can lack the appropriate detailing and bracing that appears in other cultural buildings of significance.

Community church
Horau, Oro
Photo: Fabian Prideaux

Community church
Madang Province
Photo: Fabian Prideaux

1 NSO, "Papua New Guinea 2011 National Report," (2011).

HOUSES

Social customs and beliefs related to housing vary dramatically across the country. It is common practice that Men and Women have separate buildings for sleeping, although these traditions are slowly being replaced by the concept of a 'western' nuclear family household[1]. In mixed gender households, buildings generally accommodate a single family, and vary in size based on the number of family members and housing style of the area. Commonly kitchens would have been located within the main house, however this practice is becoming less common, and nowadays most houses have a separated kitchen space. A stand-alone Haus Win building is used as a communal living area.

The Haus Win is an open walled, communal area where you can sit and 'catch the wind' during the daytime. This is where the majority of the indoor living happens. A Haus Win will usually consist of a raised platform and a roof for shade. This space often replaces the functionally of the standard living room, allowing houses to be much more private and enclosed - reserved for sleeping only.

Men's house
Pongani, Oro
Photo: Fabian Prideaux

Haus Win
Horau, Oro
Photo: Fabian Prideaux

1 Rahim B. Milani, Traditional Architecture of Western Highlands Papua New Guinea (Lae : The Architectural Heritage Centre, Papua New Guinea University of Technology, 1998., 1998), Bibliographies

Security and privacy have also played a part in shaping the architectural landscape - particularly in areas of tribal conflict. Houses are commonly built without windows - this gives additional protection against unwanted visitors / warring tribes, improves privacy, and provides protection from the wind and rain. Other housing adaptations include: tall stilted houses with sealed entrances and tight corridors that only allow a single person to enter at a time[1]. Even in areas that tribal conflict is now minimal, many of these architectural relics still remain.

In some areas, such as the Trobriand Islands, houses are hierarchical and are a representation of your standing within the community. The Chief always has the largest and most well adorned building, with specific decorations that indicate his rank amongst other chiefs. He will also have control over the size, shape and style of all other houses within the community. This ultimately results in smaller houses that are used primarily for sleeping.

Elders house
Mangian, Morobe
Photo: Fabian Prideaux

Family house
Kiriwina, Trobriand Islands
Photo: Fabian Prideaux

1 Naomi M. McPherson, "Tracing Tradition: Twenty-Five Years of Vernacular Architecture in Bariai, West New Britain, Papua New Guinea," Pacific Arts 6 (2007).

Climate and weather have also changed the way houses are built. There is an understanding that houses are semi-permanent, and not built to fully withstand severe weather. Instead, buildings will often have a sequence of sacrificial elements that reduce the impact of storm damage. Roofs are easily blown away in strong winds, however, the primary structure will remain intact, and roofs can be replaced without the need of reconstructing the entire house. If winds are strong enough, walls (often lightweight weaving) will blow away without damaging the primary structure. Posts are generally the strongest, and most highly prized part of a building and are generally made from high-quality termite resistant hard wood, with deep footings that stiffen the structure. In contrast, buildings with cultural and religious significance (such as Yam Houses) are often much sturdier in construction, and have a definite permanence to them. These are built to withstand natural hazards with strong jointing techniques and complex architectural articulation.

Garden houses are used as temporary structures for sleeping or storage during times of harvest. They also function as a place of sanctuary from strong winds, or when primary houses have been damaged. These structures are usually constructed from bush materials with sago palm roofing, are often have no walling system, with a tent like v-shaped roof connecting directly to the ground.

Roof maintenance after storm damage
Kebara, Oro
Photo: Fabian Prideaux

Garden House
Trobriand Islands
Photo: Fabian Prideaux

KITCHENS

Food production is predominately based on subsistence agriculture. Staple food crops include varieties of sweet potato, yam, taro, banana and sago[1]. An open fire or buried / covered oven are common cooking methods. The kitchen usually services a single family, and is either a detached structure, an outdoor space or a covered area attached to / within the main house. Smoke from open fires is commonly used to smoke treat the sago roofing above the cooking area.

1 R.M. Bourke, M.G. Allen, and J.G. Salisbury, "Food Security for Papua New Guinea," in Proceedings of the Papua New Guinea Food and Nutrition 2000 Conference, PNG University of Technology, Lae (2000).

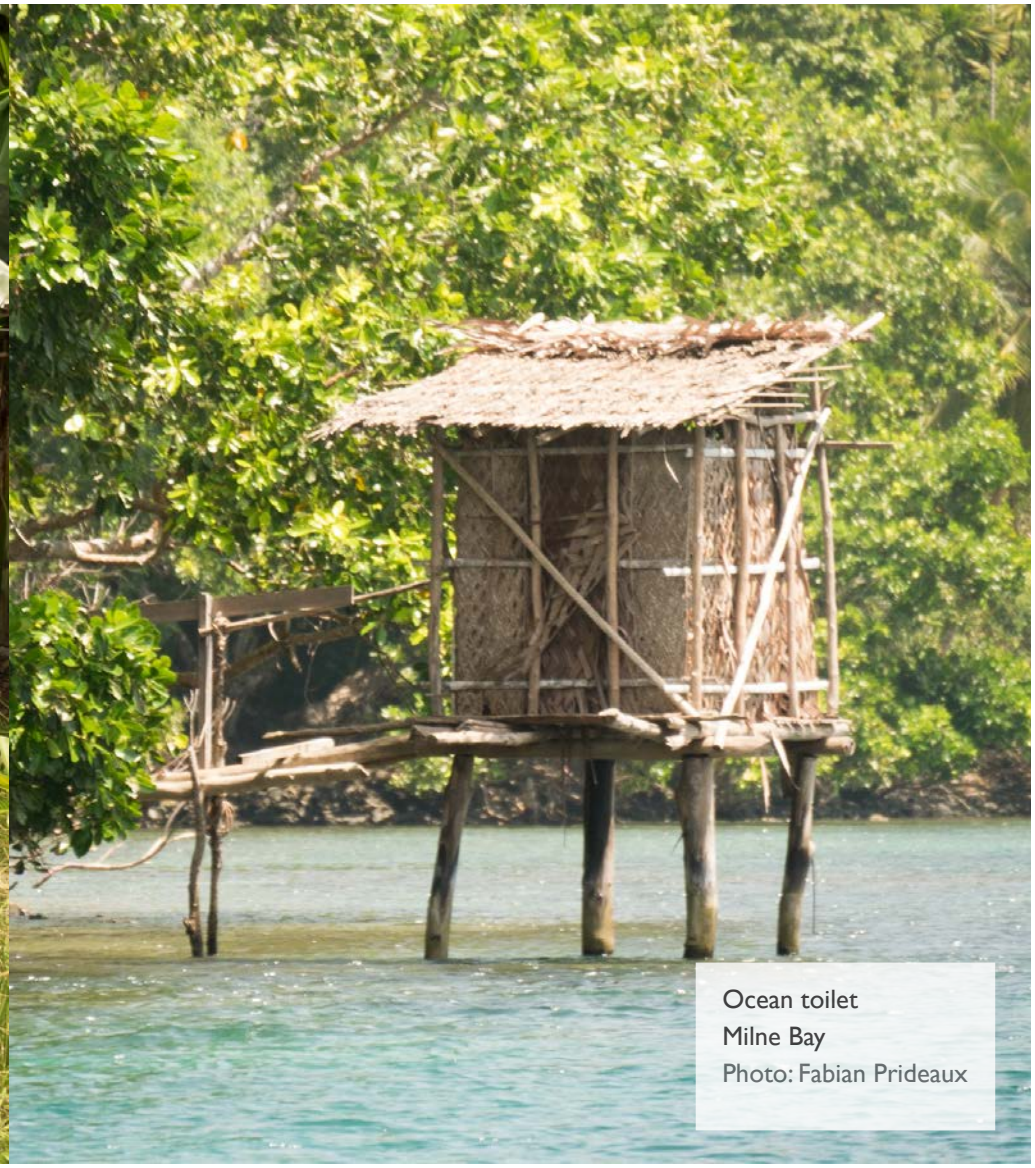
Kitchen
Konia Island
Photo: Fabian Prideaux

Smoke treated kunai grass roof
Photo: Fabian Prideaux

House with outdoor kitchen
Kawa Island
Photo: Fabian Prideaux

OTHER STRUCTURES

Chicken house
Kebara, Oro
Photo: Fabian Prideaux



Ocean toilet
Milne Bay
Photo: Fabian Prideaux

NEW MATERIALS AND CONSTRUCTION SYSTEMS

Rural housing in Papua New Guinea is currently undergoing a process of change. Increasingly, people are looking towards 'permanent' houses with electricity, piped water and 'modern materials'. These materials are often viewed as a symbol of wealth or status in a community[1].

Vernacular housing has adapted in response to specific environmental challenges and cultural norms. When new materials or construction techniques are introduced into this system, a range of cultural and technical challenges emerge – many of which are hard to predict. Of particular concern is the introduction of corrugated iron roofing without adequate consideration of tie down and fastening techniques - increasing the risk of harm to individuals in areas exposed to severe storms and cyclones.

With challenges, also come opportunities, and the lack of traditional resources in some areas has promoted new, creative building techniques, such as the use of palm oil to weave walling panels in Kebara, Oro.

CGI house
Konia Island
Photo: Fabian Prideaux

Oil-palm weaving
Kebara, Oro
Photo: Fabian Prideaux

1 Naomi M. McPherson, "Tracing Tradition: Twenty-Five Years of Vernacular Architecture in Bariai, West New Britain, Papua New Guinea," Pacific Arts 6 (2007).

COMMON MATERIALS - ROOFING

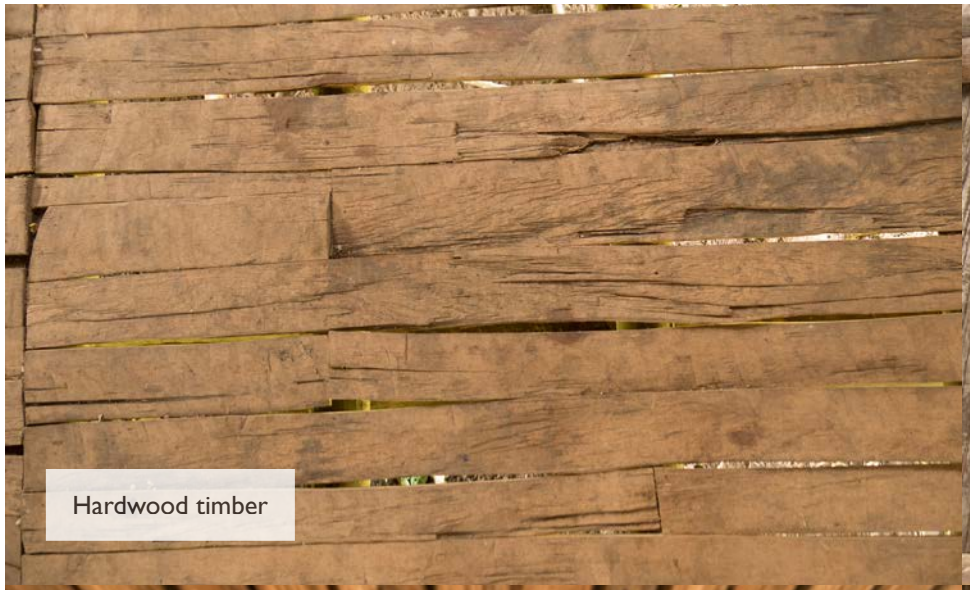
Sago palm roof strips

Coconut leaf

Kunai grass roof

Sago palm roof
Combination of old roofing and maintenance work showing newly laid sago

COMMON MATERIALS - FLOORING



Hardwood timber

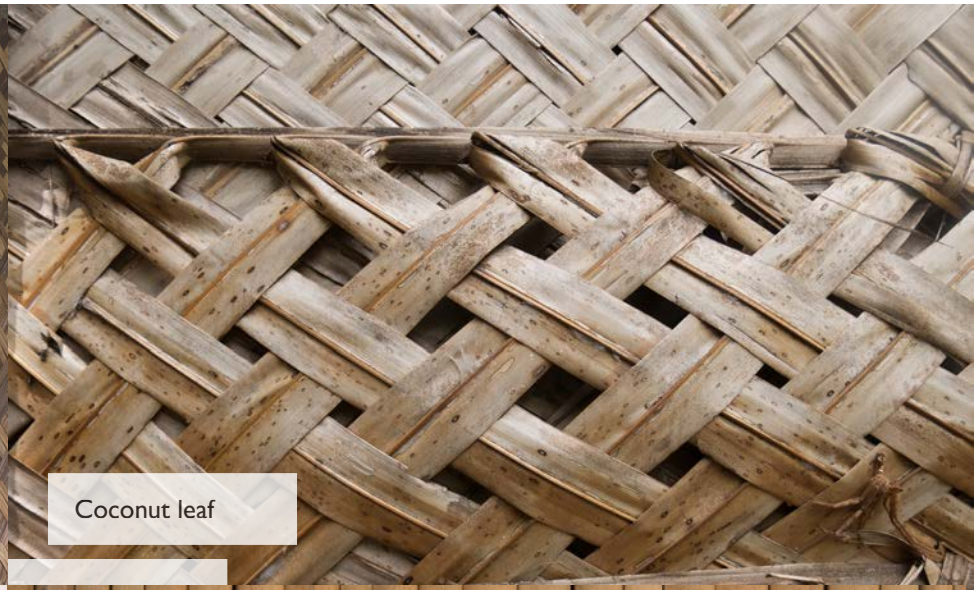
Betelnut palm

Sago palm flooring, recently laid

Black palm

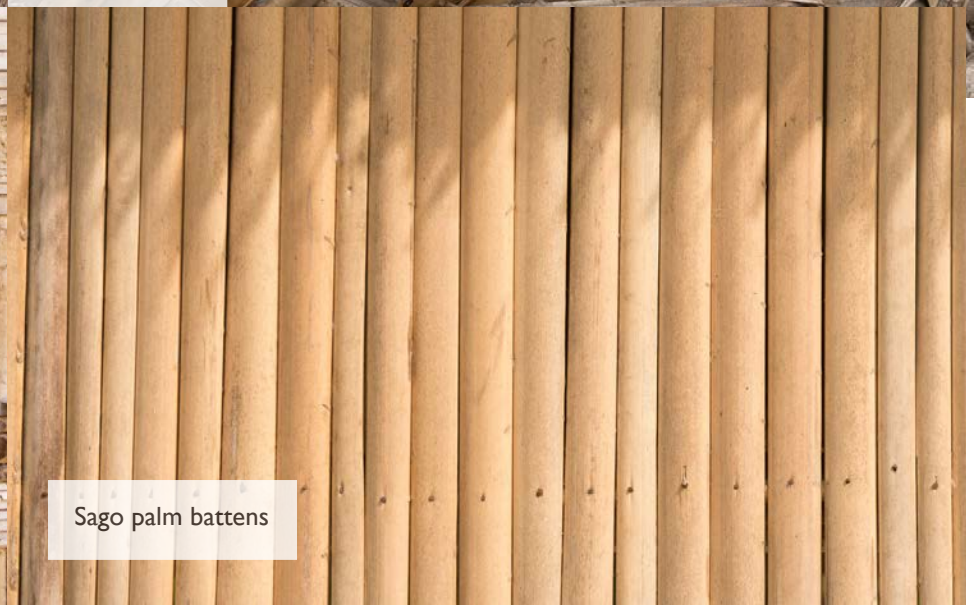
COMMON MATERIALS - WALLING

Woven sago palm



Coconut leaf

Woven bamboo



Sago palm battens

COMMON MATERIALS - STRUCTURE

Termite resistant hardwood post (kwila or similar), one-meter into the ground.
Standard hardwood 'bush poles' for floor joists, bearers and roofing

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