

RECONSTRUCTION STRUCTURE CLASSIFICATION

TO: WISDOM'S-HOUSE TEAM USA

FROM: WISDOM'S-HOUSE TEAM MALAWI.

Reconstruction Structure Classification

INTRODUCTION

Ancient days of Solomon did not depend on his opinions in all the wisdom he received from the Lord (Prov3:5-6). Though he was respected by his people, Solomon knew that

Except the Lord build the house, they labor in vain that build it; Except the Lord keep the city, the watchman wakes but in vain Psalm 127:1.

It takes the architectural direction of the Lord for a house to stand all seasons. Each house is measured by its foundation on how it can last. Our spiritual house is strong because of the foundation Jesus Christ our Lord. Anyone building should build on that foundation. Wisdom's-house.com desires to follow the pattern of the Lord in rebuilding of the homes of the victims of Cyclone Freddy in Phalombe Malawi.

Here are some tips of the things to consider on the reconstruction classes of foundations that can fit the situation and the finances. Several classes of houses are defined:

- 1) Unreinforced fired bricks masonry house low quality
- 2) unreinforced fired bricks masonry house intermediate quality
- 3) Unreinforced fired brick masonry house high quality

RECONSTRUCTION STRUCTURE CLASSIFICATION

There many types of structures that are made locally. Our research targeted the types of houses that can be made to suit environmental changes in the Malawi region.

Matthew 7:24-27 clearly indicates that choosing the best foundation that will help the structure to stand during the changes of seasons and times.

According to the risk assessment document approved in 2019, we find common houses in the Malawi region. It is estimated that 70% of the structures are made of local materials to make them affordable for local residents. Not many of the homes surveyed have strong structures. This fact increases the risk of destruction during any disaster like floods, earthquakes, storms and any other natural disasters.

We picked three types of house structures. We share the plan of wisdoms-house.com to realize the goals described in Matthew 7:24-27.

Fired bricks masonry house low-quality.

Low quality are houses made from fired bricks built with the clay mud having no brick force wire. Most foundations of this home type are 50 cm deep. The bricks are laid directly on top of the soil. No cement is used for the foundation. Some builders put down polythene before raising the walls. These homes have wooden door frames and wooden widow frames. Many of them have thatched grass or reeds for roofing based on locations. Builders put polythene in between the layers of the thatched grasses to prevent from leaking during rainy season. Below is the picture of this type of house.



Fired bricks masonry house intermediate-quality.

They are also made from fired bricks and there are a few things different than the low-quality masonry house. These homes are constructed with cement. The foundation is plastered with a mixture of sand and cement. The roof is made with a timber truss. Light-weight materials are used on the roof using either thatched reeds or iron sheets. Below is a picture of the sample house.



picture taken from Malawi nation web page to fit the real description of the house

Fired bricks masonry house high-quality.

The are called the best houses made from the fired bricks. They are the best option. Fired bricks are made with strength and durability. From its foundation, fired bricks are set on footing slab that helps the stability of the whole structure. The image below shows a footing for a home-made with fired bricks.

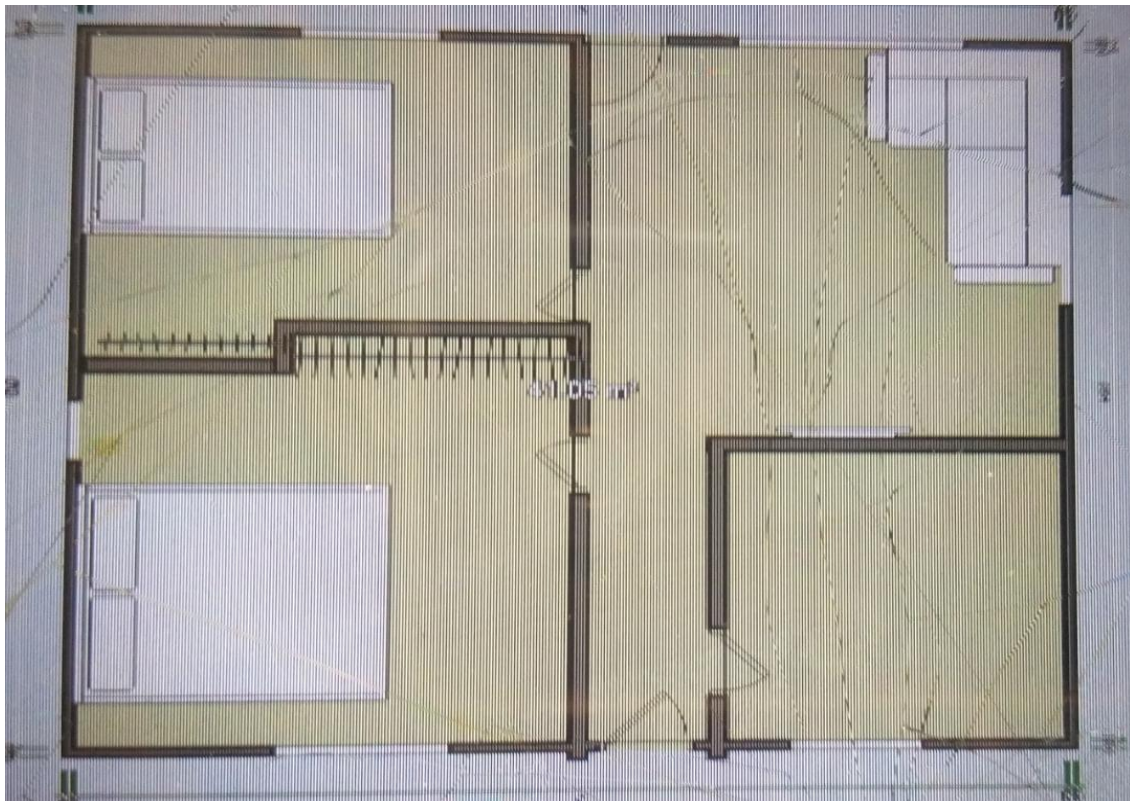


The foundation is raised from the slab and is made with cement. The foundation is also made with brick force wire, steel doors and windows. The roof has a timber truss covered with the iron sheets. The plastered walls also have a concrete ring beam. In short, this house is made with modern items that are expensive for the average Malawi citizen to afford. These type homes are generally not constructed in the rural areas.



A high-quality finished house at a village level

Wisdoms-house.com aspires to rebuild homes of those that were affected by Cyclone Freddy. The proposed designs describe the most cost-effective houses that can be built with the given resources and manpower we have available. If materials can be acquired by donors, we can upgrade these rebuilt homes to make the best plans below a reality.






A house plan of dimensions 7 meters by 6 meters will require the following items in the table below.

Items for foundation

Quantity	Description	Unit price	Total price
6 bags	Cement	\$15	\$90
1 tone	quarry	\$30	\$30
10 kg	Brick force wire	\$8	\$80
1 roll	polythene	\$32	\$32
1	Contingency	\$15	\$15
	Total		\$247

From: [A building classification scheme of housing stock in Malawi for earthquake risk assessment](#)

Below is the table giving a picture of the proposed three types of houses. The are samples from the PDF found on the link above. Click the link to see the full spectrum of variations in houses in Malawi.

Material	Illustration of the building/house typologies observed in Malawi	Descriptions	PAGER class	EMS-98 class	EMS-98 rating
Stone/Block Masonry	<p>Unreinforced fired brick masonry house—low quality</p> 	<p>Vertical load bearing single or double skin walls made of clay bricks (various sizes) with mud mortar. Very rare presence of timber lintels above the openings</p> <p>Roof timber truss with thatch or corrugated light metal sheet</p> <p>Plan shape rectangular</p> <p>Rise low (1 story)</p> <p>Use dwelling houses</p> <p>Location rural and less frequent in urban areas</p>	UFB1	–	A*
	<p>Unreinforced fired brick masonry house—intermediate quality,</p> 	<p>Vertical load bearing single and double-skin walls made of clay bricks (various sizes) with cement mortar. Rare presence of timber or concrete lintels above the openings</p> <p>Roof timber truss with thatch or corrugated light metal sheet or tiles</p> <p>Plan shape rectangular</p> <p>Rise low (1 story)</p> <p>Use dwelling houses, business and professional services</p> <p>Location urban and rural area</p>	UFB* Defined by the authors	–	B*
	<p>Unreinforced fired brick masonry house—high quality (Considered to be of higher quality, though bricks and joints may have low strength)</p> 	<p>Vertical load bearing single- or double-skin walls made of unreinforced masonry bricks (various sizes) with cement mortar. Common presence of concrete or timber lintels on the top of the openings</p> <p>Roof timber truss with thatch or corrugated light metal sheet or tiles</p> <p>Plan shape rectangular</p> <p>Rise low (1 story)</p> <p>Use dwelling houses, institutional, business and professional services</p> <p>Location mainly in urban area</p>	UFB4	M5	C

Intermediate-quality houses look better with the timber trusses, not poles for the roof structure. The window door frames which are made from steel. To save in costs, many

people will substitute timber trusses with wooden poles and steel door frames with wooden ones.

Wisdoms-house.com prayerfully offers to build the third type of house structures which are **unreinforced fired brick masonry house of high-quality**. It is our prayer to have the best for the people in Malawi.

We know that there are more durable and beautiful houses that can be built in Malawi, but we may not have the financial means to build them at this time. We discussed the three types of houses that can be built based on the resources that are available.