

esponsible forest management is one of UTGA'S core beliefs. We strive to ensure that our forests are managed responsibly, in a socially, environmentally and economically sound manner. After nearly 7 years of hard work, 7 years of training, internal assessments, self audits & analyses, knowledge & information sharing, documentation and detailed preparation, the UTGA To page 2

Burga UTGA is an Association that brings together all private commercial tree growers in Uganda br collective action

1

UTGA ELECTS NEW BOARD

2019 is an election year for UTGA ar this years Annual General Meeting (AGA March, a new Board was elected.

ICGU training

Owing to the fact that UTGA is a member the Institute of Corporate Governance, UTGA organised a training retreat for its board, at which they were trained and instructed on how to conduct board business. They were taken through a numer of training modules that included: board effectiveness, dynamics & group think, policy communication and strategy formulation.



UTGA Group scheme now FSC certified

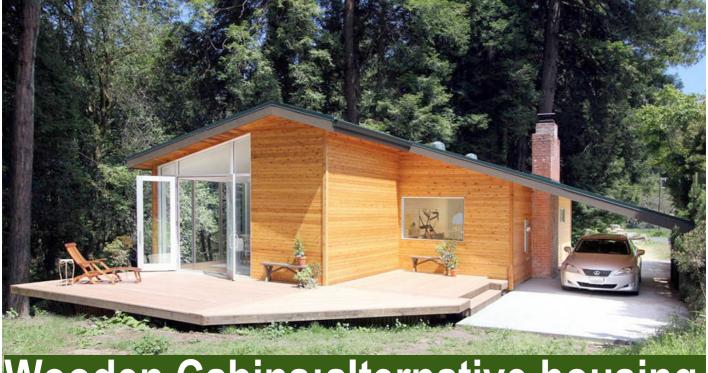
From page 1

IITGA

Group Scheme now has a mark of essence. It has got an FSC Certificate, a lable of good forestry practice.

UTGA also worked tirelessly with the Center for Modernization of Operations (CMO) to prepare six pioneer Forest Management Units (FMUs) for FSC certification.

Six FMUs applied to be a part of the pilot Scheme yet after rigorous internal assessments, only three were ready. It was these 3 that became pioneers in this journey and were assessed in December 2018. This is the first certificate using Uganda National Forest Stewardship Standard (NFSS). Its also the first certified group scheme for plantations in East Africa. UTGA will now embark on an extension of scope to include other FMUs within Mubende and other clusters.



Wooden Cabins:alternative housing

good number of people and organisations have established forest plantations and each day we continue to see alot of wood that is being wasted yet it could be used to make many wood products. Wood is used in homes in Uganda but not to a level that is optimal, for example as we see in the scandinavian countries. Among the alternatives for regular concrete constructions, wooden cabins occupy a top spot. A wooden cabin is the most preferred holiday home for people who wish to spend their vacation in a peaceful environment. It represents class and grace and has a beautiful structure that is aesthetically pleasing plus the strength to endure severe weather.

There are several reasons why people build wooden cabins. These range from health benefits to simply spending some quality time with the family. If you are planning to build a holiday home, or want to explore an alternative to regular homes, a wooden cabin is the perfect option for you. A few reasons why building a wooden cabin is preferred by people are listed here.

Natural

Wooden cabins are the perfect homes for those who prefer a natural way of life. The primary element wood, which is used to construct these cabins is naturally available and offers several benefits.

Wood is a good natural insulator, which means that the interiors of the house remain relatively warm even during the wet, rainy season and also in colder areas of Uganda e.g. Kabale. Wood is also highly efficient in absorbing noise which is the reason why it is used for building walls of auditoriums and concert halls. Wooden cabins offer similar benefits by absorbing noise resulting in a quiet and peaceful ambience.

Health

Due to their natural benefits, wooden cabins offer several health benefits.

Good health is an important reason why people build wooden cabins. Wooden cabins are excellent at improving physical health of the people living in them. They also offer psychological benefits to the persons opting to stay in these cabins. Since they have a natural living environment, the overall health of a person improves.

Also, due to clean and fresh air, various pulmonary illnesses are also avoided. Other health issues such as hypertension are also significantly improved. Since the wooden cabins have a peaceful ambience, it improves the psychological wellbeing of its dwellers. Wooden homes are also considered the best place to live when someone is recovering from a chronic illness.

Energy efficiency

n and Wooden cabins are highly efficient when it To page 5

Wooden Cabins make good houses

comes to energy consumption. These log cabins require less energy during the construction phase as well as throughout their lifetimes. It is easier to assemble the logs of wood to build a wooden cabin thereby reducing energy consumption. Due to their insulating properties, the energy consumption for drying them also reduces.

Unlike other homes where the temperature in the interior rise or fall in proportion with the change in the external temperature, wooden cabins have a more stable internal



A beautiful log cabin with a glistening exterior

A canteen assembled by Busoga Forestry Company (BFC) at their Jinja office

temperature. These cabins are much warmer in wet season and cooler in dry season.

Economical

Wooden cabins require lower construction and maintenance costs. It is easier to carry the construction material to the construction site hence low transportation costs. These cabins have a longer lifespan which makes them economical yet those made from good quality timber and kept in a well maintained condition face lesser wear and tear.

Wood reduces the cost of repair and maintenance and gives the cabin a longer life. These cabins are affordable, fall within a minimal budget, are low cost, with long life. They offer high value for money.

Viable investment

Wooden cabins have existed for centuries but recently there is growing interest in them. Living in large cities is taking a toll on the health of people who have now started showing interest in wooden cabins as their weekend or vacation homes. These cabins

4

allow them to recover both physically and mentally.

Therefore wooden cabins are a viable investment option. They offer a comfortable and relaxing living environment, appreciate in value and also fetch good rental income.

From a purely commercial and business perspective, wooden cabins offer a high return on investment. The financial value of wooden cabins appreciates considerably and quickly.

Environment friendly

Wooden homes are ecologically and environmentally friendly. Since they consume less energy during the building phase and in their entire lifetime, their impact on the environment is significantly low. A wooden cabin is the best option for the people who are concerned about the environment and want to reduce their carbon footprints. Due to its ecological and environmental benefits, a wooden cabin is the right place for those who love nature.

Artistic and Aesthetic

Artistic and aesthetic homes undoubtedly the best are place to live. Wooden cabins have artistic architecture, other aesthetic elements and are highly customisable. People living in them can build them according to their artistic tastes and decorate them with items such as paintings, artefacts and aesthetically pleasing furniture.

Customisation

Ability to customise is an important reason why people build wooden cabins. They To page 5



Valuing Trees and Forests

s many of the commercial tree growers approach harvesting, they seem to be at cross roads. The market for timber and other forest products being largely unregulated leaves the grower at cross roads. May are torn between selling trees as standing, harvesting and selling logs, selling the entire forest or harvesting and processing on their own. Although there are several efforts particularly planned through FAO/SPGS III in regard to supporting downstream processing and value addition, some growers seem impatient and prefer to dive in singularly. It is however important the growers learn how to attach an actual monitory value to their trees and forests at large. Many of the market players are providing unrealistic and unjustifiable payment methods for trees and forests. Many prefer to buy trees in terms of acreage, tonnage, and truck loads etc., which are all unfair to the growers. A time has come for growers to learn how to value their trees in relation to market demands in order to tap into the best offers on the market. Today timber is generally sold in terms of volume (cubic meters) and this is why any buyer would pay for timber based on its dimensions for example the prices of timber planks with dimensions, 9*1*14, 4*2*10, 4*3*14 all have different prices on the open market and different number of pieces per cubic meter. Determination of tree prices should also be done the same way. The price per tree should be based on the standing volume in cubic meters of volume per hectare

for the entire forest. It is therefore

important to always be aware of the standing volume in our forests which can be obtained from the tree heights and diameters at breast height. It is I dreams. also possible to develop relationships simple indicators between diameter and the price ranges | Wooden of a tree. This kind of valuation | highly however incorporates some key price determinants and some of these long include.

- The market prices of timber
- Transport to the markets
- Harvesting and handling costs

The cost of credit e.g. if one borrows money for harvesting I resilient operations

Management & overhead costs | remain in good shape including risks like thefts of timber

The age, height, diameter at breast height and tree form or taper

The type of processing facility, this affects the volume recovery

The above considerations make it clear that the longer the trees are left to reach maturity, the higher the price per cube of wood. Just four years of I log house for the happy additional growth can almost double ${\mbox{I}}$ and healthy ambience. the price per tree since wider and more I These cabins are also valuable planks will be obtained. For **I** excellent example one cubic meter of planks of ${}_{\mbox{I}}$ options as their value 12 *1 * 14 (inch*inch*feet) comprises of 30 pieces/m3 and goes for about UGX 984,000/m3 whereas a cube of 4*2*14 (inch*inch*feet) will have 45 pieces and goes for 590,000/m3. The former may be obtained from trees with relaxation. People who between 18 cm to 25cm whereas the I want latter can only come from trees with I from illness simply want \geq 35 cm. Such considerations empower | to improve their health, the tree grower with a starting point | go off to wooden cabins to bargain for better prices.

From page 3 Wooden Cabins

can select the texture of the wood, design of I the house, and other I characteristics such as interior design and type of furniture and décor items according to their preferences. It gives wooden cabin a unique advantage of being the home of their

like I Durability

cabins are durable and lasting. Cabins built from high quality timber have a very long life and require less maintenance. These are also highly the to extreme weather and for several decades. It is also easier to replace damaged parts of a wooden cabin with ease. They offer a high quality lifestyle and people prefer living in a investment appreciates fast. The health benefits offered by these cabins make them preferred а to recuperate for their healing power.

How to Build a Log Cabin

Building a log cabin requires lots of physical and hard-work but is fulfilling. Most of the work will be felling, cutting, peeling, notching and lifting logs as one builds the cabin.

Step 1. Planning Your Log Cabin

Planning to build a log cabin is the most important phase. A significant time should be planning and making oneself comfortable with all the phases and construction processes involved. Planning is not merely a floor plan & design but a full construction schedule detailing: log preparation; site clearance; foundations and everything else that goes into building a perfect log home.

Preparing a construction schedule requires:

Goals (i.e. duration of construction, number of bedrooms etc.), Research (i.e. talking to other log cabin owners on construction techniques) Purchased Land, Final budget and finalized Resources (i.e. labour cost & availabity).

Designing the Log Cabin and its Floor Plan

Before starting to build a log cabin, one should have a thorough plan and finalised costings.

Floor Plan and Design

The actual design of your log cabin can either

seem like a very daunting phase or an opportunity to express your creative genius, depending upon your personality and skills. If one is looking to build a simple log cabin, then there are loads of free floor plans and designs for all sorts of log homes on the internet drawn by architects and feature floor plans and elevations.

There are important factors to consider when designing a log cabin to maximize space and create an elegant home.

Land selection

6

Most tree growers will already have land, so we will make sure you understand and know about: *The local government requirments eg:-* Building and code restrictions, future development & construction plans and zoning laws, utilities and services, local utility lines, water and drainage infrastructure. Ground conditions should be analysed plus soil type (rock, clay, gravel etc.), boundaries, water tables, slopes, contours and topography to ensure suitability.

Where to site your Log Cabin

Ensure adequate natural shelter and beautiful views. Its good to get logs for your log cabin at site. For those who already have land or are

Forestry training & research



raining in forestry has been questioned in the recent past with many employers alleging that the new entrants in forestry service delivery are more academic than practical. For some the thinking was that this was as a result of the mode of practical skilling. On a good note, this has been reversed and students now study "traditional" forestry courses that are more informative and practical. Forestry training institutions have also taken on more innovative ideas like engaging private sector actors like commercial tree growers through UTGA and nongovernmental organizations (NGOs) to provide students with hands on training and exposure through internships and placements. It is generally known that the forestry sector has for the past decade been oriented towards commercial forestry and that most of the skills and practices employed are mostly dubbed from elsewhere especially from South Africa.

There is a lot of information and practical experiences out there that need to be disseminated into the forestry curriculum and/or offered to forestry trainees practically. There is also need to customize all this information to local situations to improve their applicability to which UTGA and SPGS have contributed greatly in the past few years. UTGA has opened up working relationships with forestry training institutions that will enable students to be attached to individual plantations and other forestry investments for them to gain practical skills.

Research in forestry on the other hand has also has not been in direct resonance with the trend in forestry in Uganda. There is need for researchers to redirect their efforts to the commercial forestry sector or what was dubbed as the "hard research" at the recent forestry dialogue during the Water and Environment Week". Forestry researchers admitted that indeed research in the recent past focused on "soft forestry e.g. conservation, social forestry etc. This may have been probably because the funding available was in that orientation.

Commercial forestry in Uganda is facing a huge research gap that needs to be filled. Key actors right from the nurseries to processing are facing challenges of lack of information. A good example is the choice of eucalyptus clones in regard to sites. Experiences with growers have become the most reliable source of information for recommendation. In commercial clonal nurseries, even the best performers do not have the right recipe for producing clones. Although a lot of gambling is being done and many have been very successful research, in these directions will save a lot for the future. One could imagine that the best practical references in commercial forestry e.g. Alder's yield model was done over a decade ago. There is hardly any published information on the growth rates and wood properties of eucalyptus clones to mention but a few. The challenge however is where the resources to do this will come from. This kind of research is largely for the benefit of the private sector and as such there is need to amplify and quicken it up.

Because of this gap, large scale companies have gone out of their way to conduct a lot of localized research on their own and this has been quite useful to them but also to the industry.

From page 6

How to build a log Cabin

building on family land then the primary factor should be to research any legal elements and ensure good utilities and services are available to connect your log home to.

Costs of a Log Cabin

Keeping the cost down for your log cabin is important. During the planning phase, you should look to eliminate all uncertainty around costs, materials and tools. Significant costs for a log home are incurred during these activities and or purchasing the following materials:

Site Preparation and Foundations to consider utilities and Services, timber - number of logs, roofing - dependent upon roofing materials (singles, felt, logs or tiles), fixings (Interior, Windows and Doors) and tools.

A lot of the costs can be minimised if you look to use your own materials and build the cabin by hand. Building a log cabin on a very tight budget is achievable. However, you will have to upcycle, use free labour and own logs.

Your log cabin's size and complexity are the two most significant factors that will drive cost. A simple square or rectangular log cabin with the same square footage will be much cheaper than a "new" or "alternative" L design log home.

Let's pause and recap the planning phase Under planning, you should be able to answer the following questions:

- How much will it cost to build my log cabin?
- Who is going to build my log cabin? •
- Where is my log home going to be built?
- Are there any zoning laws or building codes impacting my log cabin?
- What will my log cabin look like once it has been built?

The construction phase requires glot of deliberate attention! However the infographic visual above will provide additional expert guidance to implement and build and log cabin successfully.

Step 2. Picking and Preparing the Logs

At this point, when you have the land for your log cabin, it's time to hunt for logs!

It's time to get physical. Foraging for trees involves: finding; felling; hauling; debarking and drying. Selecting the best logs for your log



cabin is essential as it will reduce maintenance, improve insulation properties and improve the longevity of your log home. Whilst it's true, most tree species are suitable, providing that they grow straight and tall. Some species are superior than others due to strength, insulation properties and ability to naturally withstand To page 9

How to build a log Cabin

weathering.

In Uganda you want to be looking for:

- Pine Trees
- Eucalyptus and other indigenous species like
- Markhamia Lutea.

So, you now need to go and fell your trees and debark them. Bark holds lots of moisture and acts as a home for insects causing decay and infestation. After debarking, they will need to be left to dry. Keep all of your logs off the ground. When stacking the logs, space them out using stickers; this will increase ventilation allowing logs in the centre of the pile to dry too. Cover them with plastic or something breathable to keep the elements off the logs.

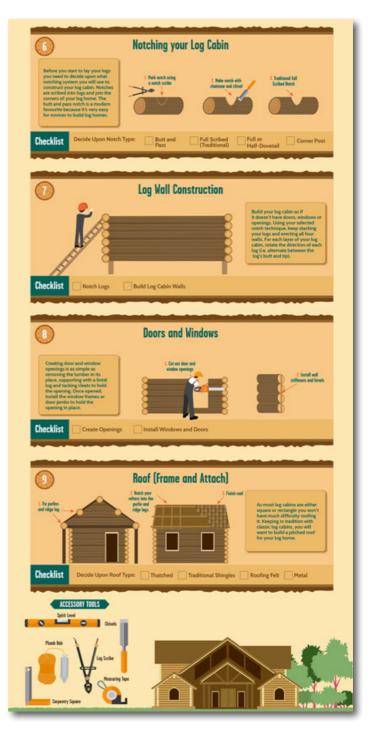
Different species require different drying times. Seal the log ends with paraffin wax. This prevents moisture evaporating too quickly causing cracks and ring separation especially in eucalyptus. If you decide to perform this step, do it within minutes after felling the trees, not days, as the moisture will have evaporated.

Ideally you will want to fell, debark and seal the log on the same day of felling. This prevents too much moisture escaping and prevents the bark form adhering to the log post felling. This will save you lots of work with your debarking knife and stop logs from unnecessarily checking, splitting or cracking.

Step 3. Building the Foundation

Contrary to popular belief; choosing a foundation for your log cabin is not as simple as picking a shed foundation. A log cabin foundation must carry the weight and load of a log cabin. This is an important step. A log cabin foundation is used to transfer the load of your cabin safely into the sub-ground. A strong, durable and stable foundation should adhere to the 3-s rule;

- Subsidence prevent subsidence when soil moves away from your cabin
- Strength strong enough to transmit the load from your cabin
- Settlement prevent your cabin from sinking into the ground



Your log cabin's foundation will be decided upon and influenced by a few key factors:

- The land's rock and/or soil types,
- Size of your log cabin,
- Land contours,
- Local resources (i.e. cement providers)

When researching log cabin foundations, lots of advice relates to traditional housing, which require a far more substantial foundation. A great option is the pad foundation which will lift your cabin away from the ground and the "splash zone" and provide a natural damp-proof zone which makes it more difficult for water to splash back onto your log cabin.





Step 4. Laying the Logs

Up to this stage, its been planning, preparation and groundwork.

Before you start to lay your logs you need to decide upon what notching system you will use to construct your log cabin corners. You may choose one of the following four notches:

- Butt and Pass
- Full Scribed (Traditional)
- Full or Half-Dovetail
- Corner Post

The butt and pass notch is a modern favourite. This notch technique was invented recently with a goal of being very easy for novices to build log homes. This notch doesn't require skill or craftsmanship and minimises settling when building your log cabin. The idea behind the butt and pass notch is to "stack" whole logs without scribing them and using rebar to fix them.

Once your foundation has been laid, and you have selected your notch type, the first round of logs will need to be laid. Sill the first four logs. Setting your sill logs into the foundation is normally done by using the best logs you've felled. In this instance, the best logs are the largest in diameter, straightest and longest. You should have provisioned the better logs for sills (4), purlins (2) and the ridge (1).

Now you have prepared (i.e. cut to length and pre-drilled) your four sill logs you can lift them into position. Technically, sill logs are the first_

two width logs and sleeper logs are the first two length logs.

You will want to hew, or half-log, the sleeper (i.e.) sill logs. You can do this using a chainsaw or adze depending on your preference.

Once hewn, drill a hole at either end of the sill logs. Lift the logs over the foundations' rebar and slide the log down through the rebar (this assumes you are using a pad foundation).

Laying the sill logs is mostly a question of strength and lifting as opposed to craftsmanship. These logs are very heavy and it's better to be patient, spending time to work precisely, and getting them in place.

Now the two sleeper (i.e.) sill logs are in place (fixed with rebar), lay the two-remaining sill logs using the butt and pass method. Fix the logs together using short rebar pins. You have now fitted the perimeter of your log cabin.

Installing the Floor

10

Log cabin floors are typically very fast and easy to assemble because their construction uses a suspended lumber floor. You will ideally want 2 x 7" floor joists. To determine the depth of your floor joists you need to divide the span of your sill log in half and add two. Notch your sill (i.e. sleeper) logs so you can insert the floor joists. You will want to lay floor joists every 14" apart. So every 14" on each sill log create a notch to receive a floor joist. Ensure the notch is the same width as your floor joist so you can create

From page 10

How to build a log Cabin

snug friction fit with the floor joist.

If you joists span more than 7Ft then install struts for lateral restraint and pillars for vertical restraint; a strut should be in the midpoint of your joists. Make sure the joists run parallel, are plumb level and sit flush with the sill logs.

Finally, plank the floor, at right angles, to finish the floor.

Log Wall Construction

Now it's time to build and raise your log cabin's walls! Build your log cabin as if it doesn't have doors, windows or openings. Using your selected notch technique, keep stacking your logs and erecting all four walls.

For each layer of your log cabin, rotate the direction of each log (i.e. alternate between





the log's butt and tip). This is an old trick to ensure the wall is kept roughly level due to the natural tapering of the log. Use short rebar fixings (assuming you are using a butt and pass notch) to fix each log. Alternatively, scribe each notch and stack them. If you do opt to use a traditional saddle notch, when scribing ensure you use a downwards facing notch in high rainfall areas. Finally, if you hew your logs, hew the bottom of the log you're about to fit, as opposed to the top of the most recent.

Doors and Windows

Creating door and window openings is as simple as removing the lumber in its place, supporting with a lintel log and tacking cleats to hold the opening. Once opened, install the window frames or door jambs to hold the opening in place.Ensure you use lintel logs above each opening to maintain your log cabin's structural integrity.

Roof (Frame and Attach)

As most log cabins are either square or rectangle you won't have much difficulty roofing it. Once at roof height, like with notching techniques, you have many options for log cabin roof designs.

Keeping in tradition with classic log cabins, you will want to build a pitched roof for your log home. Take the earlier purlin and ridge logs...

it's time to use your strength. Continue building your gable wall, using the same technique you used to erect the cabin's walls, until half-height. Now fix the the two purlin logs. Repeat this process to complete the gable wall and fit the ridge log. The ridge log holds up the rafters which are fitted to it. In turn, the rafter holds the final roofing material in-place.

This construction technique is known as "purlin and rafter" as opposed to flat roofs. This roof style is preferred for its ease of construction and ability to



From page 11

How to build a log Cabin

withstand high window or snow load testing. Notch your rafters into the purling and ridge logs. Fix plywood roofing boards to the rafters. You will now need to decide upon the finish of your log cabin's roof, typically there are four choices:

- Thatched Roof
- Traditional Wood Shingles
- Roofing Felt
- Metal Sheeting

Step 5. Log Cabin Exterior and Maintenance

Once you have built your log cabin, the final stage is to weatherproof it.

Moisture and dampness can very quickly cause your log home to rot if left unfinished. The most important factors are to clean, chink and stain your cabin.

Cleaning your logs

Your logs may have collected dirt from your construction site, or haulage, so the first activity is to clean the logs. Washing your cabin's logs will also remove dust, pollen and deposits too. Wet the logs with water, then take a mild detergent, and with a soft bristle brush, scrub in small circles moving from the bottom of your log cabin to the top. Then repeat this process from



the top of your log cabin to the bottom and leave the cabin to dry for at least two days.

Staining your logs

Treating or staining your logs can be done during felling or after the build. Typically once you have removed the bark from your logs you can apply a borate solution to protect them. Once your cabin has been built, you can stain your log cabin to maintain the original logs's color by protecting it from UV rays. When you first stain your cabin it will last for between 18-24 months, depending upon UV exposure.Typically, south facing gables weather more than the rest due to direct sunlight exposure. Take an oil based stain, and work in small horizontal areas paint "wet on wet" (i.e. backroll the stain).

Chinking your cabin

Chinking is the sealant for your logs to prevent air and moisture infiltration. If you have used a butt and pass notch technique you will absolutely need to chink your cabin. Some of notching techniques (dovetail) don't require chinking.

First, any crack, split or check over 2cm in size should be filled and sealed with chinking. Then, take your chinking and, using a trowel, apply it along the length of the joints in your logs. Clean using a damp cloth to give a nice finish. In the future you will need to maintain your log cabin by being proactive and performing bi-annual checks using this checklist.

You have now finished to build your own log cabin! You can now enjoy it!

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