

Though Nyungwe buffer zone concession was awarded to The New Forests Company in 2011, the Company started its first saw milling operation in February 2016 with an annual input capacity of 13,000 cubic metres which capacity will immediately double to 26,000 cubic meters by the 1st of July 2017.

The Saw Mill which is located in Kitabi sector employs approximately 48 workers many of whom are people living around the concession zone.

As you drive up to the saw mill, you see a fleet of trucks with capacities of various tons delivering logs. Most of these vehicles are hired to ferry in logs from the buffer zone. After the trucks deliver the logs, large trucks operating with mounted cranes lift the logs, sort and pile them according to size and deliver them to the breakdown sawing machines that cut the logs into different timber sizes.

Here the logs are cut into timber using equipment such as circular saws and band saws. This is called 'conversion'. The first stage of conversion is a process called 'breaking down', which means rough sawing. The second stage is called re-sawing' and refers to more accurate/precise cutting and finishing such as planning and further machining.

According to the Saw Mill Supervisor Zacky Nshimiyimana, the saw mill operates six machines three of which are breakdown Wood-Mizer machines, two pin blade machines as well as multipurpose heavy- duty handling machinery for its material handling.

"Each of the three breakdown machines cuts a minimum of 70 logs per day meaning over 210 logs are cut and the timber is piled according to size and dried by smoking" says Nshimiyimana.

When a tree is felled, it contains a large proportion of water / moisture. Many, felled trees have forty to fifty per cent water content.

Seasoning or drying of natural wood is the process through which excess water/moisture is removed, leaving typically fifteen-twenty percent water content.

The company will also start kiln drying of timber by early 2018 so as to produce the best quality timber which will be the first of its kind in the country. According to Nshimiyimana, after the saw mill starts kiln drying the timber, NFC will then start making construction materials groove timber, various moldings, decking material, doors and door frames, window frames and ceiling materials which will all cut down

the costs of importation of a number of products.

Timber value addition starts with proper drying of the timber, this allows for a stable product for use in construction and good quality furniture. Seasoned wood is used to make furniture and most other wood based products, because it is less likely to 'deform' and 'warp'.

It can be shaped accurately with tools such as planes, saws, routers and hand tools. Adhesives can also be used with seasoned woods. Raw material is brought in by road and graded to specifications.

Training is carried out in house and externally. Orders are tracked and the timber is cut according to the specifications in the order book.

Quality and impeccable service remained the top priority of the company. For the last three years, Nshimiyimana who a graduate of forestry from Kibisabo has worked for NFC and achieved a lot from the company "I have managed to build myself a big residential house in Muhanga, married and bought one hectare of land where I have planted trees plus paying school fees for my siblings."

#### Preparation of logs from the forest to the sawmill

The 'felling' of a tree, is the first stage of preparing the timber for commercial use. According to the transport coordinator Vincent Sindikubwabo, the cutting of the trees is normally carried out during both the wet and dry seasons though more trees are cut during the dry season.

"We have a target to deliver 200 logs per day to the saw mill regardless of the season. So we cut at least 300 trees during the dry season and between 150- 170 trees per day during the wet season and this helps us balance the constant number of 200 logs that we have to deliver daily."

Mature trees are selected by forestry workers and the felled trees are replaced with saplings. Consequently, the forest is sustainable (it should not run out of trees). A team of NFC forestry workers fell hundreds of trees being harvested every day, alternatives especially designed 'tractors' with cutters and grabbers, are also used here.

After, the tree trunks (logs) are stored/stacked in a clearing along the road in the forest. Sometimes when more logs have been cut, they are stored in the forest until

they are needed at the saw mill.

The logs are then loaded on trucks using vehicles equipped with lifting gear and transported to the saw mill. The rationale of having NFC wood processing company was because there was no large-scale commercial wood processing company in Rwanda, the domestic demand for processed wood products remains high and growing; huge imports for wood and wood processed product as well as poor quality product from local pit saws and woodshops currently fill this demand.

Increased demand for energy, emerging environmental challenges with respect to greenhouse gas emissions and increasing use of the convectional energy (fuel, gas, firewood) remains a challenge thus need of alternatives on energy sector in Rwanda.

Thus, the company will serve as an opportunity in reducing the use of fossil fuels for heating purposes and reliance on imported processed wood product for furniture and construction industry and to improve value chain for extractive industry – significant scale up beyond tree chopping and pit sawing and to improve product quality as well as helping Rwanda's forest products overcome the trade imbalance.

The New Forests Company will focus mainly on two critical issues among others are the production of diversified value added wood products, such as treated timber, kiln dried sawn wood and graded wood which will ensure durability of wooden structure and increased life of wood in the service, hence reducing pressure from forest ecosystem and reduce reliance on expensive imported wood inputs.

Utilization of wood residues waste materials into value-added products to provide renewable biomass fuel (industrial charcoal) to near resident and commercial markets, reducing the use of fossil fuels for heating purposes, thereby reducing overall energy costs in an environmentally responsible manner.