

ENVIRONMENTALLY FRIENDLY PLASTIC LUMBER MADE FROM RECYCLED PLASTICS IN TANZANIA

Christian Mwijage, a Tanzanian social entrepreneur, is the founder and Managing Director of [EcoAct Tanzania](#), an enterprise specialized in converting post-consumer plastic waste into a resource to manufacture durable and environmentally friendly plastic lumber.

The plastic lumber obtained do not rot, are termite resistant, water proof and last longer than timber, does not allow growth of mould, do not splinter. Last longer than timber in application, can be assembled, drilled and nailed as easily as for timber. Tanzania loses 300,000 to 400,000 hectares of forest every year and plastic lumbers are an affordable alternative to timber, reducing the need for building material manufactured from wood. They help to preserve forests by lowering deforestation rates and decreasing the effects of climate change.

Plastic lumbers are ideal for building/fencing on farms, real estates, national parks, forest reserve areas, commercial places, construction purposes and furniture making. They can also be used as support beams for houses, cow sheds and garages. Smaller ones can be used to make chicken houses, rabbit houses, cow sheds and garages.

This innovative green business has been created by Mwijage to recycle waste plastic, to provide an affordable alternative to timber and to provide employment for young people and women.

According with EcoAct information, Tanzania faces the big challenge of managing its municipal solid waste. The country generates about 2,800 tons of waste every day of which 40% is plastic waste. Most of it is dumped on the streets, littering the environment, clogging the sewage system and dirtying the space around people's homes. By recycling plastic waste, EcoAct has provided a sustainable solution removing tons of plastic waste from the environment. This green production can be a solution for many countries facing similar problems of post-consumer plastic management.

Using post-consumer plastic waste EcoAct adopts a simple manufacturing technique known as injection moldings to convert shredded and melted plastic into durable plastic lumbers. They present the following advantages:

- Durability: They replicate timber and clay equivalents but last longer than them in application. The products have a life expectancy of over 30 years, with minimal degradation.
- Cost effective: significant cost savings are due to reduced maintenance and replacement requirements. They are 100% recyclable



- Aesthetic finish: The lumbers have a regular shape with a modern finish. If properly constructed and maintained, the structure will look good for years.
- Rot, algae proof and insect resistant: They cannot rot, become damp (allowing algae growth) and termites cannot feed with them.
- Easy to work with: Traditional wood-working tools such as hammer and fencing staples can be used install the plastic fencing posts. The products can be cut, drilled, nailed as easily as timber.



Thanks to EcoAct 360 metric tons of plastic waste are removed from the environment and landfills and processed into plastic timbers every year. EcoAct managed to generate 300 direct jobs, including employees having a sustainable income and entrepreneurs which started their own small business by collecting, cleaning, sorting and transporting the plastic waste material. People were trained in industrial processing and production as well as sales, marketing and management. A focus was on including women and therefore they comprise 60% of the participating members.



EcoAct estimates that plastic recycling allows to mitigate climate change by saving 4,500t of CO₂ emissions and preventing deforestation on 650 acres of forests.



In 2015 EcoAct was listed as one of New York Forum Africa 2015's *Top 50 Most Innovative Start-Up Companies in Africa* and in October 2015 won the second position in Seed Star Words Tanzania Awards. In 2016 EcoAct was listed as one of the [Energy Globe Award](#) winners. In 2018 EcoAct was listed as one of the five enterprises winners of the [Low Carbon SEED Awards](#).



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