

PROJECT 1 EXECUTIVE SUMMARY

PROJECT 1: DESIGN OF FIBER-REINFORCED TIMBER BEAMS FOR SUSTAINABLE CONSTRUCTION

PROJECT TEAM



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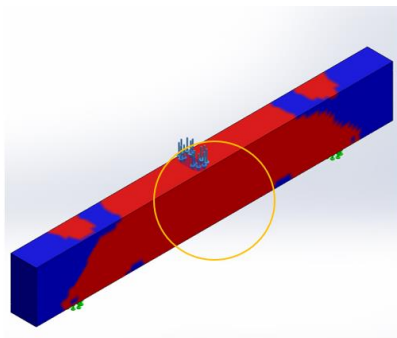
PROJECT OVERVIEW:

This research focuses on designing Fiber-Reinforced Timber beams as part of developments that can be made for **sustainable** construction of buildings.

CORE OBJECTIVE: To create a better and sustainable construction process through targeting the use of Fiber-Reinforced Timber beams to replace concrete beams in construction of residential buildings.

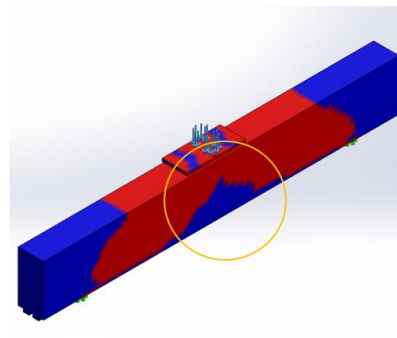
EXPECTED OUTCOME

It is expected that with good reinforcement mechanisms designed in this research the resulting fiber-reinforced timber beams will have enormous combined advantages (sustainability from timber and mechanical strength supported by fibers) and reduced disadvantages such as reduction of Carbon dioxide (CO₂) emissions that usually occur during the construction process – reducing global warming (in a bigger picture).



(Unreinforced)

Safe
Unsafe



(Carbon fiber reinforced)

PROJECT 2: A PLATFORM FOR SELF HOME-DESIGNING (Named: HUKAYA)

PROJECT TEAM



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PROJECT OVERVIEW:

Many customers usually have an idea in their mind of how they picture their dream house to be. However, it is usually difficult to convey this imagination to architects/engineers and as a result it takes more time and effort for the professionals to arrive at the customers' **desired design**. The project aims at enabling people to design their own homes with improved reliability, convenience and efficiency as well as **connecting** them with Architects and Engineers directly.

CORE OBJECTIVES:

To **simplify** the communication between customers and architects and engineers during design of homes so as to save time and energy used during the design processes. Another aim is to **reduce the unemployment** crisis in most countries in the world especially in Africa. (According to African Development Bank about **420 million** potential youth are unemployed in Africa).

