

Block production with Tofali Africa App

Section I. About the enterprise

1.1 Name and company Profile

ECO CONCRETE LIMITED

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1. What we are about

Handling and transporting construction materials is one area that escalates construction costs leading contractors to place higher unit rates to cover uncertainties involved. In response to this challenge, Eco Concrete Ltd runs a business model of producing cement based materials (blocks, planters, pipes and pavers etc.) on construction sites. By deploying our industrial scale machines on construction sites, including the remotest places in Uganda, we reduce the cost of the materials we provide by about 30% and construction costs by up to 20%. We also democratize access to skills through youth employment, skilling, and provision of dignity and entrepreneurial opportunities. Each of our 6 mobile establishments is stocked with a 20KVA 3-phase generator as a power source, a concrete mixer, a block making machine, at least 3 moulds, 250 pallets and other



accessories. Each of our 6 mobile establishments employs 7 youth and has a potential of skilling over 150 youth in a period of 3 years. The skills gained can be easily and independently applied by the trainees for commerce within their environments.

The Eco Concrete Ltd team at Napak District HQ, Karamoja Region, Uganda, 7th August, 2020. On this day, 3 of our young men were promoted to the rank of machine operators.

These are Gold Patrick (extreme left), Obwona Gerald E Bret (second from left), & Okwap Borneface (holding a spade). Second from the right is Dr. Apollo Buregyeya, the CEO of Eco Concrete Ltd.

In 2017, Eco Concrete Ltd received a recognition award in the category of Innovation and Value Addition to Development Minerals by the UNDP and Uganda Chambers of Mines and Petroleum. Our agenda at Eco concrete Ltd is to adapt and be sustainable as we care for our employees and save money for our clients. Our sustainability objective is achieved through producing strong and durable products while drawing less from environment. For the people that work for us, we empower them with skills and life plans that enable them to be relevant to their communities. We are passionate about the youth group that has been isolated by formal education and



Category "Innovation and Value Addition"
recognition awarded to Eco Concrete Ltd. at the
Mineral Wealth Conference 2017.

joblessness and poverty. For each block, planter and paver produced in our six camps, there is a story of a skill passed on to a Ugandan for the good of our country. At Eco Concrete LTD, we believe that the opportunity to transform Africa lies in the majority of our youth who are incidentally isolated by the main stream education system. Sustainability demands that we empower everyone.

For the last 4 years and 9 months, we have consistently proved that a good business model is simple, sustainable and democratically empowering.



As the CEO of Eco Concrete Ltd, a company that is in the business of producing cement based precast construction materials in Uganda, I've invested in an industrial strategy whose operationalization is primarily based on a horizontal structure of a human resource that is trained and skilled in-house. The company operates mobile industrial scale production plants that we are able to shift to clients' sites anywhere in the country enabling access of high quality construction materials at uniform and competitive costs. The materials include blocks, bricks, paving materials, slabs, kerbs and other cement based construction materials. Each of our camps is operated by seven workers who are all trained and experienced in all the aspects of production, that include machine operation, machine maintenance, machine servicing, record taking, raw materials mix design, quality assurance, quality control, ethics and health and

safety on site. Because we maintain a highly skilled workforce, we are able to adapt to the changing properties of the raw materials and environments that is certain with changes in production locations and supply sources to sustain a high quality of products. My teams are part of a reward program where they'll be able to wholly own the plants they operate after achieving a certain targets production. More information can be found on; <https://www.youtube.com/watch?v=Xcn2orzo5wM>

Section II. Proposed business idea

2.1 Proposed business idea/solution

In order for Eco Concrete Ltd to expand its investment in the youth population, provide a **sustainable** model through which its talented employees can become owners of the expensive industrial scale machines they operate, scale its growth to meet market demand, improve its business management performance and reduce unemployment in Uganda, we are investing in the following two staged business solution;

1. We are developing an ICT based management tool (a mobile application) that is customized to our business processes to help us scale our business. The tofali App tool is a management tool that will see prospective clients submit their requirements online, receive schedules of materials and cost estimates, pay for services, proceed to book for machines and track all manufacturing processes on site using their smartphones. The App will also empower machine operators and the Eco Concrete Ltd teams provide consistent reports and receive real-time support on productivity and quality control.
2. We are introducing an Operate-to-Own program (the Eco-Concrete Reward Program) for our machine operators. Through improved management processes, machine

operators will be trained and supported to operate and maintain all plant/equipment under their care until they are able to reach a 600,000 blocks mark or its equivalent. On achieving the 600,000 blocks target, Eco Concrete Ltd will transfer ownership of the whole camp to the machine operator. This camp includes a 3-phase generator, a concrete mixer, a block machine, 3 moulds and other accessories, all valued at Uganda shillings Sixty Million (UGX 60,000,000/=). Each of our industrial scale machines produces 1,000 solid blocks of size 200x200x400mm each for an 8-hour work shift.

Since its inception, Eco Concrete Ltd has run a business model based on mobile manufacturing of blocks and pavers on construction sites. By shifting our industrial scale machines to construction sites, we enable access to high quality blocks and pavers in all parts of Uganda, produce at rates that match the demand of the biggest contractors (we produced blocks for construction of structures at Karuma Dam, averaging 1,000 blocks every day, for 2 years), lower the cost of production and handling, improve sustainability of construction materials by adopting local materials and taking advantage of science, and, in the process, enable the youth of Uganda to access skills, skills they can apply for commerce within their local establishments. We started with one industrial scale machine in 2016 and, 4 years later, we now have six machines that we continue to operate on the same business model. As the stock of our plant grew, we had to deal with new challenges that are related with technology selection and management, product development, product quality control, productivity management, training of operators, marketing and sales, and customer care, challenges which we have substantially managed. The experiences gained over four years of sustained growth is what motivates the next steps we are now taking as a company. From the Tofali App and the work-to-own programs, Eco Concrete will be in a position to create 100 decent jobs in twelve months, skill 500 youth as well as increase their entrepreneurial opportunities. Our sustainable business model is targeting youth in both urban and rural areas of Uganda starting with areas like Kampala, Gulu, Wakiso, Kasese, and Tororo Districts.

Tofali App is created to assist scaling of Eco Concrete's business model as it synchronizes and streamlines all the processes in manufacturing and handing of construction materials on site. From project inception to managing all the aspects of project management. The user of the app are property developers, Eco Concrete and machine operators who are mainly youth. Moreover, this app is used as a business platform that connects youth involved in construction where they could be easily reached and empowered through employment and entrepreneurship opportunities.

Eco Concrete's reward program (work to own program) is created to empower youth trained by our enterprise to become machine owners. In this program, the machine is released to be owned by a machine operator when it has procured other two machines. The program will increase entrepreneurial success and improved livelihood opportunities.

2.2 What is innovative about the proposed solution

Traditionally, handling and transporting of construction materials is accompanied with a lot of uncertainties leading to high rates in construction. For example, it costs a property developer a minimum of UGX 400 to handle and transport a block unit with a size of

150x200x400mm from any yard to a construction site in a 20 km radius. An average construction project will take 20,000 blocks making it UGX 8 million in transport costs alone. At Eco Concrete Ltd, we choose to take a unique path that pushes for technical competence and technology in production. This approach is what inspired the Tofali App and the work-to-own program as elaborated below.

Technical competence in producing construction materials is necessary so as to understand the raw materials, process environment and project expectations. Where adequate technical knowledge lacks, the cost of production will be high. At Eco Concrete, we train our staff on quality control aspects of producing blocks. Also, we encourage skill transfer among our staff and in turn demand for growth. To monitor and encourage staff growth, Eco Concrete came up with a reward program that allows machine operators to become machine owners.

Appropriate technology is also critical in production so as to save more money in construction. Eco Concrete selected mobile production as the right technology in order to take the production of construction materials on site and save the property developer that humongous cost of materials transport and handling as discussed above. The mobile production process is open-source and we engage interested clients in the whole process so that they are sure of the quality they are getting. As Eco Concrete grows, there is a need for the right ICT tools to remotely monitor production and control quality. Tofali Africa App is meant to cover this demand. Moreover, the app will revolutionize construction material handling by encouraging mobile production, improve client engagement, improve construction efficiencies, and empower workers to communicate and grow.