

EcoKiln Technology – the Vertical Shaft Brick Kiln in Mthiyoka, Lilongwe, Malawi

With the label award 2022 for the EcoKiln project in Lilongwe, Malawi the Deutsche Werkbund Baden-Württemberg acknowledges the development work for the production of high-quality bricks in Malawi carried out by the Gesellschaft für Internationale Zusammenarbeit (GIZ), the Center for Community Organization and Development (CCODE) in Lilongwe and the Society for Technology and Action for Rural Advancement (TARA) in New Delhi, India.

With this award, the Werkbund puts an example for sustainability in the holistic triad:

EcoKiln technology enables the production of high-quality bricks while improving energy efficiency and reducing emissions to the environment. It is based on a vertical shaft kiln developed with TARA in a South-South development cooperation and is one of the world's most energy-efficient ways to produce bricks. Essentially, the kiln consists of one or more vertical shafts in which the bricks are fired in the counter-current principle in order to achieve optimum use of the energy used. The EcoKiln technology replaces the wood fuel used in traditional wood-fired clams in brick production and thus contributes to the protection of Malawi's already heavily depleted forests. Waste material produced during the production of agricultural products (peanut shells, crumbs from tobacco processing, etc.) can be used as an energy source. As a result, energy costs can be halved, and CO₂ emissions reduced to 15%.

The pilot plant built by CCODE on the outskirts of the Malawian capital Lilongwe with funds from German Development Service shows that this type of brick production has many other advantages over traditional wood-fired clamps:

- the high-quality bricks produced in the industrial process are very accurate to size, thus reducing the use of cement mortar necessary for the building of the masonry to a considerable extent - this effect also reduces costs and environmental impact
- bricks manufactured with this technology can reduce the cost of building affordable housing and thus quickly create housing for Malawi's rapidly growing population
- appropriate training and promotion open new prospects for qualified jobs in brick production, especially for women. Thanks to the production process, which is based on a year-round production, this guarantees the workers a regular and year-round income.

Today our congratulations go to

Peter Schramm, who, as a GIZ employee, initiated the project and led and supported it over time, to

Wonderful Hunga from CCODE who brings local resources and deep knowledge of local conditions, and to

Dr. Soumen Maity from TARA, who contributes the technical know-how to this successful South-South development cooperation.

Video:

https://www.youtube.com/watch?v=A5lnI9_cjFE

Project:

<http://www.cleantechmalawi.com/EcoKilnTechnology.aspx>

<http://www.cleantechmalawi.com/Default.aspx>

Women in development:

http://www.cleantechmalawi.com/UploadedDoc/DownloadDoc/Women_in_developments_Building_bricks_for_life.pdf

Images of the pilot plant:

http://www.cleantechmalawi.com/UploadedDoc/DownloadDoc/Eco_Kiln_Pilot_Plant_Project_Brief.pdf