

Project EFIDO

“Pollarding of trees and Energy Efficient Clay Stoves for a Better Life”



EFIDO has been nominated in the category AIR of the ENERGY GLOBE WORLD AWARD 2021

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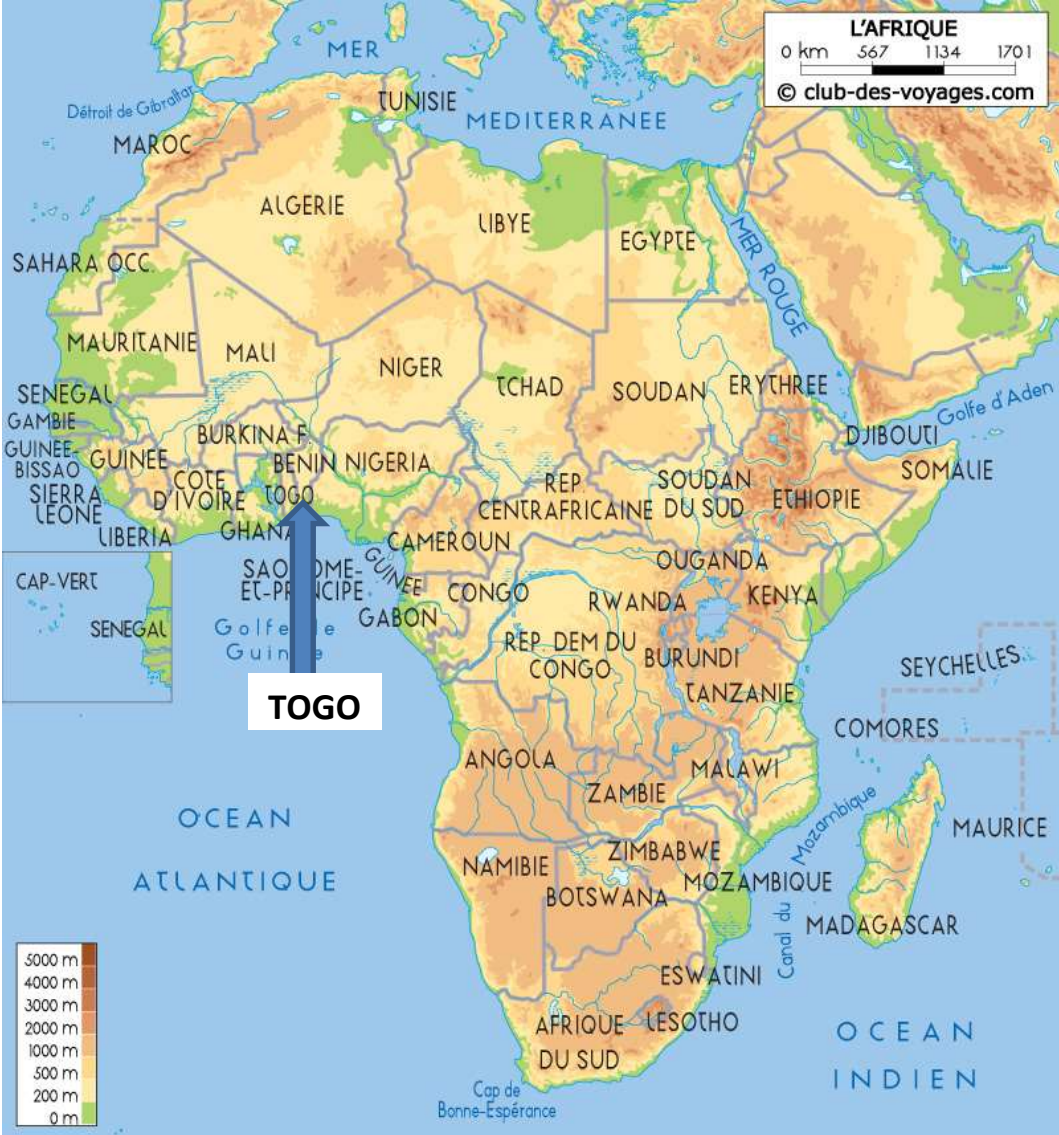
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1-PROJECT SUMMARY

The "Trees and Energy Efficient Clay Stoves for a Better Life" project is jointly led by "Lernen-Helfen-Leben e.V.", the German "Future with Africa" group and the Togolese association "ADICH" of Atakpamé. Based on the observation that CO emissions and smoke are the main cause of women's deaths in Togo, this project aims to **improve their health and that of their children** through the **introduction of efficient and inexpensive clay cookers**. They produce less CO₂ and CO and smoke and consume little wood, which saves forest resources.

In addition, „Trees and Energy Efficient Clay Stoves for a Better Life“ focuses on **entrepreneurship training for women** to become empowered by becoming manufacturers and resellers of these wood saving stoves to improve their income and improve the standard of living of their family. These stoves are the result of active and fruitful technological cooperation between Togolese of ADICH and German partners ("Future with Africa" group) since 2015. They significantly reduce CO₂ + CO emissions.

The third part concerns the immediate environment of the population: the sensitization of the population is in progress to bring them **to plant trees in the villages and to subject them to the cropping in pollarding** (radical and regular cropping intended to stimulate the growth of branches); so women are creating a long-lasting and renewable supply of wood, a supplement for animal feed and effective protection against storms. These plantations also aim at reducing the impact of climate change.

The awareness of the population for the urgency of these measures is essential for the success of the project; it is done through **campaigns and training seminars**.

„Trees and Energy Efficient Clay Stoves for a Better Life “is a women's project for women.

2 – DETAILED PROJECT INFORMATION

A-INITIAL SITUATION AND CONTEXT OF THE PROJECT/INITIATIVE

Poverty is more noticeable in rural Togo with its subsistence economy than in cities, because the families are large and the harvests in the fields are decreasing due to soil erosion and lack of nutrients.



Erosion and deforestation in Togo (Région des Plateaux- 2011)

As a result, many women in rural areas are in an almost hopeless situation. Although they are responsible for budget management, their income generated by small businesses flows entirely into the household budget. Unfortunately, the women often get into an over-indebtedness from which they can find no way out because of their illiteracy.

The situation of men is similar: most are small farmers with very irregular and weak incomes. In addition, the soil is poor and the use of chemical fertilizer is common, but expensive. 20 years ago, the region was still forested. Since then, the area around Atakpamé has been deforested. Today, a lot of money must be spent to buy wood or charcoal; women and children walk miles every day to gather wood. So, the last trees are felled.

In addition, women use stoves that emit a lot of smoke and toxic gases (CO₂ + CO). Even plastic bags are burnt all this is poisoning the women and the children in their vicinity. This is the first cause of death of women in Togo!



The “Trees and Energy Efficient Clay Stoves for a Better Life» project can significantly improve women's health and air quality. (Atakpame-Juni 2019)

B) DESCRIPTION OF PROJECT OBJECTIVE AND MOTIVATION

Overall objective (Impact): **The “Trees and Energy Efficient Clay Stoves for a Better Life” project helps to reduce poverty in the rural region around Atakpamé (Togo) and to improve women's health thanks to inexpensive and efficient clay cookers. In addition, a sustainable wood reserve is established by planting and pollarding trees in the villages.**

Project Goal (Outcome): The target group around Atakpamé (Togo) is improving their income and health with alternative reforestation methods and the construction and sale of wood-saving stoves.

In 20 villages of the Houdou community in the vicinity of Atakpamé (Togo), an improvement in the living conditions for women and their families has been achieved through cheap microcredit, thereby reducing family debt. Further circulation of microcredit revives the retail trade and provides capital formation in stove production (**women's leadership**): women are encouraged and helped to build and market clay stoves themselves. **The cost of household energy is reduced by the introduction of these inexpensive wood saving clay stoves, which emit little smoke, less CO₂ and CO₂ which** are a main cause of women's and children's deaths. The covid pandemic and the rainy season have slowed down the construction of stoves. But the multiplier women have made the demonstration in 10 villages.

Reforestation in the villages, carried out by the rural population through a particularly sustainable pruning called "pollarding", provides new sustainable firewood sources, food for the animals and better protection against storm damage.

C) INNOVATION

There are ten innovative elements in the „Trees and Energy Efficient Clay Stoves for a Better Life" project:

- Firstly, these improved stoves and the agroforestry are the result of the **collaboration between women, Togolese artisans, and the group of German researchers** “Future with Africa”, 10 Ingénieurs Sans Frontières (France) and 2 German SES experts since 2015. So, we constantly invent and improve stoves.



At the seminar of the group "Future for/with Africa" in Heidelberg in November 2019, we discussed, imagined, dreamed up... other clay fireplaces meeting the expectations of the women of Atakpame. Models, precise calculations of size, shape, technology, efficiency... 2 days of intensive work in a good mood!

From left to right: Felix Jenny (inset), Bernd Müller, Richard Fetzner, Rolf Schleicher, Chantal Kloecker and Monika Grün

- Secondly, these stoves are of seemingly traditional design (shape and clay), but resolutely **innovative** by their low wood consumption and the reduction of smoke, CO₂ and CO. They do not consume charcoal and so protect the last trees.



*The stove "Tcho Nukude"
(Eng: "You Will be Astonished")
(Workshop Fetzner Bruchsal-2021)*



*The stove Dzoyéyé for small and big
cooking pots (Workshop Atakpame -Juni 2019)*



*The stove Octoplus can also be used
with an insert for pellets
(Workshop Fetzner Bruchsal-2021)*



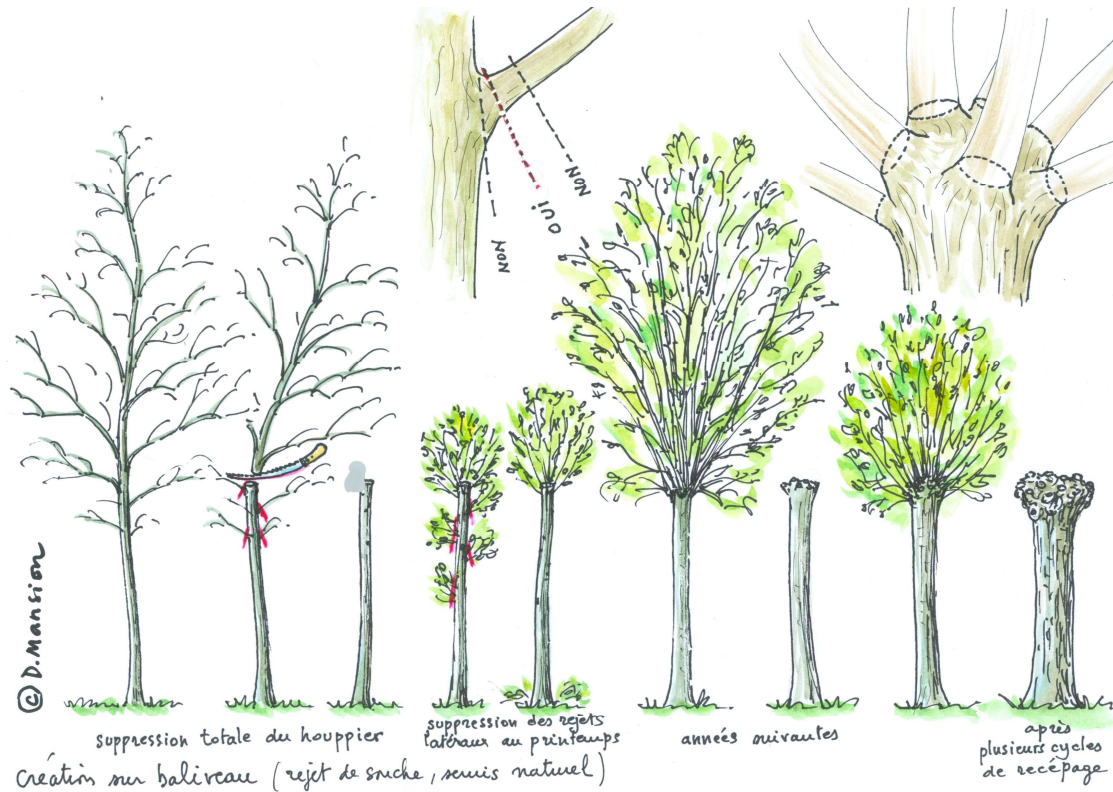
- Thirdly, **the stoves are entirely made in Togolese villages**, they are the work of local women and artisans, which make them completely independent of the creditors. “Lernen-Helfen-Leben e. V.” and “ADICH” are the organisations which coordinate all the actions. Artisans become a microcredit at the beginning of their activities.
- Fourth, **the innovative nature of the clay stoves is remarkable**: The “Tcho Nukude” (Eng: “You will be astonished”) model is made of 6 segments, the Dzoyéyé model (Eng: “new dry fire”) is handmade and suitable for very large saucepots (up to 30 liters!). The new octagonal model “Octoplus” can use the pyrolysis method too, which only consumes pellets of biomass (Work in progress now!)
- Fifth, **the women’s involvement and responsibility aim at their autonomy**.
- Sixth, the cost of materials is very low and increases the profit of the women manufacturers: the clay, the earth of the termite mound and the water are almost free. It is the reason why **the stoves are very cheap (max. 6 USD)**.



Women's seminar at the EFIDO center to learn how to build new clay stoves

(Centre EFIDO- Mai 2021)

Seventh, the introduction of the technique of pollarding of trees will allow women to have a long-lasting supply of wood regenerated by regular radical pruning. This is the description of this method by Dominique Mansion: “Les trognes, l’arbre paysan aux mille usages » /Éd. Ouest-France”.



2 Hornbeams in by Dominique Mansion: “Les trognes, l’arbre paysan aux mille usages »
Éd. Ouest-France”. Loir-et-Cher (France)



*The trimming technique of pollarding also exists in our climate.
Here, the same 30-year-old acacias in winter and summer (Neuss 2021 Winter and summer)*

- Eighth, acacias bind nitrogen with their roots and make the soil **fertile**. The introduction of charcoal into the soil aims its amelioration too. We chose acacias because their roots fertilize the soil. But we also want to test other species of trees adapted to the climate and soil of the villages.
- Ninth, for the full success of the project, **a boost in the awareness of the population** is necessary, because this model is based on the self-responsibility by all (in Togo and Germany!), which makes it a modern project.
- Tenth, this project provides **a concrete, practical and sustainable response to the problems of climate change** as it reduces CO2 emissions in homes and increases its capture by trees.



Everyone takes part in the planting of trees (Centre Efido-Mai 2021). 3-month-old acacia



Preparation of furrows (Centre EFIDO / 2014)



Our first wood harvest. We are very happy and proud! (Centre EFIDO / Sept. 2021)



*Left: Our acacias have been cut down for the first time
Trees are planted in double rows. Their roots bind nitrogen and make the soil fertile.*

(Centre EFIDO / September 2021)

*Below: Pollarding for a one-year-old acacia.
The tree now has its final round shape.*



D- COSTS

Our project EFIDO has lasted for two years and cost € 12 000 per year (about 14 000 USD). This includes the cost of fitting out and equipping the EFIDO agricultural center.

**It is for us hard to secure funding of our project.
So, we are looking for sponsors!**

E- DESCRIPTION OF ACHIEVED RESULTS

The "Trees and Clay Stoves for a Better Life" project is aimed at 14 Togolese women's groups benefiting from microcredits since 2013 or 2014 (project Elagnon). About 150 women are involved. 1 or 2 women per group will be chosen to lead the action "stoves" during the dry season (manufacturing and marketing). Now, there are 10 multiplier women. The sale price of stoves is estimated at max. 6 USD each. Modern technology at this price is only possible by using cheap materials. So, every woman can afford it. The stoves are easy to build. The profit is entirely for women. The health benefit is enormous for women and children: less smoke, CO and CO₂ emissions mean less lung and eye diseases, and ultimately a significant drop of the death rate.

The planting of 4 130 trees in 2 years in 20 villages requires the intervention of one manager per village. Pollarding hasn't been used in Togo yet. It very innovative. It is difficult to say how many trees are planted per hectare, because the project is very innovating, and every village has its own properties.

We can say that families show great interest in our project. The benefits of these trees for families are immense: sustainable and renewable firewood, cooler air, fight against soil erosion, bio compost for a fertile soil, shade, protection against strong winds, feeding of animals (leaves). For the environment, CO2 capture will reduce the effects of climate change. In September 2021, we had the first harvest of wood.

A benchmark for comparison is still needed. But first estimations make us optimistic.



F-REPLICATION POTENTIAL (MODEL CHARACTER)

The model of manufacturing innovative clay stoves and the introduction of pollarding is replicable in other villages. Urban consumers who form an essential target group too, can be approached.

The choice of acacia trees can and should evolve according to the results obtained and the local climate and soil conditions. Other species of pollarding of trees should be experimented with others sorts of trees. It will then be essential to exchange our experiences.

We are planning to extend it to all families in the 20 villages in the next 2 years and later in more places in Togo.

It is a very promising project with a huge impact - at little cost because it appeals to the sense of responsibility and commitment of beneficiaries.

We need sponsors!

The "Trees and Clay Stoves for a Better Life" project will be known through radio, television, flyers, word of mouth. It will be presented at agricultural and technical fairs.

"Lernen-Helfen-Leben.e.V. " keeps track of the progress of the project in Togo and will spread valuable information for other NGOs and associations on its website (www.l-h-l.de).



Do you want to know who we are?



*Photo of a part of the team of our partner association ADICH and Mrs Kloecker (LHL e.V.)
visiting the village of Alavagnon in 2019*

- Mr Todjro, president of ADICH
- Mr Kodjo, project manager of ADICH (top right)
- Mr Sossou, secretary of ADICH (top middle, in red shirt)
- Mr Awoudja, the village chief (center below, in white)
- Mrs Adjovi, the village priestess (wearing a hat)
- The young people standing in the back row form the Novignon group, specialized in agriculture.

The German association LHL e. V. (Lernen-Helfen-Leben) and the Togolese association ADICH (Association for the Integral Development of the Houdou Community) have been working together since 2009.

Our collaboration has resulted, among other things, in the systematic reforestation of villages, in providing sanitary equipment (wells, dry toilets, etc.), in literacy program for the villagers, in environmental awareness in schools, in microcredits, etc ...

Since 2017, the emphasis has been on training farmers in agroforestry, making natural composts, using charcoal ion the soil, planting pollarding trees and making efficient and affordable clay stoves for all. All these measures are supported by microcredits at 5%, almost exclusively granted to women's groups.

Neuss (Germany), 2021-10-24
Chantal Kloecker
Project Manager

