



**Brighter
Communities**
Worldwide

CREATING BETTER FUTURES

Smokeless Stove Programme



2020 Programme Report & 2021 Programme Plans

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Brighter Communities Worldwide

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Cover Photo: Smokeless stove in Kutung Primary School, June 2020

About Brighter Communities Worldwide

Brighter Communities Worldwide (BCW) is an NGO which has been working in community development in East Africa since 2002. Brighter Communities World wide's community development model considers the whole community, enabling individuals and communities to be authors of their own development, building better futures for all. Our model creates an enabling environment for communities to realise change and uses a partnership-based approach to deliver relevant programmes to meet the needs of communities and individuals.

Creating brighter communities means ensuring:

- Access to good, affordable healthcare;
- Education to help people find a job and be able to articulate their needs;
- An income that can sustain a family; and
- Healthier lives with a supply of clean water and better facilities.

Our vision

A world where strong, healthy communities can thrive, building sustainable livelihoods and brighter futures

Our mission

To work in partnership with communities, to deliver programmes that enrich their lives and help create better futures for them and their families.

Our values

Our values underpin everything we do and every decision we make. They also help communicate the way we work and how we do things.

- Integrity - We are an organisation built on integrity and good governance with a track record for success.
- Passion - We work passionately in all that we do to realise our vision across communities.
- Togetherness - We work together with all our stakeholders; all programmes are based on community needs as identified by themselves.

Our values are based on the way we work:

- As advocates for people who don't have a voice
- In partnership with local people, officials, NGOs and governments
- Giving people the tools to build on what they already have
- Building on the traditional way of doing things to improve lives for everyone



A chimney emits the smoke from the kitchen ensuring a safer healthier environment for all.

Health Context in Kericho County

Brighter Communities Worldwide works in Kericho County (population 901,777) in North West Kenya.

- Communities in Kericho County lack access to basic services including water, sanitation, electricity and healthcare and many households (up to 60%) are living below the poverty line.
- Access to essential health services is difficult in this remote area due to poor infrastructure, terrain, education and awareness.
- The prevalence of maternal mortality is high (circa 500 women die in childbirth per 100,000 live births)
- The county perinatal mortality rate is 38 per 1,000 which means that 1 in every 26 infants die in birth or within their first 7 days of life (nationally 1 in 35)
- Children who survive do not always thrive and 1 in 20 will not reach their 5th birthday (child mortality circa 49.4 in 1,000 Demographic Health Survey 2014). This is often due to lack of immunisations, poor environmental conditions, poorly educated parents etc.
- 85% of households rely on traditional methods of cooking which involve using wood as fuel, and subsequently respiratory illness are widespread

Brighter Communities Worldwide work in partnership with local communities and with the Ministry of Health to bring better health to the people through the healthy homestead programme and the implementation of the community health strategy.

The **Healthy Homestead** has a number of key elements which when put in place result in better health conditions for the family. These elements include:

- Safe Water Supply;
- Good sanitation;
- Rubbish disposal;
- Smoke free cooking environment;
- Space and Ventilation;
- Progressive vector control;
- Nutrition and Food Supply - Kitchen Garden;
- Improvement of Maternal and Newborn Health;
- and
- Income generating activities.

The **Community Health Strategy** is a bottom up approach aimed at creating healthy communities through empowering Kenyan households and communities to take charge of their own health. It is based on the formation of Community Units made up of Community Health Assistants and Community Health Committees who receive training on how to manage the unit, and Community Health Volunteers who link with the nearest Ministry of Health facility. The Community Health Volunteers receive training to enable them to support local households to become healthy homesteads and to build a picture of health issues in their area which can then be prioritised and dealt with in partnership with Community Health Assistants at their nearest Ministry of Health facility.



2020 Smokeless Stove Programme Activity Update

Apart from health problems associated with wood smoke, open fires used in majority of the household in this region use a lot of firewood and expose mothers and children to burns.

A smoke free cooking environment is a key element of Healthy Homestead and to accelerate this in the community, Brighter Communities Worldwide in partnership with the Ministry of Health train Community Health Volunteers in smokeless stove installation. The installation of a **smokeless stove** which includes a chimney used to extract smoke from the cooking area. The effects of this programme are seen immediately after installation; the now smoke free environment leads to lower levels of respiratory illnesses and cuts the rate of injury from open fires. It also operates with one third of the wood used in a “three stone” traditional stove thus promoting deforestation.



The traditional 3 stove stove – women and children are at risk of burns.

Three billion people, or 40% of the world’s population, rely on open fires or inefficient stoves to cook their food. Fuels used include wood, charcoal, coal, kerosene which expose families to Household Air Pollution (HAP) and this is a leading risk factor for diseases including childhood pneumonia, chronic obstructive pulmonary disorder, bronchitis, heart disease, stroke and lung cancer.

In 2016 household air pollution was responsible for 3.8 million deaths globally making this risk factor the largest environmental contributor to ill health. According to the WHO ([link](#)), HAP as a **public health threat** is responsible for almost 10% of the mortality in low to middle income countries.

At a national level ([link](#)), 80% of the Kenyan population depend on open fires and solid fuel to cook their meals with 8.1 million households using wood and 1.3 million households using charcoal.

In Kenyan homes, HAP is causing 21,650 premature deaths every year. Women and children are the most affected with close to 5,000 children in Kenya dying every year as a result of acute lower respiratory infections caused by the smoke in their homes.



Girls in Ndubusat carrying wood from the forest - each of these loads is at least 25kg!

Reliance on wood means cutting trees for fuel which is causing de-forestation and flooding leading to landslides and erosion. Girls and women spend hours each week collecting wood. As the demand can't meet supply they have to travel further and further to get a supply. Wood smoke is contributing to **climate change** through emission of greenhouse gases such as carbon dioxide, methane and black carbon or soot – inefficient cooking because of a poor stove or wood that is not matured exacerbates this problem.

Providing a stove that is cleaner and more efficient will dramatically reduce exposure to HAP, help reduce de-forestation, protect the environment, provide income generating opportunities and save households time and money. Brighter Communities Worldwide in partnership with the Ministry of Health have designed a smokeless stove and install on average 1200 household stoves every year along with 12 institutional stoves for schools.

These smokeless stoves are built with readily available materials - bricks, mud, sawdust, water; a locally produced tin chimney and most importantly - trained installers. It takes half a day to install and the effects are seen immediately as the chimney extracts the smoke and the stove uses 1/3 less wood than an open fire. The stove is easy to use and as it is at a height off the ground, there are less injuries from burns.

In 2020, an additional **25 (11M, 14F)** stove installers were trained through 4 day workshops providing the volunteers with the skills, knowledge and experience required. These men and women can use their new skills to earn a living installing smokeless stoves across the county. **1,221 smokeless stoves** were installed by BCW to vulnerable households across the region in 2020 benefitting **6,447 residents (3,117M, 3,330F)**.

Better health means households save money on medicines and time saved collecting wood gives more time for business activities so income increases & poverty levels reduce. Girls and women need less time to spend collecting wood which frees up their time for school work and income generating activities.



A woman fitting pots in her newly installed smokeless stove

2020 Pre Stove Survey Results

Before a smokeless stove is installed in a household, we conduct a pre-installation survey which gathers details such as household fuel consumption and costs, and health issues within the household. A synopsis of information gathered from households in 2020 are outlined below:

- The number of people living in households surveyed ranged from 1 to 14, with an average of 7.
- The majority of households surveyed (**87%**) were male headed households.
- The primary occupation of the household head (**78%**) was farmer
- **94%** of stoves/ fires in homes surveyed did not have a chimney.
- Firewood was used by **97%** of those surveyed for cooking and by **9%** for heating the homestead.

2020 Post Stove Survey Results

During the year we conducted post surveys among **1,261** households in the region, approximately six months after the installation of the a smokeless stove in their home. Information and results gathered from these surveys include:

- **96%** of those interviewed stated that they spent less time collecting firewood post installation. When asked what they do with that extra time gained, most spent more time farming, working in their kitchen garden or doing household chores and others focused on expanding their businesses
- **99%** stated that their household income has increased since the installation. When asked what they were using the extra income for, examples included payment of school fees, purchase of

household necessities, poultry production, improvement and expansion of farming activities and also improvement of businesses.

- **99%** surveyed stated that there were no respiratory illnesses in the household since the stove was installed.
- Householders outlined the changes they had noticed in their households since the installation of the smokeless stove. These included a conducive cooking environment; using less firewood used for cooking; less time spent cooking as the new stove retains heat; Safer (minimized exposure to burns); reduced cooking fuel expenses; no smoke emitted in the room; cleaner walls; no eye irritation and less time spent collecting firewood.



Various stages involved in installing a smokeless stove

Planned impacts of the Smokeless Stove Programme in 2021 (subject to COVID-19 impacts)

- Train an additional **52 stove installers** who will increase the number of stoves across Kericho County.
- Install **1,250** smokeless stoves across Kericho County.
- Carry out pre and post surveys to measure the impact of the smokeless stove
- Ongoing monitoring and evaluation of health, economic and financial indicators.

***Thank you to all those who supported our Smokeless Stove Programme during 2020.
Asante Sana!***