

SAVING
LIVES
CHANGING
LIVES



Clean cooking in schools

A lasting shift to clean and modern institutional cooking

Globally, 2.6 billion people still lack access to clean cooking solutions to consume their food. Unless urgent changes are made, 2.4 billion people will remain without clean cooking access by 2030¹. Relying on inefficient cooking technologies will continue to have dramatic consequences for the environment, economic development, and public health.

Because of the high volume of meals prepared, schools are large contributors to inefficient cooking. WFP has been supporting school feeding initiatives for six decades, working with more than 100 countries to set up sustainable national school feeding programmes. Most of the food distributed by WFP to these schools requires cooking before it can be consumed.

It is estimated that 80% of the school meals cooked in schools supported by WFP are still prepared on inefficient three-stone fires.

Fuel is most often supplied by children and their parents. Some families collect the cooking fuel, which impacts their time, while other families purchase it, which is a considerable economic burden that may affect school performance or attendance. For lack of fuelwood, children are sometimes forced to skip meals.

Emissions from cooking not only contribute to the accumulation of greenhouse gases in the atmosphere, but also cause respiratory diseases resulting in 4 million premature deaths worldwide each year, more than Tuberculosis, Malaria and AIDS combined².

Further, schools' reliance on traditional biomass for the cooking of meals is contributing to environmental degradation through deforestation and pollution. Each Kenyan school alone may be responsible for the clearing of 56 acres of forest each year, according to estimates by Nature Kenya³. Deforestation has important implications on ecosystems, including negative



1. <https://www.iea.org/reports/tracking-sdg7-the-energy-progress-report-2021>
2. <http://www.who.int/en/news-room/fact-sheets/detail/household-air-pollution-and-health>

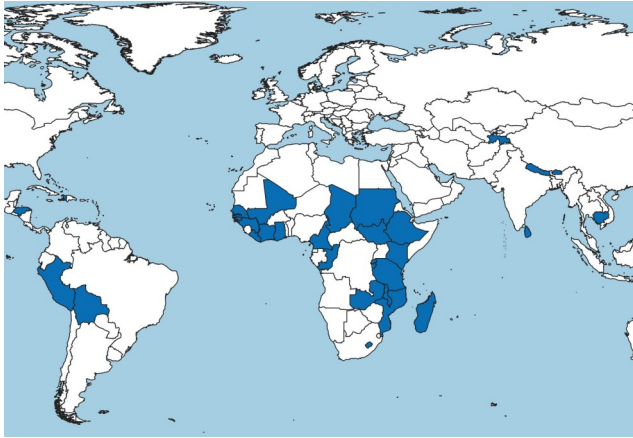


Figure 1: WFP's countries with cooking programmes in schools between 2003 and 2020.

impacts on watersheds, increased soil erosion, land degradation, loss of biodiversity and diminished local rainfall.

WFP has a strong track record of promoting alternatives to traditional cooking practices, with interventions in 34 countries (see Figure 1) and distribution of over 28,000 improved institutional stoves between 2003 and 2020.

However, there is an increasing need to step up this effort by harmonizing interventions across geographies, diffusing best practices, promoting modern technologies and focusing on long-term sustainable impacts.

RE-ENERGISING THE COOKING OF SCHOOL MEALS

The shift to more efficient cooking technologies includes a variety of options, starting from efficient biomass stoves that are suitable for many rural locations, to electric pressure cookers (EPCs) where electricity is available either on-grid, from mini-grids or stand-alone photovoltaic (PV) systems.

With 90% of the global population connected to electricity in 2019³ (96% of developing Asia, 48% in Africa, see Figure 2) and ambitious plans of countries and international bodies to increase these numbers by 2030, electric cooking is becoming a realistic option for many urban centres and transition economies.

As many as 31% of primary schools in Sub-Saharan Africa and 55% in Southern Asia already have access to electricity⁴ but many of them still use fuelwood for cooking.

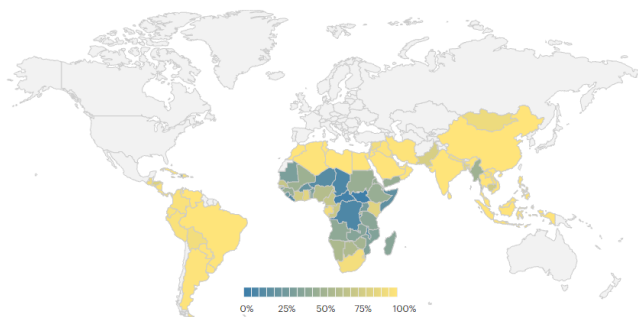


Figure 2. IEA Proportion of population with access to electricity in 2019

3. <http://naturekenya.org/2017/07/10/fighting-deforestation-through-fuel-wood-management/>
 4. <https://www.iea.org/reports/sdg7-data-and-projections/access-to-electricity>

OPPORTUNITIES OF SCALE

In 2020, WFP has distributed 905 institutional fuel-efficient stoves to 244 schools. These have so far been largely biomass-based (with the exception of 16 biodigesters in Senegal), indicating a concrete opportunity to introduce cookstoves of higher quality, and in greater quantities, across WFP's school feeding portfolio.

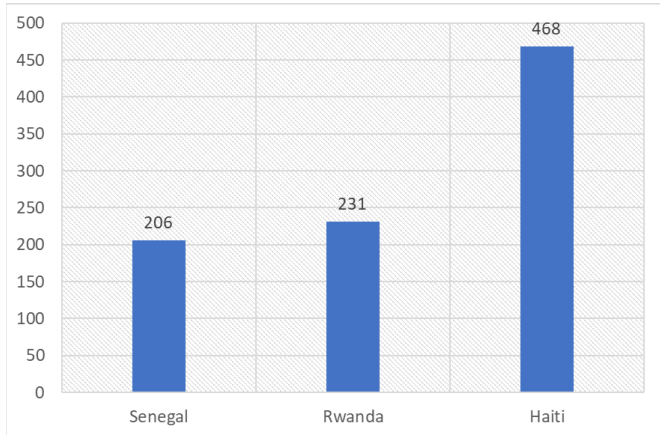


Figure 3. Institutional cookstoves diffused by WFP in 2020

WFP has six decades of experience supporting school feeding initiatives and working with more than 100 countries to set up sustainable national school feeding programmes. In 2020, WFP has reached 15 million schoolchildren with nutritious meals and snacks. For the next 10 years the organisation aims to ensure that 73 million primary school children have access to meals in schools, including in 30 of the most fragile and low-income countries. With its capillary presence in thousands of schools and its advisory role on school feeding in numerous countries, WFP is well placed to help Governments address the cooking challenge at scale.

The cost of food delivered to schools in 2020, was US\$ 0.28 per child per day. It would cost additional US\$ 0.02 per child per day to ensure that this food is cooked in a clean, energy-efficient and sustainable manner that reduces emissions and does not harm the environment.

CARBON EMISSION REDUCTIONS

By using less fuel and limiting smoke emissions, efficient stoves reduce the amount of greenhouse gases that are emitted into the atmosphere with each prepared meal. One metric ton of CO₂ equivalent (tCO₂e) saved is worth one carbon credit in the international market. The monetization of carbon emission savings thus accumulated by improved institutional cookstoves can bring additional resources into school-based programmes, while at the same time enabling continuous monitoring of innovation uptake and – performance. Coordinating the support of clean institutional cooking interventions under one global umbrella in WFP would increase simplicity and efficiency—and enable a strong global narrative for donors and partners.

Depending on the value of CO₂e in the carbon market, which is expected to be on a rising trajectory as more countries are putting a price on pollution, carbon revenues

can help schools to further improve their energy setup, purchase fuel in a more economical manner, and replace the stoves at the end of their lifetime. Importantly, this would allow for rigorous monitoring, maintenance and repair of the installed stoves, enabling schools to adopt clean cooking on a permanent basis.

FROM THE SCHOOL INTO COMMUNITIES

Through its work with schools, WFP creates a conducive environment for the adoption of clean and modern cooking solutions in surrounding communities. With school kitchens as laboratories to showcase clean and modern cooking solutions, school cooking programmes can promote transformative change in the wider area.

WFP will work with Governments and other stakeholders to promote clean cooking in schools and communities by: raising awareness; developing training courses for cooks on efficient cooking practices that also preserve the nutritional value of foods; and support vulnerable families that benefit from take-home food rations with subsidies to access modern cooking devices and fuels at home (e.g. sustainable biomass, pellets and electricity).

WFP will adopt market based approaches and collaborate with private sector suppliers of cooking solutions to offer after-sale assistance, maintenance, repair and end of life

ENERGY IN THE FIELD: WFP's Innovation Accelerator is piloting the introduction of institutional Electric Pressure Cookers to four urban schools in LESOTHO. Recipe books will be developed in collaboration with MECS. With this project WFP is assessing whether Institutional Electric Pressure Cookers (EPCs), can represent an alternative to cooking with firewood, charcoal, kerosene, or gas in schools in Lesotho. Testing will include technical viability, the business case, and willingness to adopt.



substitution to end users. It will target households but also bigger users, commercial activities such as bakeries, restaurants and food street vendors.

ENERGY IN THE FIELD: WFP works with IOM, UNHCR and FAO in Bangladesh to provide LPG cooking solutions through vouchers in Cox's Bazar refugee camp. Over 187,000 LPG cylinders and gas stoves were provided to refugee households, followed by monthly refills depending on family size, with the goal of decreasing the pressure on surrounding forests. Distribution was done at every LPG shop throughout the camp and each shop was equipped with WFP Point of Sale (PoS) terminals, printers and fingerprint reader. Invoices were processed using SCOPE, WFP's beneficiary information and transfer management platform.



ENERGY IN THE FIELD: WFP is piloting solar-powered electric cookers in eight districts of Malawi's Southern region. The cookstoves are assembled at WFP warehouses and distributed to refugees and households. By replacing wood fuel with solar energy, these environmentally friendly cookers help families improve their health while saving money and time.



CLIMATE & DISASTER RISK REDUCTION UNIT

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Cover photo: WFP/Raffaella Bellanca. 2018 Burundi, preparation of school meals with biomass in Gitega province.

Photo pg 3: Top, courtesy of TaTEDO Tanzania; Middle, WFP/Mehedi Rahman. Bangladesh, Cox's Bazar 2021; Bottom, WFP/Margaret Mkandawire, 2020 Malawi