Lifeworks: improving soil fertility, transforming lives



Who

Lifeworks is a UK-registered charity that teaches low-cost regenerative agricultural techniques to small farmers. The training we provide is free to the organisations and farmers we train.

What

We train trainers: people who work for organisations or projects that support farmers. We sometimes train groups of farmers directly. We teach them how to produce and apply organic microbial fertilisers and compost made from locally available, low-cost materials.

Why

There is a global crisis in soil fertility and crop yields are falling. Meanwhile, world hunger continues to grow. An estimated tenth of the global population, 811 million people, were undernourished in 2020. Nearly a third of the global population - more than 2.3 billion people lack year-round access to adequate food.

How

The fertilisers that we teach farmers to make and use are rich in microbes that restore soil fertility. These microbes have the power to make nutrients in the soil available in a form that plants can absorb more easily and they create the soil conditions so plants are better able to fight pests and diseases. This means higher crop yields - and means farmers can move from subsistence to having a surplus to sell.



The trainer

George Mwima is a university lecturer and project manager

living in the Kakamega province of Western Kenya. He works in community

development on agriculture and food security

programmes. He was trained by Lifeworks in 2019 and he has gone on to train farmers in a Soil Rehabilitation and Fertility Management network which has around 10,000 members.

I did field trials on my own farm and got very good results - I concluded this was an approach that can help our farmers. Food security is a big issue around here. Thanks to Lifeworks I have learnt that microbes can build a better soil and pull many people out of poverty. Micro-organisms are what bring about all this magic."

Quick facts

Lifeworks has trained trainers and farmers in 10 countries, mostly in sub-Saharan Africa.

We have trained some 600 trainers - and they have trained more than 60,000 farmers.

Our farmers typically see increases in crop yields and quality in the first harvest, with yield increases of up to 150% over time.

There is a growing body of research evidence showing the impact that microbial fertilisers have on soil fertility and crop yields.

The impact of our approach has been proven in a number of small-scale trials carried out by agronomists trained by Lifeworks.



The farmer

Clementine Murekatete is a farmer living in Eastern Rwanda. Clementine was struggling to feed her family - her maize harvest was getting smaller every year. She ran out of money for fertiliser and her yields dropped even further. Her family was hungry and there was no money for school fees. Since she was trained by Lifeworks in 2020, her life has been transformed by having surplus crop to sell. Clementine has trained many other farmers.

I used to be on the list of parents who could not afford school fees, but now I can and also health care for my family. We saved money and bought a small piece of land. I now grow vegetables and keep chickens as well as growing maize. Life used to be very hard for us but now it is much better."





Several independent multi-region or multicountry trials are underway to study the impact of our approach on particular crops, on soil fertility and soil carbon capacity.

The pan-African institutions leading these trials will codify and disseminate best practice for use of microbial inputs if these trials are successful.

Problem >>Solution

Global soil and climate crisis

- A third of the world's soil is degraded, according to the UN and fertile soil is being lost at a rate of 24 billion tonnes a year. Across the world, crop yields are falling.
- Farmers are using ever higher quantities of inorganic fertilisers and pesticides which leads to more soil degradation.
- Soil is a very important natural store of carbon from the atmosphere. Soil loss and degradation are major contributors to climate change.

Our cascade model

Lifeworks provides free training to groups of people well placed to train farmers: government agronomists, programme officers working for NGOs, leaders of farmers' unions, and local community extension workers supporting farming communities. We support these people to train others.

Lifeworks can reach large numbers of people at low cost in this way. Typically, each person we train goes on to train more than 100 others - and the learning cascades outward.



Lifeworks Global

solutions for a better world



A typical four-day Lifeworks training teaches farmers to make four different fermented microbial fertilisers - three liquid inputs and a compost -

using low-cost ingredients that are widely available. The training is in three parts:

PART 1 comprises two days covering basic knowledge of how microbes work to create soil fertility and learning how to produce and apply the microbial fertilisers.

PART 2 is a day focusing on how these inputs can best be used with a particular crop, such as maize or beans.

PART3 is an 'agribusiness' training day, covering essential business skills and knowledge so farmers can move from subsistence farming to building a viable small agribusiness.

For more information, visit our website <u>www.lifeworks.global</u> or contact Michael Makhoka at mmakokha@lifeworks.global







The power of microbes to transformlives

- Microbial life is the soil's equivalent of the human gut biome. Soil microbes are a mix of bacteria, fungi and small animals such as arthopods and nematodes.
- Microbes improve the structure of degraded soil so plants build stronger root systems. Microbes deter plant pathogens and help them fight off pests.
- Well-structured soil retains water (so crops can better withstand periods of drought) - and is better able to deal with heavy rainfall too.
- Well-structured soils are also better at sequestering carbon. Regenerating the world's soils will play a key role of play in addressing the climate emergency.



The results

The farmers see immediate results in their first crop in both yield and quality. Yields increase over time by up to 150% as soil health is restored.

Farmers' costs are lowered as they spend less on synthetic fertilisers and commercial inputs.

Being able to sell a surplus is life-changing for many of them - enabling them to pay for schooling, to diversify their crops and buy livestock.



