Ways to End World Poverty: Agriculture

Global poverty is a persistent problem. It also plays a major part in the ecological crisis facing our planet. However, there is an abundance of research on ways to end world poverty. The wealthiest countries have never been better off – or more technologically equipped – to solve it.

So, what are the urgent steps that we must take to address inequality? How will we better manage the world economy to erase poverty forever?

In this article we look at the profound effect that agricultural development can have on global poverty, and the ways that this impacts the fight against climate change.

What Signifies Poverty?

> *Between 88 million and 115 million additional people will be pushed into extreme poverty in 2020, bringing the total to between 703 and 729 million living on less than $1.90 a day.*
>
> *World Bank Organisation*

Women sorting cotton.
Photo by Quang Nguyen Vinh

According to the United Nations Sustainable Development Goals (SDG), 10 per cent of the world's population still live in extreme poverty. That means people who are lacking basic essentials like health, education, and access to water or sanitation. Notably, the UN's very first sustainable development goal (SDG1) is the eradication of poverty. As a result of this program, global poverty has been reduced from around 36% to 10% since 1990, but the impact of Covid-19 and threatens to reverse decades of progress.

Further, developing countries are at risk of lost income to their population of up to $220 billion. This is due to the absence of social security during a period of global uncertainty, coupled with rising inflation and living costs.

Also, systemic barriers and inequalities prevent millions of people from being able to alleviate their circumstances. For example, one of the largest structural inequalities is gender. The UN's Food and Agriculture Organisation says that, globally, women have less access to productive resources and are paid significantly less than men. Women, overall, receive lower wages for the same work, even when they have the same experience and qualifications.

This is particularly true of developing countries in Africa, Asia and Latin America.

Ways to End World Poverty With Agriculture

Traditional and rural economies are especially prone to gender discrimination. So, the work of gender equality and female-empowerment programs in these countries is vital to addressing patriarchal restraints and improving social and economic wellbeing.

These kinds of program harness empowerment through education and support, helping women to access financial, health and legal resources, and building resilience around their family's livelihoods.

In addition, improvements to farming and agricultural conditions generally will strengthen food security in impoverished rural communities. Ecological restoration of adjacent lands, and the application of improved farming techniques, significantly help to increase the revenue of small-scale family farms.

The Positive Effect of Growth In Agriculture

In fact, agriculture is the world's largest sector. It generates more than 1.3 trillion dollars annually and employs over 1 billion people globally. Thus, it has the ability to reduce poverty at a greater rate than any other sector.

Smallholding agriculture, in particular, has had the most impact on poverty overall (FAN et al., 2021). Evidence suggests that smallholder income can increase up to 40% within a growing agricultural sector (FAN et al., 2021).

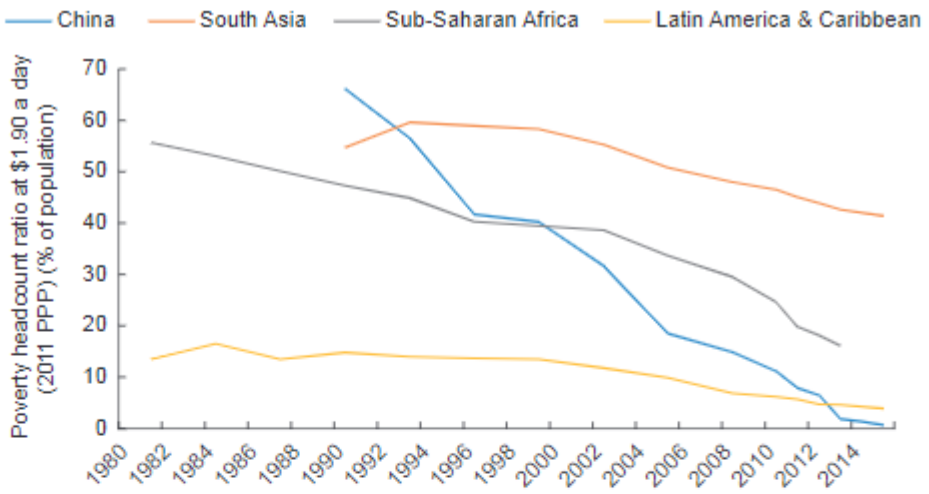


Fig. 1 Poverty headcount ratio at 1.90 US$ a day (2011 PPP) (% of population). Source: World Bank (2019).

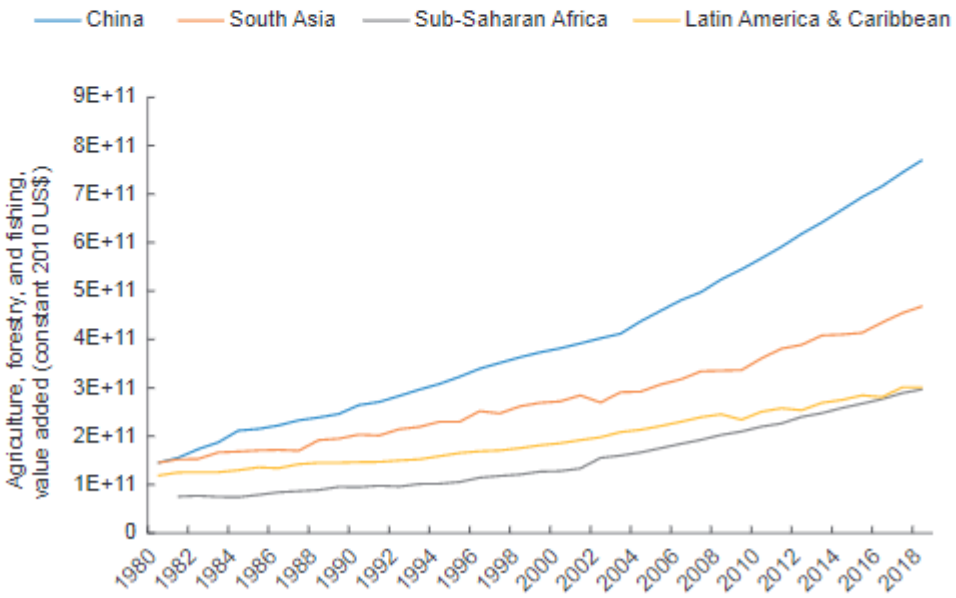


Fig. 2 Agriculture, forestry, and fishing, value added (constant 2010 US$). Source: World Bank (2019).

Source: FAN et al., 2021

However, to stimulate agricultural growth and ease the burden of poverty, there are some key priorities to target:

- Access to transportation to input and output markets
- Provision of sufficient marketing and processing infrastructure
- Enforcement of a non-discriminatory tax system
- Provision of employment for non-agricultural growth
- Well-functioning governance

Further, the impact that any sector has on poverty reduction is dependent on three dimensions:

1. Contribution of the sector to the economy as a whole
2. The degree of participation of poorer members of the community in that sector
3. Indirect impacts from other sectors (Christiaensen et al., 2011).

Agriculture has been able to achieve extraordinary growth due to innovative technologies, improvements in infrastructure, and in institutions (FAN et al., 2021). However, specific projects must be put in place by governments that directly target poor and vulnerable communities. For instance, the adoption of high-yielding crop varieties, greater use of chemical fertiliser, and improved irrigation. This has doubled crop yields in just over a few decades from the late 1960s to 1980s (FAN et al., 2021). Other kinds of policy include employment programs, social protection, and subsidies. They might also include environmental strategies to combat the effects of climate change.

can Plants Really end world poverty?

There are currently 891 million people in the world who are undernourished. Yet there is more than enough available agriculture to feed the world population.

Many countries, including China, Sierra Leone, and Costa Rica, have made major inroads into relieving poverty.

For example, China began introducing poverty alleviation initiatives in 1992 by expanding agriculture nationally. The project relocated resources and knowledge to impoverished areas. Previously, strategies had centered around rural economic reform and economic growth alone. Now, the strategy revolved around agriculture, farmers, and rural communities. This successfully reduced poverty rates to just 1.7% by 2018.

Farmers working in the agriculture sector in Dafang county, Bijie city, China. **Source: China Daily**

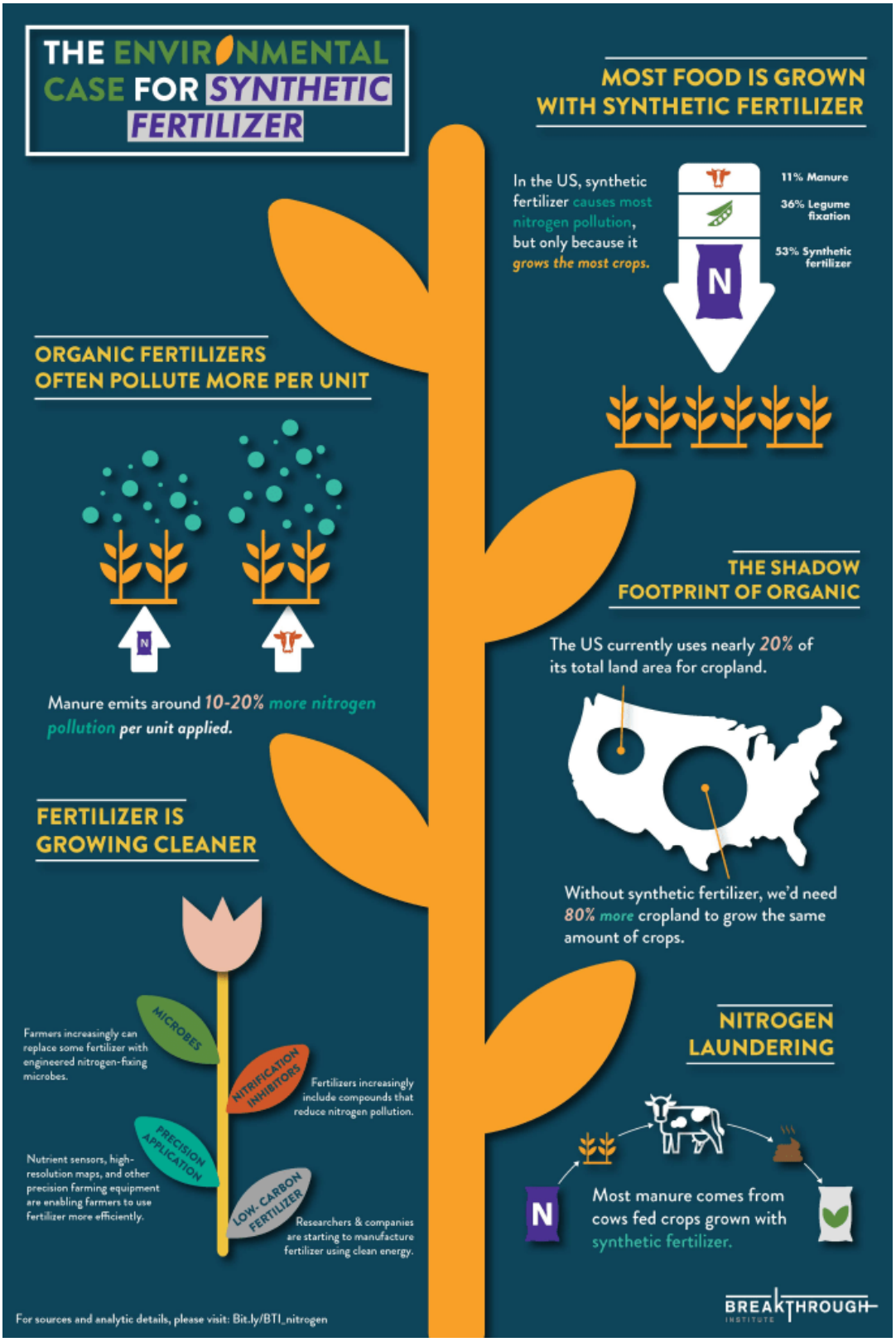
Sierra Leone's extremely arable lands provide the perfect environment for rice growing (George et al., 2020). However, in years of low rice yields, the high cost of imports raises food prices and threatens vulnerable and impoverished populations. Thus, the amount of rice the country produces directly affects prices overall. Between 2008 and 2018 the country produced 620,000 tons of rice on average (George et al., 2020). However, thanks to the application of better rice growing technologies, output has gradually increased to 1.05 million tons in 2020.

There is a high success rate in the application of better agricultural practices to reduce poverty rates. In turn, this stimulates economic development beyond agriculture, and creates more employment opportunities for people elsewhere.

Beware the Environmental Impacts of fertilisers

However, whilst chemical fertilisers might increase yield, they can also destroy vital fungi and micro-organisms beneficial for plant growth, as well as other organisms that live around farms (Altieri, 2009).

Farmers working in large grain farms cannot create fertilizer self-sufficiently, so they must rely on chemical fertilisers high in Nitrogen, Phosphates and other inorganic chemicals (Hu, 2020). Continuous importing allows farmers to purchase chemical fertiliser at subsidised prices. Unfortunately, this creates an unsustainable dependence on chemicals that harm the local environment, humans, water bodies and the food web (Lin et al., 2019).



Environmental impacts of organic and synthetic fertilisers.
Source: The Break Through Institute

Moreover, countries that export chemical fertilisers to impoverished, subsistence economies have been resistant to the development of local organic fertilising techniques. Consequently, this causes a strain in political relations between those countries. This is because critics question the long term efficacy of this kind of assistance, and point to the destruction of local habitats and farming land (Dharmakeerthi et al., 2021).

However, there has been a growing awareness of the value of locally sourced, renewable fertilisers, or biofertilisers, more recently (Silva, 2020.).

Instead, a sustainable fertiliser would:

- Impose minimal costs on the farmer
- Reduce strain on the root systems of plants metabolising the fertiliser for plant growth
- Reduce intervention of governmental bodies to complicate the state of rural agrosystems (Bhardwaj et al., 2014)

Developing the use of locally-based natural fertilisers rather than imported chemical fertilisers, without affecting yield productivity, is highly possible. This kind of technology could empower farmers to become more self-reliant. It also protects groundwater and facilitates passive ecological restoration of degraded forest systems.

Other Ways to end world poverty

World Vision suggests 8 critical ways to help end world poverty:

1. Educate children
2. Provide clean water
3. Ensure basic health care
4. Empower girls and women
5. Improve childhood nutrition
6. Support environmental programs
7. Reach children in conflict
8. Prevent child marriage

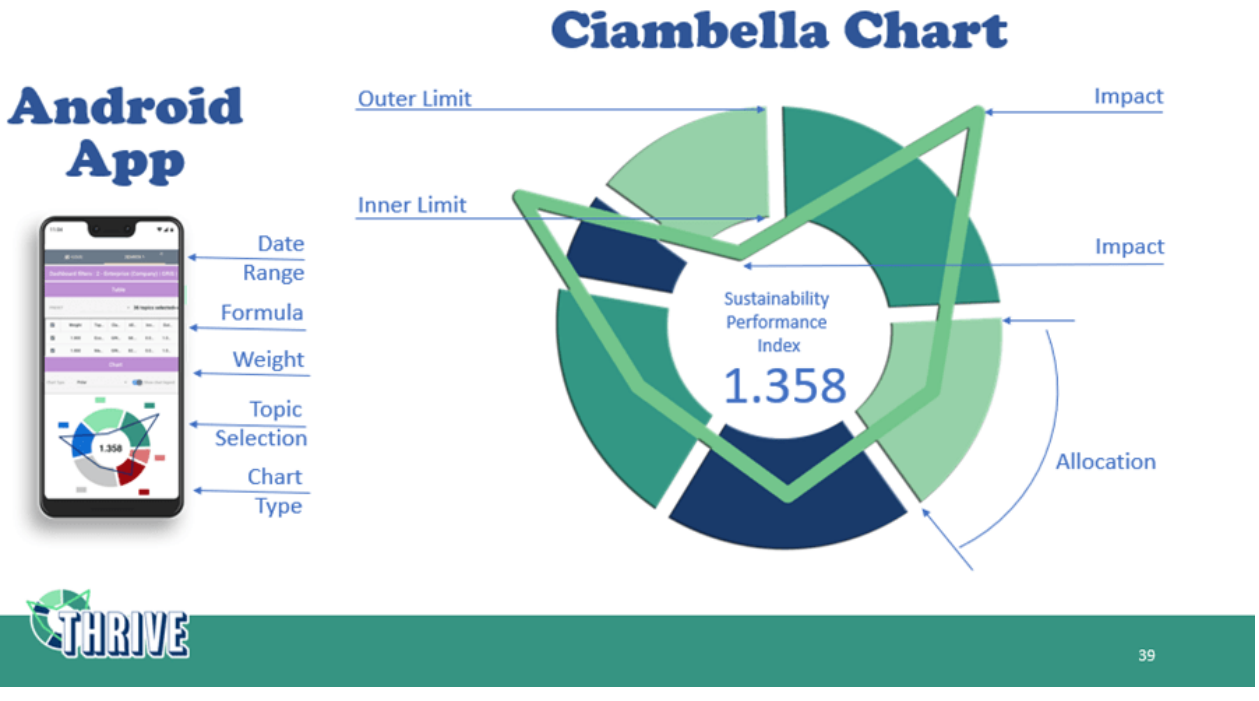
These approaches are very achievable and affordable. They remain effective even with currently available technologies and the state of the world economy.

At THRIVE, we recognise that human happiness can sometimes compete with environmental wellbeing. This which is why we use our **ciambella chart** (below) to illustrate the 'thrivable zone'. It is the area between a 'social floor' (the minimum required for people to live happy lives) and an 'environmental ceiling' (the maximum damage that we can do to the environment before it becomes unsustainable).

The Thrive Framework

The THRIVE Framework addresses the kind of complexity facing organisations when assessing the impact of actions on sustainability. It outlines the significance, scale, scope and shift of any activity's effect on future sustainability performance.

At its core, sustainability simply means the ability to continue, to survive. 'Thrivability', by contrast, is the next step, beyond sustainability. THRIVE believes that humanity can do better with the knowledge currently available to us. We want to instil the idea that sustainable solutions not only prevent disaster, but build societies that flourish.



The Ciambella Chart: Overlaid on these thrivable zones are visual measurements

that show impact – whether something is inside the thrivable zone – or exactly where it falls short.

The THRIVE Framework examines issues and evaluates potential solutions in relation to this overarching goal of thrivability. It is about making predictive analyses using modern technology that support environmental and social sustainability transformations.

To learn more about how The THRIVE Project is researching, educating and advocating for a future beyond sustainability, visit our website. You can follow our informative blog and podcast series, as well as find out about our regular live webinars featuring expert guests in the field. Sign up to our newsletter for regular updates.