

The Sustainability of Agriculture and Food Security

Farm Africa's 30 Year Contribution

Fadeke Ayoola first reviews the world problems of food sustainability, particularly in Africa; then suggests that the Christian response is to modify our own lifestyle and support organisations like Farm Africa, whose work in helping develop African agriculture she explains in some detail. Finally, she gives some examples of practical ways in which individual Christians can respond.

The primary objective of sustainability is to achieve satisfying lives for all, while staying within the bounds of nature¹. By definition, consumption patterns are unsustainable if they exceed nature's capacity to provide, whether at the local level or globally. Living beyond our ecological means will surely lead to the degradation of human wellbeing both now and for future generations.

Sustainability is on the global agenda because the global population has reached seven billion, and is projected to reach eight billion by 2024 (United Nations). CO₂ emissions remain well above the level recommended by scientists, due to increased global energy demand.

Water scarcity is both a natural and a human-made phenomenon². There is enough fresh water on the planet for

seven billion people, but it is distributed unevenly and too much of it is wasted, polluted or unsustainably managed. Water shortages, reduced water quality, and water price volatility pose a security risk to many large business operations. The pulp and paper timber processing industry is at risk from potential regulation designed to slow or reverse deforestation. This is an example





of the scarcity of a natural resource leading to the risk of short supply being compounded by regulation.

Climate change, population growth, energy demand, water scarcity and deforestation all threaten long-term sustainability. However, policy makers, investors, businesses, NGOs and civil society are responding to these challenges. They are now acknowledging the interconnecting relationship between nature, society, and business, and are changing the way in which they conduct their affairs. Accountability, transparency, and sustainability are now high on the agenda of governments, organisations, and the global citizen, especially in developing countries. Why? According to the United Nations Framework on Climate Change (UNFCCC), billions of people in developing countries are vulnerable to climate change, especially in Africa³.

In Africa vulnerability to climate change has the regional impact of water stress – extreme events such as droughts and floods. 75–220 million people will face severe water shortages by 2020. These water shortages have serious implications for agriculture and food security. As

rainfall reduces, yields from rain-fed crops have reduced by half in some regions, creating food insecurity. This is compounded by decreases in agricultural production caused by loss of land and uncertainty amongst local farmers about what and when to plant in a climate of shorter growing seasons. Population growth, food consumption patterns, and world demand are such that one in four people suffer from hunger and do not have enough food to eat⁴. Millions in Africa are at risk of hunger. The United Nations member states have made two major commitments to tackle world hunger. The first was at the World Food Summit in Rome in 1996, when 182 governments committed "... to eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later than 2015". The second was the formulation of the First Millennium Development Goal (MDG1), established in 2000 by the United Nations members, which includes among its targets "cutting by half the proportion of people who suffer from hunger by 2015".

This year marks the end of the 2015 Millennium Development Goal targets. During the monitoring

period 2000 – 2015, some developing countries have made credible steps in achieving the MDG1c hunger target. This has been done by investing in their agricultural sector, prioritising adaptation to climate change, increasing output and the productivity of small-scale farmers. They have promoted fishing, forest communities and the integration of farmers into the rural economy.

Countries that have not met the MDG1c hunger target have suffered a number of setbacks that have increased their vulnerability to food insecurity, such as: war and conflict situations; recurring droughts caused by changing climate patterns; declining public support for small-scale agriculture; trade liberalisation that compels developing country farmers to compete with low-cost imported goods, thus undermining local production, and other economic and political factors such as volatility in staple food prices⁵.

Why should Christians be concerned about sustainability and making the land fruitful?

The first human sin involved a tree, a fruit, a snake, and fruitful land. God sets a limit, a command, as to what

the humans should and should not eat. The humans chose to disobey it, overrode the command, and ate the forbidden fruit (Genesis 3:11). One of the immediate consequences of this disobedience and violation is that the fruitful land is cursed (Genesis 3:17).

As a result of the separation of human beings from God due to their violation of God's command, the natural environment suffers, the soil is cursed and it becomes harder to make it fruitful. The books of the prophets, from Isaiah to Malachi, warn us of how our violations of the creative order harm the environment.

According to the prophet Isaiah (24:5-6) the earth lies polluted under its inhabitants, for they have transgressed laws, violated the statutes and broken the everlasting covenant. Therefore a curse devours the earth, and its inhabitants suffer for their guilt.

When we look around us today, how much of nature is suffering due to our sin?

Genesis 2:15 calls us to keep the garden – we were originally put in the garden to till it and take care of it. As long as we still inhabit the earth, the position still stands, and we are to

keep the global garden, to till it and take care of it.

Creation and justice are inextricably linked: serving God's creation and doing justice to the poor are inseparable missions. To hurt the earth is to hurt the poor, to serve the earth is to serve the poor.

Today, the ecological crisis is officially the responsibility of everyone. Individuals, peoples, states and the international community are all responsible for the ecological crisis. The ecological crisis is a moral issue⁶.

Human beings according to the Bible are made for family⁷, for relationships, we are made for community, we are made for togetherness, and we are made for friendship. `We're made to live in a delicate network of interdependence, for we are made to complement one another. All kinds of things go wrong when we flout this law.

As Christians we need to be concerned about sustainability since the world's richest countries constitute one-fifth of global population but account for 45% of all meat consumption, 58% of total energy use, 84% of paper use, and

87% of vehicle ownership⁸. To maintain and support our high carbon lifestyles we consume over one-third of the world's resources. Our lifestyles have become unsustainable to the extent that we in the developed world rely on the natural resources of developing countries to bolster our lifestyles. We go to another's valley, well, river, forest, mine, and even sky to supply our high level of consumption⁹.

The Bible instructs us to *speak out for those who cannot speak, for the rights of all the destitute. Speak out; judge righteously; defend the rights of the poor and needy* (Prov. 31:8-9). *Give justice to the weak and the orphan; maintain the right of the lowly and destitute* (Psalm 82:3).

We in the western civilisation have everything at our fingertips. We open a tap or touch a switch, and like a miracle we access clean water, bath, and drink, wash our clothes, as well as cook. We tap another switch, and we access heat, light, and power. We travel a short distance, and access food at the supermarket, or tap a few words on the internet, and have it delivered to our door. We enjoy luxury holidays to exotic places, flying first class. We get fuel from the



petrol station. Everything is at our fingertips, everything is accessible, but, at what price? Are we harming the environment with our everyday lives? How can we balance or even reduce our negative impacts on the environment? To reduce our environmental footprint, we could walk or cycle more, change our diet and become a vegetarian, use more environmentally friendly energy in the home, office, and church. Monitor our water consumption, as well as recycle. What about overseas, what can we do? One of the ways we can reach out and help others who are suffering from climate related issues is to support organisations like Farm Africa. This year, I supported Farm Africa by taking part in the *live below the line* challenge. In this challenge, I had to eat and drink on £1 a day for 5 days, raising money from family, friends, and work colleagues. It is a great way to show solidarity for those who hunger, due to issues such as climate change. The money raised is used to help local farmers to plant climate adapted seeds and reap a harvest, to feed their families and send their children to school.

How has Farm Africa contributed to increasing prosperity in rural Africa?

The work of Farm Africa over the last thirty years operates in five key regions in Eastern Africa, Ethiopia, Kenya, Uganda, Tanzania, and South Sudan⁹, providing good practice and innovation in addressing hunger and bringing increased prosperity to rural Africa. In June 2015, Farm Africa celebrated thirty years of working to end hunger and bring prosperity to rural Africa. Richard Macdonald CBE, Chair of the Charity, Founder David Campbell and many others spoke at the celebration event highlighting Farm Africa's 30 year fight against poverty and hunger in Eastern Africa.

At the celebration, we heard about how Farm Africa mixes agricultural innovation and training aimed at helping farmers to help themselves, by focusing on four key areas, (i) fisheries, (ii) livestock, (iii) crops, and (iv) forestry. Below is a summary of some of the projects that Farm Africa has developed in each of these areas to fight poverty and hunger in Eastern Africa.

Fisheries in Kenya: – Case study of how Farm Africa works with local fish farmers and businesses to aid the development of sustainable fish farming.

You might have heard of the proverb "Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime." This is the essence of Farm Africa's work.

Let me introduce you to Ali, a fish farmer from Kenya. He lives with his wife Asha and their children in Kisumu in western Kenya.

Sixty per cent of households in western Kenya are dependent on fish as a source of protein and income, but overfishing in Lake Victoria has depleted fish stocks and led to price rises. This meant that families like Ali's were struggling to feed themselves.

The Kenyan government responded by building fishponds and promoting fish farming. Ali was one of the farmers that decided to get involved with fish farming and built a pond on his land, but for a long time he struggled to produce a good harvest



because he had not been taught how best to care for his fish. Ali did not know that he should feed the fish a special food, and instead was feeding them leftovers from the house. He also did not realise that he should not overstock his ponds. Ali put too many baby fish – called fingerlings – in the pond but then did not understand why many of them died or did not grow very big. Farm Africa realised Ali and his fellow farmers needed to learn how best to look after their fish and be able to buy the proper fish food and equipment they needed. To help farmers like Ali, Farm Africa set up the aqua shops project. Aqua shops are 'one stop shops' located across western

Kenya's key fish farming areas where fish farmers like Ali can easily access everything they need. Farm Africa help local business people, to set up their shop and train them in fish farming. Then these trained business people pass on their knowledge and expertise to farmers like Ali and sell the fish food, such as fingerlings, to restock their ponds and equipment harvesting nets and twine. Since the shop has opened, Ali learned many things such as the

importance of feeding the fish the right food, how to test the water quality and how many fish he should stock his pond with. When it was time for Ali's next harvest

after applying everything he had learnt, he was delighted to harvest around 1,000 large fish from his pond. His fish stock earned him a profit of approximately 30,000 Kenyan Shillings (£230). Ali is now hoping to add another two or three fishponds, which will help him achieve his dreams of a better house and a mode of transport such as a motor bike so he can sell his fish further afield.

"Give a man to fish and you feed him for a day; teach a man to fish and you feed him for a lifetime." This wonderful proverb really holds true

for Ali and his fellow farmers in western Kenya.

Farm Africa is making fish farming pay in Western Kenya, supporting the Kenyan Government Economic Stimulus Plan that aims to promote aquaculture. In 2011, Farm Africa set up 12 Aqua shops in three counties of Western Kenya, providing fish farmers, and those who want to set up a fish farming business, with business expertise, training, and market information. The outcomes are encouraging. Three years later, an additional 26 Aqua shops have been set up, and over 5000 fish farmers, are involved, as well as community entrepreneurs.

Forestry in Ethiopia

Farm Africa's REDD+ project in the Ethiopian Bale Mountains uses Participatory Forest Management (PFM) techniques. This aims to reduce greenhouse gases by 38 million tonnes as well as protect the trees and enable local people to earn a living from the forests natural resources. PFM can benefit local communities living near and around forests by alleviating poverty through

increasing local control, ownership, rights, and responsibility for forest resources. Increasing support for PFM from a wide range of stakeholders in and out of government is creating a multi-

stakeholder platform that enables local communities to participate in decision-making about the forest and its resources in a sustainable manner.

The REDD+ project has saved 2000+ hectares of forest from deforestation, as well as eliminating illegal logging and forest fires. Farm Africa leads a consortium that helps the Government of Ethiopia and the local community to develop activities that reduce deforestation. Prior to the REDD+ project, to make a living the local community would cut down

trees to sell for firewood and charcoal, as well as removing trees to enable land to grow crops and feed cattle and other farm animals. Farm Africa have provided other forms of income for local people, such as beekeeping, producing oils, making bamboo furniture and harvesting coffee.

How could the Farm Africa experience become more scalable?

The Farm Africa experience is becoming more scalable in the form of climate smart solutions. I am part of the Climate-Smart Discussion Group, organised by the Food Agricultural Organisation (FAO) of the United Nations. Part of the mission of the FAO is to roll out on a much bigger scale climate-smart solutions, through sharing and collaboration and working in partnership with NGOs and Civil Society Organisations. For example, CSA (Climate Smart Agriculture) in Africa aims to preserve the Agro-forestry system on Mount Kilimanjaro in Tanzania where CSA has helped local farmers rethink sources of cash income via three interventions¹⁰. Firstly, conversion to certified organic coffee farming; secondly, introduction of vanilla as a high value additional cash crop; and thirdly, introduction of trout aquaculture. CSA is also assisting smallholder farmers in Kenya and Tanzania, where 2500 farmers in Tanzania and Kenya – 46% of which were women – received training on climate-smart agriculture. This resulted in 300 energy-efficient cooking stoves to reduce deforestation, 44 tree nurseries, 134,381 seedlings in stock and more than 33,500 tree seedlings planted, 235 terraces established to conserve soil and water and two biogas digesters to produce renewable energy from cow manure.

Developing the readiness project CSA in Malawi and Zambia, aims to capture the synergies among mitigation, adaptation and food

security", aiming to strengthen technical policy and investment and enable sustainable increases in agricultural productivity and incomes¹. In northern Cameroon, local varieties of millet, sorghum, and maize had not adapted to lower rainfall and increased drought. The agriculture research institute which was developed adapted earlier maturing varieties of these crops and with the support of FAO, farmer seed enterprises organised to produce certified seed for sale to farmers in the surrounding villages. Farmers in Lesotho have been able to boost agricultural yields and increase food production by adopting CSA. The practice, locally known as likoti, also contributes to combating soil erosion and to enhancing fertility. The Nhambita community carbon project in Mozambique encourages farmers to adopt agro-forestry practices. In the Democratic Republic of Congo, CSA promote sustainable food and charcoal production in agro-forestry systems.

Farm Africa's slogan, "End hunger, grow farming", does have a real impact, changes lives and ends hunger for those who have been

reached by the charity. Could we conclude that Farm Africa have found the solution to the sustainability of agriculture and food security in Africa? Should we as responsible citizens be doing more to speak up for the one in four who are still hungry in Africa? What can we do?

Christians and Churches as change agents

For thousands of years Christians and Churches have been agents of change, serving God as stewards of the environment, finding practical ways of caring for the less fortunate.

Sarah Goddard, Community Fundraising Manager at Farm Africa recently stated that

approximately 300 churches in the UK support Farm Africa every year; many of them have been supporting for over 10 years. This support tends to be concentrated at harvest time, but we also see support at Christmas and Lent - traditional giving times for churches. Farm Africa receives around £75,000 a year from churches.

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Here are some challenges you might consider.

If you work in the food and hospitality industries why not join Farm Africa's Food for Good Campaign? The Food for Good campaign is the UK's food and hospitality industry's response to the global challenge of hunger; this campaign also helps companies to fulfil their corporate social responsibility objectives as well as PR and team building opportunities.

Why not speak out for more justice for small-scale farmers by becoming a speaker for Farm Africa, taking the message to your local community, church, and workplace? Farm Africa have a variety of inspirational, life-changing challenges, since the world is full of mountains to trek, scale, and pray; paths to walk and meditate, run and cycle; slopes to ski. Why not take up a challenge that changes your world and deepens your walk with God?

For a really radical challenge, what about climbing Mount Kilimanjaro or participating in the Great Wall of China walk, or take two weeks off work and reach the base camp of the greatest mountain on earth, Everest, and witness some of the most breathtaking scenery? Whatever you do, do something for the one in four who suffers from hunger in Africa. 🌍👏

1. Nicky Chambers, Craig Simmons & Mathis Wackernagel, *Sharing Nature's Interest: Ecological Footprints as an Indicator of Sustainability*, Routledge, 2000, pp.6 &4.
2. United Nations Department of Economic and Social Affairs, www.un.org/waterforlifedecade/scarcity.shtml
3. UNFCC, *Climate Change: Impacts, vulnerabilities and adaptation in developing countries*, 2007, p.7.
4. FAO, IFAD and World Food Programme, *The State of the Food Insecurity in the World - meeting the 2015 international hunger targets: taking stock of uneven progress*, 2015, p.14.
5. The Oakland Institute, *The Status of International Food Aid Negotiations: An Update to Food Aid or Food Sovereignty? Ending world hunger in our time*, 2008, p.5
6. Gordon Aeschliman, *Loving the Earth is loving the poor*, essay in the beginning of the NRSV Green Bible, Harper Collins, 2008, p.I-92.
7. Martin Charter & Ursula Tischner, *Sustainable Solutions: Developing Products and Services for the Future*, 2001, p.49
8. Gordon Aeschliman, *Loving the Earth is loving the poor*, essay in the beginning of the NRSV Green Bible, Harper Collins, 2008, p.I-92.
9. Farm Africa was previously working in Southern Sudan focusing on food security and incomes. However since the outbreak of war and conflict they have been unable to continue their work there, but will review the situation and return when the country ceases to be at war. www.farmafrica.org/
- 10 The examples of climate smart solutions taken from FAO success stories in various countries, the cases selected from the FAO Climate-Smart Agriculture (CSA) Sourcebook launched in 2013 to show the diversity of potential options across different regions and agricultural systems.
11. FAO The Hague Conference on Agriculture, *Food Security, and Climate Change, "Climate-smart" Agriculture - Policies, Practices, and Financing for Food Security, Adaptation, and Mitigation*, 2010, p.2, 6, 10.



Fadeke Ayoola, FCCA, is an ambassador and speaker for Farm Africa. She is also an independent consultant, speaker and author, specialising in corporate leadership and behaviour, governance, integrated reporting, CSR, risk management, and sustainability. She is currently working with the EU Parliament and Commission on CSR issues. She has a particular interest in EU and African affairs and is currently writing a book on leadership, culture and sustainability issues.