WHY SUSTAINABLE FOOD AND FARMING SYSTEMS MATTER FOR MALAWI

KCOA Knowledge Centre for Organic Agriculture in Africa

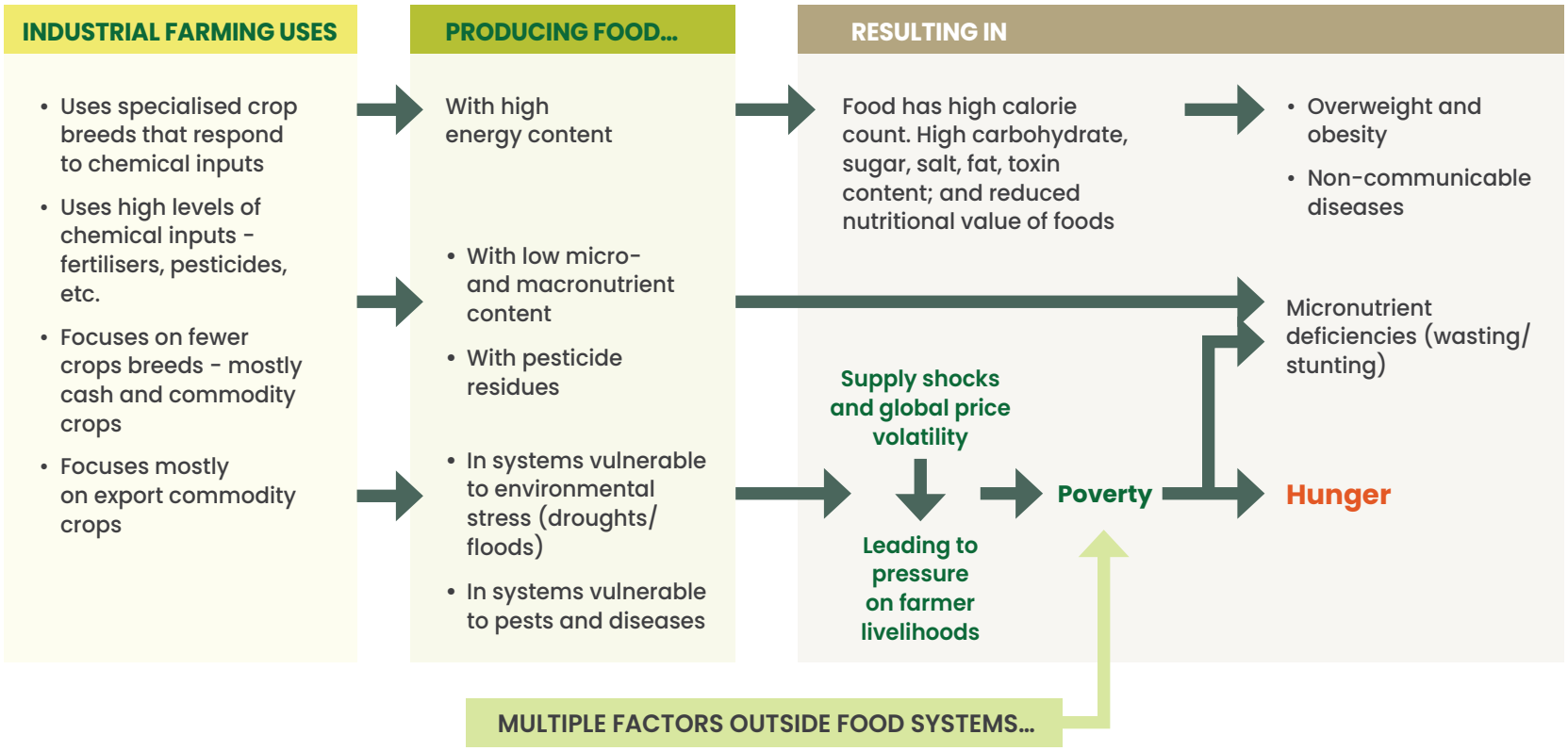
KHSA Knowledge Hub for Organic Agriculture in Southern Africa

Industrial food and farming systems (from production through retail to consumption) are at the heart of Malawi's current challenges. They contribute to rising levels of malnutrition and illness, drive biodiversity loss and degrade soils, and spur on further climate change crises. We urgently need to transition to sustainable food and farming systems that can provide a response to these crises. Sustainable food and farming systems are those aligned with the Principles of Care, Ecology, Fairness and Health as described by the International Federation of Organic Agricultural Movements (IFOAM)-Organic International.[1] This includes many approaches, such as agroecology, permaculture, organics, biodynamics, and conservation and regenerative agriculture when practiced without chemicals.

WHAT IS THE INDUSTRIAL FOOD AND FARMING SYSTEM AND WHY IS IT SO DANGEROUS?

- It prioritises yield at the expense of nutrition and the health of the environment.
- Its use of chemical fertilisers and pesticides poisons soils and water bodies.
- It focuses on a few cash and commodity crops (like maize and rice) and ignores the nutritious crops we need for good health.
- It encourages uptake of hybrid and genetically modified seeds that are grown as monocrops with harmful chemicals.
- It does not provide food and nutritional security for families and communities.

HOW INDUSTRIAL SYSTEMS DRIVE MALNUTRITION

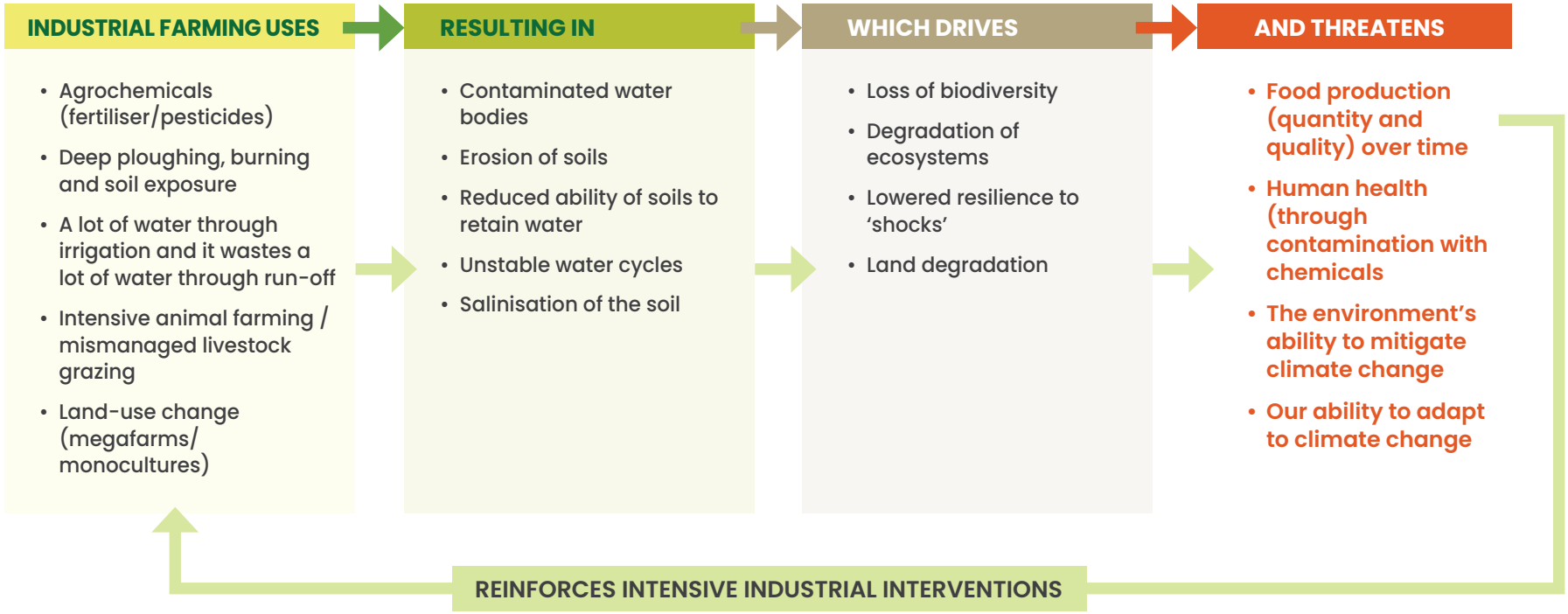


german cooperation
DEUTSCHE ZUSAMMENARBEIT

Implemented by: giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

In cooperation with: Kusamala Institute of Agriculture and Ecology

HOW INDUSTRIAL SYSTEMS DEGRADE SOIL AND WATER



NEGATIVE CONTRIBUTION OF INDUSTRIAL AGRICULTURE	SGDs	POSITIVE CONTRIBUTION OF AGROECOLOGICAL AGRICULTURE
Almost 80% of Malawians are considered poor. About 1.2 million people live on less than US$1.2 a day. More than 80% live in the rural areas, reliant on agriculture. Industrial farming has led to lower farm earnings around the world because of the continual rising prices of inputs (fertilisers, pesticides, seeds), degrading soil fertility and ecosystem services, and increasing pressure to generate profits in a volatile market.	1 NO POVERTY	Agroecology supports local farmers and food chains and economic development. This keeps money in the local economy and would benefit the more than 80% of Malawians who rely on agriculture for food and livelihoods. Agroecological practices use natural systems as far as possible to maintain productivity. This means that less money needs to be spent on buying in chemical inputs and seeds, meaning more money stays with farming families.
The industrial farming model is driving malnutrition and hunger around the world. A third of Malawi's population is on the brink of extreme hunger due to poverty and recurring shocks in the food system.[2] Government supports farmers by subsidising chemical inputs and hybrid seeds – these tend to be maize. This encourages farmers to use chemicals and to move away from planting a diversity of locally adapted and nutritious crops.	2 ZERO HUNGER	Agroecology focuses on producing a diversity of foods to ensure that there is sufficient – and nutritious – food for all people. It harnesses ecosystem benefits, such as pollination, clean air and water, and natural pest controls to boost productivity, without harming people or planet. A study of agroecological interventions across 57 countries showed increased productivity on 12.6 million farms, with average yield increases of 79%: supporting more livelihoods and reductions in food insecurity and poverty.[3]

NEGATIVE CONTRIBUTION OF INDUSTRIAL AGRICULTURE	SGDs	POSITIVE CONTRIBUTION OF AGROECOLOGICAL AGRICULTURE
Industrial systems are damaging people's health. Agricultural chemicals poison the air, water and soil with toxic substances. These end up in our food. It also focuses on producing just a few crops so there is little diversity in diets. Supermarkets also promote processed foods, which are not always healthy. Non-communicable diseases are rising rapidly in Malawi (obesity, diabetes, etc.); and account for 74% of all deaths globally.[4]	3 GOOD HEALTH AND WELL-BEING 	Agroecology advocates for little to no use of chemical inputs (fertilisers, pesticides, etc.). A review of 343 publications looking at the differences between industrially produced and organically produced foods found that there were higher levels of antioxidants and other good elements in food that was produced without chemicals.[5] The same study found high levels of pesticide residues in chemically produced foods, including heavy metals like cadmium.[6]
The industrial food and farming system regards Western scientific knowledge as the most important, marginalising traditional and indigenous knowledge. This has led to an education system and scientific orientation that does not account for context, lived experience or connection to the natural environment. In addition, children cannot learn if they do not receive enough nutrition.	4 QUALITY EDUCATION 	Agroecology acknowledges that there are many different knowledge systems (traditional, indigenous and scientific, for example) and that all have value. It emphasises the use, creation and sharing of relevant and practical knowledge through peer-to-peer systems, drawing on relevant scientific expertise where needed. As a production system, agroecology produces food that is nutritious and without dangerous levels of chemicals. Children need this type of food for their brains to develop and to learn.
There are deeply entrenched gender inequalities in Malawi.[7] As of 2020, "less than 42% of the indicators needed to meet gender-related UN Sustainable Development Goals were being met in Malawi".[8] Compared to men, women own less land, have less control of food production choices, household consumption and marketing; earn proportionally less and are more food insecure.	5 GENDER EQUALITY 	Agroecology views women as playing a central role in food and farming systems. They tend to plant a greater diversity of crops and are responsible for ensuring healthy and traditional diets for their families and communities. "Agroecology has the potential to advance women's rights, self-determination and autonomy."[9] Long term research by the Soils, Food and Healthy Communities shows that household dietary scores increase when gender equity is addressed in farming communities.[10]
The impact of the industrial system can be seen in high chemical residues in water bodies, which contaminate the water. This impacts on all lifeforms that use this water – people, wildlife, birds and aquatic life. The industrial agricultural model also tends to promote large-scale irrigation – which is problematic when water scarcity is a challenge – and the use of hybrid and genetically modified crops, which require irrigation.	6 CLEAN WATER AND SANITATION 	Agroecology promotes practices that optimise water use, enhance retention of water in the soil and orient crop selection to those that need less or no irrigation. This supports more stable and sustainable recharging of groundwater. It can actively work to restore ecosystem functioning at the farm level and beyond, including wetlands that help to purify water systems. It places a focus local communities taking responsibility for their water sources and in creating sustainable sanitation solutions.
Global food systems rely heavily on fossil fuels-derived energy sources for cooking, heating, transport and industrial production. It is often mega farms and industry in the agricultural sector that benefit from public investment in infrastructure and that draw the largest share of power. Most Malawians remain energy poor and increasingly affected by power cuts.	7 AFFORDABLE AND CLEAN ENERGY 	Agroecology positions governance of systems related to food and farming systems at the territory level, where energy planning, management and distribution is inclusive, equitable and transparent. As a production system, it also reduces energy consumption by active recycling of resources, reducing the need for irrigation through enhanced soil cover and other practices, and through the avoidance of chemical inputs, which use a lot of fossil fuels in the extraction of their components and manufacturing.
In the industrial system, economic benefits tend to accrue to those who hold power in the system – commercial and corporate owners of land, patented seed and other inputs, innovations, etc. There is little benefit to workers in this system or those that hold little power. Industrial systems are designed to push risk down the value chain onto workers and the environment.	8 DECENT WORK AND ECONOMIC GROWTH 	"Agroecological approaches create new decent rural employment opportunities for youth and women. The increased resilience of agroecological production systems helps to better maintain existing jobs, supporting rural livelihoods and communities."[11] Unlike industrial systems, sustainable agroecological food systems are designed to prioritise people and planet, not profits. The focus is on building up strong local value chains that distribute benefits at the local level first.

NEGATIVE CONTRIBUTION OF INDUSTRIAL AGRICULTURE	SGDs	POSITIVE CONTRIBUTION OF AGROECOLOGICAL AGRICULTURE
In the industrial system, innovations are mostly owned by international corporations and are designed to maximise profit, rather than serve the needs of people. The strong intellectual property rights regimes that protect innovations in seed – hybrid and genetically modified seed – are a good example. Farmers who take these up are placed on a treadmill where they must always buy seed, as it cannot be saved and re-used.	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	Agroecology promotes reorienting ownership and control of innovations back to the local context focused on solving local problems. Central to the agroecological approach is the co-creation and sharing of knowledge and the supporting and developing of industries and infrastructure that respond to the needs of people. There is an emphasis on the creation and distribution of appropriate technologies for smallholder farmers that provide benefits, such as labour-saving devices, without harming the environment.
The industrial system is modelled on economies of scale, where capital (land, resources, finance) accumulates to those in power (global corporations). This further entrenches and deepens inequality. For example, in Malawi, a few farmers or those controlling mega farms get bigger and bigger, while smallholder farmers, especially women and youth, lose access to land, which increases urban migration and poverty.	10 REDUCED INEQUALITIES 	Agroecology emphasises the need to include the most vulnerable in society, including rural women, youth, indigenous peoples and family farmers. It focuses on building strong local food systems that address challenges in local contexts. Agroecology supports circular and solidarity economies that reconnect producers and consumers, enhancing cohesive relationships and strong social structures for rebuilding people's agency and capacity, for inclusive and sustainable development.
Industrial food systems promote dependencies on imported foods, which makes urban consumers and communities vulnerable to food price spikes – due to natural disasters, or incidences like the economic shutdowns forced by COVID-19 and the Russia-Ukraine war. This places urban consumers in a very vulnerable food insecure space, and it can lead to food riots and other instances of social unrest.	11 SUSTAINABLE CITIES AND COMMUNITIES 	Agroecology supports a territorial approach to the development of human spaces; this includes an emphasis on "integrated plans for urban and rural development… and reconnecting producers and consumers to shorten value chains and increase resilience.[12] There is an emphasis on creating appropriate markets for different contexts that are structured to give maximum value to producers and consumers, instead of middle men like supermarkets.
We need to produce and consume sustainability to ensure that there are enough natural resources left for the generations to come. The industrial food and farming system is driving resource degradation and damaging human health. For example, there are about 385 million cases of unintentional pesticide poisoning each year in the world; 44% of farmers are poisoned each year with pesticides.[13]	12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	Agroecology focuses on production that does not harm the environment and on providing enough nutritious food for all. It encourages "diversification to achieve sustainable healthy diets and food and nutrition security." It also supports shorter value chains, which means less food loss and waste – and use of fossil fuels for cooling and transportation. Sustainable consumption in the countries of the Global North means doing more with less. In the countries of the Global South, it means having enough and better (quality).
Industrial systems drive climate change through production practices that use chemicals, large-scale mechanisation and long global distribution chains that use fossil fuels for cooling, transport and packaging. Extraction of raw ingredients and manufacture of chemical inputs contributes to greenhouse gas emissions. Malawi will experience even more climate change-driven extreme events, impacting food production.	13 CLIMATE ACTION 	Agroecological farming practices mitigate against climate change by keeping carbon in the soil, using little or no external chemical inputs and maintaining integrated production systems. This helps to build healthy agricultural ecosystems that are more resilient to climate shocks. Agroecology offers a triple win in that it reduces emissions, builds resilience and productivity and its practices help to absorb carbon from the atmosphere into soils and trees.[15]
Unsustainable agricultural practices contribute to water contamination in Malawi. Agricultural soils that have chemicals in them are running off into water bodies, causing flash floods, mud slides and poisoning of water. Poverty also drives over-fishing of water bodies, like Lake Malawi. Water safety is a concern in Malawi, highlighted by the cholera outbreaks in recent years, and destruction of sanitation services by cyclones.	14 LIFE BELOW WATER 	Agroecology emphasises the need to save water in the soil through sustainable practices like using cover crops to protect the soil, composting, use of locally adapted seeds that need less water and making swales, and not using chemicals, among other practices. A 2021 study looking at sustainable farming in 57 countries found that all crops produced on 286 farms analysed used less water, with most improvement in rain-fed crops.[16] It also encourages water harvesting for domestic and farming use.

NEGATIVE CONTRIBUTION OF INDUSTRIAL AGRICULTURE	SGDs	POSITIVE CONTRIBUTION OF AGROECOLOGICAL AGRICULTURE
Malawi is rapidly losing its forest. If deforestation is not stopped, all forest cover could disappear by 2079. Deforestation is leading to the loss of biodiversity and wildlife, and it is changing micro-climates,[17] which then make it more difficult to produce food. Most Malawians do not have access to electricity and are cutting trees to create energy and there is growing demand on the international market for hardwoods.		Diversity is the first of 10 elements in the agroecological approach. "Agroecology works with local communities, food producers, and other actors to prevent land degradation and restore degraded areas."[18] A 2021 study over more than 280 sites across 57 countries showed that "sustainable and resource conserving practices" improved "the supply of critical environmental services."[19] Diversity is key to ensuring food and security and nutrition.
Industrial food and farming systems are systemically unjust. They benefit large commercial actors (multinational input supply companies, global and regional supermarket chains, etc.) more than farmers and consumers. Malawi ranked 129 of 180 countries in public sector corruption in 2020.[20] Ensuring peace and justice for rural Malawians rests on transforming the current food and farming system into one that inclusive and fair.		Agroecology promotes strong, inclusive producer organisations that support sharing of knowledge, collaborative action and fair representation of producers at the policy level, as well as responsible governance of food and farming systems to ensure that they benefit people. Agroecology is about a bottom-up approach to building a food system that works for everyone and that is transparent, equitable, just and accountable to stakeholders within it. Food is viewed as a human right, and not as a commodity.
Industrial farming and food systems are based on unequal trade relations. Corporate companies have a lot of power to influence government and international regulatory and multilateral frameworks. As an example, more than 60% of the commercial seed trade and 70% of agricultural chemicals trade is controlled by just three companies (Bayer, Chem China and DowDupont.)[21] Undue corporate influence ensures biased partnerships.		Agroecology supports collaboration between a wide range of stakeholders (farmers, consumers, civil society organisations and policymakers, along with other relevant stakeholders.) and it calls for greater cooperation between the food and farming sector, social stakeholders and country governments. There are active global, regional and national agroecology networks, including in Malawi, that are advocating for a transition to fair, inclusive, equitable and sustainable food and farming systems.

1 International Federation of Organic Agricultural Movements (IFOAM). N.d. The four principles. [Online] https://www.bing.com/search?q=IFOAM+principles&form=ANNTH1&refig=c267473c7de9445fa715855b85b23dcc.
2 Integrated Food Security Phase Classification. 2022. Malawi IPC Chronic Food Insecurity Report February 2022. [Online] https://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Malawi_ChronicFoodInsec_2022May_report.pdf.
3 Christian Aid. 2021. Climate Resilient Agriculture - The transformation needed for global resilience, food security and net zero by 2050.
4 World Health Organisation. Noncommunicable diseases. Key Facts. 16 September 2022. https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases#:~:text=Noncommunicable%20diseases%20(NCDs)%20kill%2041,74%25%20of%20all%20deaths%20globally.
5 Christian Aid. 2021. Climate Resilient Agriculture - The transformation needed for global resilience, food security and net zero by 2050. Baranski et al. (2014). Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: a systematic literature review and meta-analyses. British Journal of Nutrition. 112(5):794-811. https://pubmed.ncbi.nlm.nih.gov/24968103/.
6 Christian Aid. 2021. Climate Resilient Agriculture - The transformation needed for global resilience, food security and net zero by 2050. Baranski et al. (2014). Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: a systematic literature review and meta-analyses. British Journal of Nutrition. 112(5):794-811. https://pubmed.ncbi.nlm.nih.gov/24968103/.
7 Lovell, E. 2021. Gender equality, social inclusion and resilience in Malawi. [Online] file:///C:/Users/stef/Downloads/Gender%20equality%20social%20inclusion%20and%20resilience%20in%20Malawi_BRACC%20July%202021%20(1).pdf.
8 Concern. 2021:1. Gender equality in Malawi. [Online] https://www.concernusa.org/story/gender-equality-malawi-umodzi/#:~:text=As%20of%20the%20end%20of%20December%2C%202020%2C%20less,sexual%20violence%20from%20a%20current%20or%20former%20partner.
9 Food and Agriculture Organization. n.d. Agroecology Knowledge Hub. [Online] https://www.fao.org/agroecology/overview/agroecology-and-the-sustainable-development-goals/en/.
10 Food Unfolded. n.d. Farming for gender equality. [Online] https://www.foodunfolded.com/article/farming-for-gender-equality-agroecology-in-practice.
11 Food and Agriculture Organization. n.d. Agroecology Knowledge Hub. [Online] https://www.fao.org/agroecology/overview/agroecology-and-the-sustainable-development-goals/en/.
12 Food and Agriculture Organization. n.d. Agroecology Knowledge Hub. [Online] https://www.fao.org/agroecology/overview/agroecology-and-the-sustainable-development-goals/en/.
13 https://mediacentre.christianaid.org.uk/new-report-shows-urgent-need-for-agroecology-revolution-to-cut-emissions-and-boost-productivity/#:~:text=Media%20Centre-,New%20report%20shows%20urgent%20need%20for%20agroecology%20revolution%20to%20cut,systems%20upon%20which%20humanity%20relies.
14 Food and Agriculture Organization. n.d. Agroecology Knowledge Hub. [Online] https://www.fao.org/agroecology/overview/agroecology-and-the-sustainable-development-goals/en/.
15 Christian Aid. 2021. Climate Resilient Agriculture - The transformation needed for global resilience, food security and net zero by 2050.
16 Christian Aid. 2021. Climate Resilient Agriculture - The transformation needed for global resilience, food security and net zero by 2050.
17 Africa Geographic. 2019. Addressing Malawi's deforestation crisis. [Online] https://africageographic.com/stories/addressing-malawis-deforestation-crisis/.
18 Food and Agriculture Organization. n.d. Agroecology Knowledge Hub. [Online] https://www.fao.org/agroecology/overview/agroecology-and-the-sustainable-development-goals/en/.
19 Christian Aid. 2021. Climate Resilient Agriculture - The transformation needed for global resilience, food security and net zero by 2050.
20 Kateta, M.W. 2020. How corruption derails development in Malawi. [Online] https://foreignpolicy.com/2021/05/21/how-corruption-derails-development-in-malawi/.
21 Grain. 2018. Corporate control and food sovereignty: issues and ways forward. [Online] https://grain.org/en/article/6069-corporate-control-and-food-sovereignty-issues-and-ways-forward.