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The future of food

Our farming systems are broken. If we don't fix them, we won't have a future.



We have 60 years of farming left: change must happen



For centuries, farming has been one of the most technologically advanced industries in our world. Innovation in farming has been integral to not just the development of the sector, but the development of society as a whole.

However, some early farming processes and practices have been lost in the quest to industrialise and speed things up – and unless we rediscover them, our ability to produce food could be severely diminished, if not lost.

This is a vitally important issue. An increasing percentage of our farming ecosystems and soils are none functioning and broken. Safe and reliable food production is fundamental to how the world operates – without food security, there's no national security – and demand for food is increasing daily.

By 2040 we'll need fifty per cent more food than we do today to feed nine billion people globally.

However, our ability to produce food safely and reliably is at significant risk.

Our land is being lost due to poor farming methods.

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Prices are being driven down, and every fifteen years, we lose fifty per cent of our farmers.

Unless we change our approach to food production, including current farming methods, and do more to tackle the numbers of farmers leaving the sector, global warming and greenhouse gas (GHG) emissions, we have – at best – six decades of farming left.

Our land holds the key

Some of our industrialised farming methods have produced plenty of food with the unintended consequences of non-functioning and broken ecosystems.

Each year, twenty four billion tonnes of fertile soil is lost, and while it takes ten years of conventional cropping to use an inch of topsoil, it takes a century to produce it.



Excessive cropping and overgrazing, in addition to land clearing and the use of chemicals, has led to a loss of biodiversity and natural habitats, creating a monoculture reliant on synthetic fertiliser, herbicides and insecticides.

As a consequence of cropping and overgrazing, thirty per cent of farmland globally – hundreds of millions of hectares – have been lost to desertification, meaning the land is broken, none functioning and unsuitable for anything.

Desertified land: a carbon disaster

When cattle, sheep and goats overgraze on land it begins to turn into desert, and the soil releases methane directly into the environment. The volume of carbon being released into the atmosphere by land that





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has been desertified is vast. Researchers have estimated that by tackling desertification alone, we can reduce the carbon in the atmosphere to pre-industrial levels.

Around forty per cent of the arable land we do have is used to grow crops with which to feed animals – which bypasses the natural upcycling skills of ruminant animals.

The need to think differently about farming

The need to think differently about farming not only encompasses farming methods and our use of land but also how we, as a society, think about and approach food.

To date, food and agriculture policy has failed to take natural capital, biodiversity, and soil quality and health into account

when managing our food production methods – and this must change.

We must move away from a societal belief that ‘cheap is best’. Sustainability must be at the heart of everything we do in the food industry, and if farmers can't make reasonable profits, they'll continue their mass exodus. Mass, loss-leading products

in supermarkets must be actively fought against, as this price focus cascades down the supply chain causing significant issues, including social, ethical, security and environmental issues.

The opportunity to build a progressive, sustainable farming system that can not only guarantee food security for every country but also help contribute enormously to the planet's future is right in front of us.

That opportunity is regenerative agriculture – however, it will require a concerted effort on behalf of everyone directly and indirectly involved in the food industry – including consumers – to make that possibility a reality.



What is regenerative agriculture, and why is it so important?

Regenerative agriculture is not a new concept – it goes back to our earliest farming methods – however, it's one that quite simply holds the key to the future of our food production and, potentially, our planet.

By adopting minimum tillage, multiple species pastures and crop rotations; by re-establishing wildlife corridors, woodlands, and tree planting, and by introducing integrated pest management strategies to reduce the reliance on synthetic herbicides and pesticides, we can improve soil health, stop erosion and increase carbon sequestration.



By establishing resilient farming practices, we can begin a journey to restore nature's base solutions; by sequestering carbon, we can begin to mitigate global warming and GHG emissions.

Ruminant animals (which include cattle, sheep, goats, buffalo, bison, and deer) are central to regenerating our soil. From the impact of their movement across the land to eating the grass that's grown, recycling

nutrients, and improving soil biology, animals do play a significant role in regenerating our farming industry and our planet – as can changing both farming practices and public attitudes towards food.

Why we need to stop feeding animals grain

With **forty per cent of arable land now used to grow grain to feed animals**, it takes enormous volumes of grain to feed animals when compared to what is subsequently produced.

On average, for every two kilograms of grain fed to poultry, we get one kilogram of animal for food. For four kilograms of grain, we get one kilogram of pig, and for seven kilograms of grain, we get one kilogram of cow or sheep.

Ruminant animals, including cattle, goats, and sheep, have four stomachs and are nature's best up-cyclers of low protein and high-fibre food – the types of food, including grass – that monogastric animals,

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including humans, poultry and pigs, can't process.

Ruminant animals are well equipped to do this because their microbes ferment feed and produce volatile fatty acids, which provide energy, vitamins, and amino acids.

In addition, food and beverage by products from food processing, waste streams, and residue from oil processing and brewing are fed to and recycled through animals to convert to high-quality proteins such as meat and milk products.

Public opinion also needs to change. We are what we eat, eats. Therefore, grass-fed meat and milk products, the way nature intended, is the purest form of plant-based food. It's made of 100 per cent grass, which is made from sunlight, rain and soil. And it's carbon neutral.



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The key to food security



Regenerative agriculture is the key to securing the future of farming, as well as securing the future of the planet. Many countries across the globe have Regenerative Agriculture Standards. However, nothing is standardised or formalised globally to mandate food supply chains to comply or to reward farmers on a mass scale for adopting regenerative practices.

However, some major obstacles need to be removed – and it's incumbent on everyone, from world leaders and policymakers down, to play their role.

- Agricultural policy needs to be changed to incentivise farmers to not just stay in the industry but also to fix carbon prices and standardise carbon measurement to give credit and reward farmers for adopting regenerative practices.
- Education is needed about the carbon emissions that result from land clearance cropping and the role animals play in reversing desertification.



- A shift in consumer mindset and food retailer purchasing policy is required: cheap is not best. Always think of the unintended consequences of cheap, low-profit margins and lack of reinvestment back into sustainable practices.
- The shift from grain-fed to grass-fed animals needs to happen urgently.
- The importance of eating grass-fed rather than grain-fed meat and dairy products as part of a balanced diet that contributes to a climate-saving circular economy needs to be continually stressed.
- A standard on regenerative agriculture needs to be developed and supported, and implemented globally.
- A mark of trust such as the "Kitemark" could reward farmers for sustainable practices and prove to the consumers that the customer promise is real.

For centuries, our ancestors farmed successfully in this way, and over more recent times, the pressure for yield, have

forced farming practices to become more industrialised to the detriment of the planet. We need to find the right balance with science and nature combined.

We need to pay the right price for our food to support sustainable farming practices while eating less processed food and more grass-fed meat, dairy products, vegetables and grains. Balanced wholefood diets and consuming what a given ecosystem produces is key.

The time for inaction has passed. Regenerative agriculture can, quite literally, save our planet.

Lessons from the Serengeti

The Serengeti is one of the most fertile lands in the world, with grazing animals, biomass and biodiversity captured in a self-sustaining, circular economy. Regenerative agriculture mimics this process and can be carbon positive.



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The consequences of inaction

As an industry – as a society – if we do not act now to encourage and incentivise regenerative agriculture, then we are all guilty of watching our world deteriorate without doing anything to prevent it.

Continue as we are, and we have sixty years of farming left – after that, our lands will not be able to grow crops; desertification will increase, and grass will not grow to feed our animals.

Global food shortages will become commonplace. History shows prosperity revolves around food and what happens when that is no more. We don't have national security if we don't have food security.

A continuation of current farming methods will see global warming increase as it has done over the past few decades.

It's incumbent upon all of us who have any element of influence – from global policymakers to consumers – to play our part.

At one end of the scale, it's about moving away from a mindset that cheap is best, and choosing to eat grass-fed meat and dairy products, and vegetables and grains. On the other end, it's about demanding international standards that earn consumer trust, and implementing global practices that incentivise farmers to stay in the industry and use regenerative agricultural methods.

There truly is only one path forward.

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Why BSI?

Support credible Standards and Certification which can demonstrate sustainable practices, whether it be good agriculture practice, regenerative agriculture, grass-fed, climate-smart, organic, and socially responsible. As consumers, we can all make a difference by choosing the sustainable option that protects the ecosystem, biodiversity, farmer livelihoods and the soil.

BSI is the business improvement company that enables organizations to turn standards of best practice into habits of excellence. Working with 84,000 clients across 195 countries, we are a truly international business with skills and experience across many sectors, from automotive and aerospace to food and pharmaceuticals.

BSI believes the world should be supplied with safe, sustainable and socially responsible



food. We offer a broad range of certification and risk management services to help all organizations improve performance.

Our solutions for the food sector include certification, training, assessment, supply

chain software and capacity-building services, to enable food organizations to build trust and resilience in:

- Food quality and safety
- Environmental sustainability

- Occupational health, safety and well-being
- Information security

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