COMPASSION in world farming

VISION FOR FAIR FOOD AND FARMING

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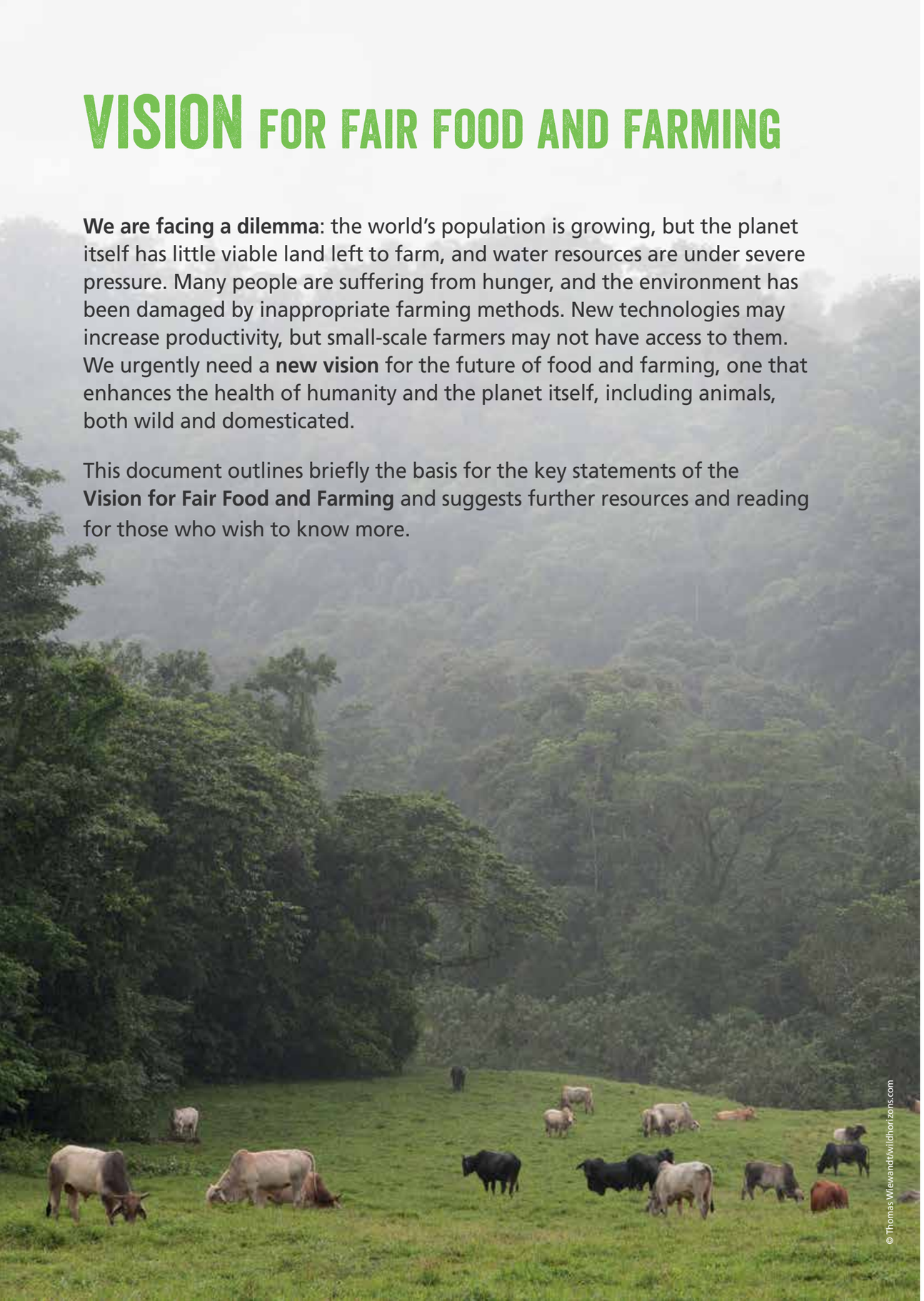
We are facing a dilemma: the world's population is growing, but the planet itself has little viable land left to farm, and water resources are under severe pressure. Many people are suffering from hunger, and the environment has been damaged by inappropriate farming methods. New technologies may increase productivity, but small-scale farmers may not have access to them. We urgently need a **new vision** for the future of food and farming, one that enhances the health of humanity and the planet itself, including animals, both wild and domesticated.

This document outlines briefly the basis for the key statements of the **Vision for Fair Food and Farming** and suggests further resources and reading for those who wish to know more.



GOOD HEALTH

by ensuring universal access to sufficient and nutritious food

In 2019, around 690 million people in the world were estimated to be suffering from under-nutrition (FAO 2020). The COVID-19 pandemic may well have added over 100 million more to that figure. Currently it is the poor who bear the brunt of this situation, and millions of children go to sleep hungry, night after night. The United Nations Sustainable Development Goals (SDGs) aim for No Poverty and Zero Hunger by 2030 (SDGs 2015). Without radical change to our food and farming systems, it will be a challenge to achieve this worthy goal.

The marketing of food and global trading in food commodities must be reformed so that prices of food staples are maintained at an affordable level for those on low incomes.

Trading companies should adopt the principles of Fair Trade: better prices, decent working conditions, local sustainability, fair terms of trade for farmers in the developing world and fair pay for workers. Companies should pay sustainable prices, which should never fall lower than the market price. The principles of the Green Economy should facilitate such developments (Green Economy 2012).

The Food and Agriculture Organization of the United Nations (FAO) estimates that one-third of the world's cropland is used to grow crops, not to feed people, but to feed animals (Steinfeld et al, 2006 (a)). Around 98% soy meal and around 40% global cereals are grown primarily for animal feed, not human consumption (Soyatech 2017, Cassidy 2013, Pradhan et al, 2013). Using so much of the earth's productivity to feed farm animals could only be justified if the animals produced more in output than was fed to them. Sadly this is not so.

A University of Minnesota paper concludes that for every 100 calories of grain fed to animals, we get only about 40 new calories of milk, 22 calories of eggs, 12 of chicken, 10 of pork, or 3 of beef. The paper also looked at the conversion of plant protein to animal protein. It found that for every 100 grams of grain protein fed to animals, we get only about 43 new grams of protein in milk, 35 in eggs, 40 in chicken, 10 in pork, or 5 in beef (Cassidy 2013, Berners-Lee 2018). This shows that much of what we feed to animals is in fact wasted from the point of view of feeding the world.

According to the 2011 Foresight Report: "Major increases in the consumption of meat, particularly grain-fed meat, would have serious implications for competition for land, water and other inputs" (Foresight, 2011).

To ensure global equity, those who cannot afford to consume balanced diets (which might include fresh vegetables, fruits, a range of cereals, legumes and some livestock products) – that is, mainly the poor in developing countries – should be supported by policy measures to achieve income levels where purchase of such products is possible.

SUSTAINABLE FARMING METHODS

which support rural livelihoods and relieve poverty

Small-scale farmers in developing countries must be supported in gaining access to adequate and appropriate animal feed and veterinary care for their farm animals. There should also be support for measures to assist with marketing of agricultural products, such as co-operatives, training and investment in rural infrastructure. A recent FAO Director-General has said: "We need to make sure that smallholders and pastoralists will not be pushed aside by large capital-intensive operations" (Da Silva, 2018).

The United Nations reports that "small farm holders are at the heart of the food security challenge" but also that "small-scale and diversified farming continues to have significant advantages over large-scale monoculture systems in terms of productivity (20-60 per cent higher yields), food production and environmental protection (including climate change mitigation)" (UN, 2011).

Wages and working conditions in the livestock sector, from farms to slaughterhouses and processing plants, must be raised to a level which ensures livelihoods, protects health and increases personal motivation.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PROTECTION FOR THE PLANET

and its precious resources: soil, water, forests and biodiversity

The planet's systems are in peril. Our precious global resources of soil, forests, grasslands and water are finite. But they are being over-exploited – as if there were no tomorrow.

Industrial animal agriculture uses more land and more water than cereal, legume or most horticulture production. Large-scale commercial agriculture, including soy production and cattle ranching, accounted for almost 70% of deforestation in Latin America between 2000 and 2010 (FAO, 2016). Already 20% of pasture land has been degraded (Steinfeld et al, 2006(a)). Over-grazing is turning grassland into desert from north-west China to West Africa and Brazil. Conservation International reports that 23 of 35 global biodiversity hotspots are affected by livestock production (Steinfeld et al, 2006 (b)).

Intensification deprives birds of suitable habitat for feeding and breeding due to use of monocultures, pesticides, fertilisers, so-called 'improvement' of semi-natural grassland and hedgerow removal. The FAO says that the vast majority of vital food crops are pollinated by bees (FAO, 2005). Both wild bumblebees and domestic honeybees are endangered by the practices of modern agriculture (UNEP 2010; Goulson, 2015).

One third of our fellow humans live in areas suffering from a high level of water stress (Oki and Kanae, 2006). Water tables are falling in China, India, the Middle East, the United States and many other areas (Choo R, 2015).


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Major rivers are drying up, whilst others are dangerously low at certain times of the year. Rising global temperatures will only exacerbate this dire situation.

To produce just 1kg of industrially-produced beef requires almost as much water as the annual water needs of one person, which is around 18,000 litres (Liu and Slavenije, 2008). To produce that 1kg of beef we use nearly twelve times as much water (15,500 litres) as we do to produce 1kg of wheat (1,300 litres) (Mekonnen and Hoekstra, 2012).

Water conservation measures must be adopted and farmers trained in the best irrigation methods, such as drip irrigation. The water footprint of animal (and other) products should be incorporated into commercial and international agreements and be communicated to citizens/consumers.

Livestock production is a major cause of environmental pollution, habitat damage and biodiversity loss. Factory farms produce ammonia, sulphur dioxide and dust, all of which can harm the health of farm workers and nearby residents. Surveys have shown higher levels of


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lung problems in these populations (NALBOH, 2010: Pew, 2009). Ammonia emissions from large livestock units contribute to the formation of acid rain.

Industrial livestock production's demand for huge amounts of feed crops has fuelled the intensification of crop production with its high use of nitrogen fertilisers. The European Nitrogen Assessment (ENA) reports that 75% of industrial production of reactive nitrogen (Nr) in Europe is used for fertiliser (2008 figure). The ENA points out that the primary use of Nr in crops in Europe is not directly to feed people but to provide feeds for livestock.

The ENA identifies five key threats associated with excess Nr in the environment: damage to water quality, air quality (and hence human health, in particular respiratory problems and cancers), soil quality (acidification of agricultural soils and loss of soil biodiversity), the greenhouse balance and ecosystems and biodiversity (ENA 2011). Use of nitrogen fertilisers must be better controlled. Alternative methods of enhancing soil fertility should be used where possible.

The best types of farming for the future will be regenerative, nourishing the soil, facilitating biodiversity and the healthy growth of both plants and animals.


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REDUCED EMISSIONS

of greenhouse gases and other pollutants from agriculture

Climate change is already affecting food production, livestock and farmers; these impacts are projected to increase over time, with potentially devastating effects. Agricultural systems need to adapt to these impacts.

Livestock production is responsible for 14.5% of the global greenhouse gas emissions (GHGs) generated by human activity, making it a major contributor to global warming (FAO, 2013). Some studies suggest that 'business-as-usual' will lead to agriculture's GHG emissions being so high by 2050 that they alone will push global temperatures to increase by almost 2°C (Bailey, 2014).

An increasing number of leading scientists believe that as well as technical measures to reduce emissions, we urgently need to reduce the greenhouse gas footprint of our food by reducing consumption of animal products. Leading scientists compared the health impacts in 2050 of a reference diet based on FAO projections with three alternatives: (i) a healthy global diet based on WHO/FAO Expert Consultations and recommendations by the World Cancer Research Fund, (ii) a vegetarian diet and (iii) a vegan diet. The researchers estimate that, compared with the reference diet, adoption of a healthy global diet would have monetized environmental benefits due to reduced GHG emissions of $234 billion per year. Adoption of the vegetarian and vegan diets would have benefits, compared with the reference diet, of $511 and $570 billion per year respectively (Springmann et al, (2016a)).

Agricultural policies must not only be based on sound environmental principles, but must encompass long-term impact on the climate. Forests and grasslands sequester carbon and must be protected and enhanced. Pastureland used for grazing farm animals, if not overstocked, can act as an environmentally beneficial carbon "sink" (Rotz et al, 2009).

Practical measures to reduce the amount of methane and nitrous oxide associated with livestock production need developing and adoption. Agricultural intensification can have negative impacts on animal welfare; and any climate change mitigation measure which affects animals should undergo an assessment of its impact on animal health and welfare before adoption. Developed countries may need to introduce greenhouse gas-emission taxes on livestock products. This could be partially offset by payment for carbon sequestration in grassland and subsidies on healthy foods such as fruit and vegetables.


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HUMANE FARMING METHODS

which promote the health and natural behaviour of sentient animals and avoid causing them pain and suffering

A major problem in animal farming is the impact of intensive, industrial "factory farming" on the welfare of the animals themselves.

Animals are sentient beings. They can feel pain, fear, anticipation and pleasure. They can suffer. The Treaty of Lisbon, 2008, binding within the European Union, recognises that animals are sentient beings and that their welfare must be protected (EU, 2008).

Factory farming abuses animals by denying their sentience, breeding them for such high rates of productivity that their own bodies are no longer capable of a normal life span, and keeping them in conditions of confinement, isolation or overcrowding so that their psychological, social and behavioural needs are thwarted.

Millions of animals are reared in totally abhorrent conditions: dairy cows permanently on concrete, pregnant pigs and veal calves confined in crates so narrow they cannot turn round and laying hens in cages in which they cannot even stretch their wings.

All countries should adopt legal protection for animals and place a duty of care on the keepers of animals. Regulations to protect the welfare of farm animals should be adopted. These could be based on the internationally recognised Five Freedoms (Farm Animal Welfare Council, u.d.):

THE FIVE FREEDOMS

1. **Freedom from Hunger and Thirst** - by ready access to fresh water and a diet to maintain full health and vigour.
2. **Freedom from Discomfort** - by providing an appropriate environment including shelter and a comfortable resting area.
3. **Freedom from Pain, Injury or Disease** - by prevention or rapid diagnosis and treatment.
4. **Freedom to Express Normal Behaviour** - by providing sufficient space, proper facilities and company of the animal's own kind.
5. **Freedom from Fear and Distress** - by ensuring conditions and treatment which avoid mental suffering.

Apart from seeing that animals are free from stressful conditions, they should be allowed to enjoy the pleasures of living and to have a positive quality of life (Mellor, 2016).

See the Further Reading list at the end of this document for extensive information on the welfare of farm animals.

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REDUCED CONSUMPTION OF ANIMAL PRODUCTS

in high-consuming populations to meet environmental, health and sustainability goals

There is a growing global epidemic of obesity and associated diseases such as Type-2 diabetes, heart disease and certain cancers. The World Health Organization (WHO) reports that, in 2016, globally, more than 1.9 billion adults, 18 years and older, were overweight. Of these over 650 million were obese (WHO, 2018).

The World Cancer Research Fund International (WCRF) says there is now convincing evidence of the link between red and processed meats and colorectal cancer, the third most common cancer in the world, causing 50,000 deaths a year. They recommend that we eat a variety of mostly plant-based foods, limit consumption of red meat and avoid processed meats such as sausage, ham, bacon and salami (WCRF, 2017).

In 2015, the International Agency for Research on Cancer (IARC), part of the World Health Organization, published a monograph on cancer and diet. It classified red meat as a probable carcinogen and processed meat as a definite carcinogen. The impact appears strongest for colorectal cancer but there appear to be associations with pancreatic and prostate cancer and, in the case of processed meat, with stomach cancer (IARC, 2015).

The EAT-Lancet Commission on Healthy Diets from Sustainable Food Systems co-chaired by Prof. Walter Willett and Prof. Johan Rockström, brought together 19 Commissioners and 18 co-authors from 16 countries in various fields including human health, agriculture, political science and environmental sustainability.

The EAT-Lancet Report explains: "A planetary health plate should consist by volume of approximately half a plate of vegetables and fruits; the other half, displayed by contribution to calories, should consist of primarily whole grains, plant protein sources, unsaturated plant oils, and (optionally) modest amounts of animal sources of protein" (EAT-Lancet Report, 2019).

The EAT-Lancet report concluded that "dietary changes from current diets toward healthy diets are likely to result in major health benefits. This includes preventing approximately 11 million deaths per year, which represent between 19% to 24% of total deaths among adults" (EAT-Lancet Report, 2019).

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In recent years, 75% of emerging human diseases have originated in animals (Taylor et al, 2001). Intensive rearing of thousands of animals in enclosed environments provides an obvious environment for disease transmission and the mutation of dangerous viral infections such as avian flu.

Intensive animal production relies heavily on antibiotics to treat and prevent disease outbreaks (and in some countries to promote growth in animals). Globally, approximately 70% of current antibiotic production is used in agriculture, to promote growth and prevent disease as well as to treat sick animals (Boeckel et al, 2019). Over-use in animals is a contributor to the development of antibiotic-resistant bacteria, which can result in devastating illness in humans and make effective treatment very difficult. The use of such drugs in farm animals should be restricted to treatment of disease in individual animals under veterinary supervision.

Public health policy makers, from governments to intergovernmental organisations, should set Dietary Guidelines lower in meat and dairy products, set an example in their public procurement policies and consider the use of taxes/ subsidies to support dietary change. Such policies must be linked to their policies on livestock farming as a whole, so that production is also modified and high health, environmental and animal welfare standards incorporated.

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BOOKS AND REPORTS

Compassion in World Farming (2017) Towards a flourishing Food System. A slim brochure bringing the main arguments for food system reform to the fore. By Peter Stevenson.

Compassion in World Farming produces well-researched reports on many aspects of farming and food, from farmed fish to dairy cow welfare to agro-ecology and sustainable farming. https://www.ciwf.org.uk/research/

Compassion in World Farming's Food Business Team have an excellent range of resources on the different farm animal species: https://www.compassioninfoodbusiness.com/resources/

Philip Lymbery, Global CEO of Compassion in World Farming, has written two acclaimed books (pub. Bloomsbury) on the impact of factory farming of animals on wildlife and biodiversity: **Farmageddon – the True Cost of Cheap Meat** and **Dead Zone – where the Wild Things were. https://philiplymbery.com/books/**

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World Animal Protection (WAP). Concepts in Animal Welfare. A great teaching aid. Designed to facilitate teaching animal welfare at veterinary faculties worldwide. https://www.globalanimalnetwork.org/world-animal-protections-concepts-animal-welfare-teaching-resource?gclid=EAIaIQobChMIm5TgkISJ3wIVAp3VCh1hfAn1EAAYASAAEgIBW_D_BwE

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EVENTS

Extinction and Livestock – moving to a Flourishing Food System for Wildlife, Farm Animals and Us. This major international conference in October 2017 was organised by Compassion in World Farming in partnership with WWF and with the University of Winchester, BirdLife International, the Alliance for Religions and Conservation (ARC) and the European Environmental Bureau.

Internationally known speakers made the case for halting industrial agriculture because of its devastating impacts on wildlife and biodiversity as well as on small scale farmers. The way forward was seen as a combination of more agro-ecological farming methods and reduced meat consumption. A short highlights film can be seen here: https://www.youtube.com/watch?v=2aXPUfIHmQM

Food System Impacts on Biodiversity Loss is a 2021 Chatham House report launched in partnership with UNEP and Compassion in World Farming International. The report says that a reform of food systems is a matter of urgency and should focus on three interdependent actions:

- Global dietary patterns need to move towards more plant-heavy diets. This would reduce demand and the pressure on the environment and land, benefit the health of populations around the world, and help reduce the risk of pandemics.

- More land needs to be protected and set aside for nature. Human dietary shifts are essential to preserve existing native ecosystems and restore those that have been removed or degraded.

- We need to farm in a more nature-friendly, biodiversity-supporting way, limiting the use of inputs and replacing monoculture with polyculture farming practices.

The Report was launched with a webinar. Susan Gardner, Director of the Ecosystems Division with UNEP; Professor Tim Benton, Research Director – Emerging Risks, Chatham House; our Global CEO, Philip Lymbery, and Jane Goodall PhD, DBE, Founder – the Jane Goodall Institute & UN Messenger of Peace.

Downloadable Report is available from https://assets.ciwf.org/media/7443997/food-system-impacts-on-biodiversity-loss.pdf

Webinar: www.ciwf.org.uk/news/2021/02/new-report-food-system-impacts-on-biodiversity-loss

WEBSITES

Compassion in World Farming: the leading international farm animal welfare organisation working to raise awareness of animal sentience and of humane and sustainable agriculture for animals, people and the planet. Compassion produces high quality, referenced reports, factsheets, briefings, educational materials and videos on all aspects of farm animal welfare and on the broader environmental impacts of industrial livestock production: www.ciwf.org

Harvard T H Chan School of Public Health. Has excellent information on diets and health. https://www.hsph.harvard.edu/search/?q=meat%20consumption

John Hopkins Bloomberg School of Public Health in association with The Monday Campaigns. Meatless Monday campaign. "Our goal is to help you reduce your meat consumption by 15% in order to improve your personal health and the health of the planet." www.meatlessmonday.com

World Cancer Research Fund International (WCRF). Lots of information on Cancer and Diet. https://www.wcrf.org/dietandcancer/recommendations/limit-red-processed-meat

VISION FOR FAIR FOOD AND FARMING

The Vision seeks to achieve global adoption of food and farming policies which respect and protect the interests of people, animals and the planet. In particular it calls for:

- Good health by ensuring universal access to sufficient and nutritious food
- Sustainable farming methods which support rural livelihoods and relieve poverty
- Protection for the planet and its precious resources: soil, water, forest and biodiversity
- Reduced emissions of greenhouse gases and other pollutants from agriculture
- Humane farming methods which promote the health and natural behaviour of sentient animals and avoid causing them pain and suffering
- Reduced consumption of animal products in high-consuming populations to meet environmental, health and sustainability goals.

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