

Position paper on meat eating and climate change

Introduction

Tearfund works on climate change as it is hitting the poorest and most vulnerable people the hardest. Poor people have contributed the least to the problem of climate change yet suffer the most from its effects. This is unjust and so out of our call as Christians to love our neighbours and pursue justice we campaign for governments to take urgent action to tackle climate change. We also recognise that each individual can also play their part by reducing their carbon footprint.

Biblical perspective

The Bible makes it clear that it is legitimate to eat meat (Genesis 9:1-17, Mark 7:1-23, Acts 10:9-48, Romans 14). We are also called to care for creation and to love our neighbours.

As we outline below, eating meat from industrial farms has a big impact on climate change and the sustainability of resources. Many experts suggest that reducing the amount of meat we eat can substantially help to reduce our carbon emissions and help to tackle climate change. This paper explains Tearfund's position on meat eating in relation to climate change and sustainability issues.

Background

The livestock¹ industry is responsible for 18 per cent of global greenhouse gas emissions, a higher share than global transport.² In some contexts, the industry also contributes significantly to a range of environmental problems including land degradation and water shortages.

The livestock industry is growing at a rapid rate. Meat consumption has risen around 500% since 1950³, and demand continues to rise as incomes increase, populations grow and there is a continued move towards urbanisation.

As the demand for meat increases so does the carbon footprint and negative environmental impact of the industry, contributing to the devastating impact climate change is having on poor people. Unless the sector seeks to become more sustainable, emissions will rise and environmental damage such as deforestation, land degradation, water shortages and water pollution will increase. The food security of the poor will also be threatened as competition for land and resources grows with a growing demand for meat.

Tearfund therefore considers it important that the impact of eating meat and the rearing of livestock is taken into account when looking at ways we can reduce our emissions.

Where do the emissions from the livestock industry come from?

The livestock sector contributes to 18 per cent of global greenhouse gas emissions⁴ and this is likely to grow as demand for meat rises.

- The sector is responsible for 9 per cent of global man-made carbon dioxide emissions.⁵ This includes carbon dioxide released through deforestation and land degradation, and from fossil fuel consumption in running machinery, making fertilizers and transporting animal products.
- Animals themselves emit large amounts of methane and nitrous oxide as waste gases. These gases have a more damaging impact than carbon dioxide. Livestock are

¹ Livestock refers to domesticated animals reared in an agricultural setting for food, labour or profit.

² FAO (2006) *Livestock's Long Shadow*, pg. xxi. Global greenhouse gases are measured in CO2 equivalent.

³ Clark, Duncan, *The Rough Guide to Ethical Shopping*, pg.117

⁴ FAO (2006) *Livestock's Long Shadow*, pg. xxi

⁵ FAO (2006) *Livestock's Long Shadow*, pg. xxi

responsible for 37 per cent of methane which has 23 times the global warming potential of carbon dioxide.⁶

- Different kinds of livestock vary in their impact: beef is the most inefficient to produce needing 10 kilos of feed and up to 100,000 litres of water to produce 1 kilo of food. This is twice as much as pork and over 3 times more than chicken⁷.

Environmental Impact

Deforestation and Land Degradation

- The livestock industry requires vast amounts of land with livestock production accounting for 30 per cent of the land surface of the planet (although some of this cannot be used to grow crops).⁸
- As the demand for meat increases so does the demand for land: increasing deforestation as land is cleared to make space for crops and grazing. In areas where land is limited, livestock rearing is intensifying. This leads to over grazing and land degradation.
- Deforestation accounts for approximately 20 per cent of global greenhouse gas emissions⁹ and also removes vital carbon sinks, reducing the capacity of the planet to absorb carbon dioxide.
- Over grazing is leading to desertification.¹⁰ This has a huge impact on the poor, especially in developing countries, as land becomes unusable for livestock, agriculture and natural resources.

Food Security

- Food security is a growing problem as the changing climate makes the environment, and food supplies, less predictable and dependable. As the livestock industry expands the competition between land for animal crops and grazing and land for food will further threaten food security.
- Increasing demand for meat and dairy products in newly industrialised countries like China and India was one of the factors which contributed to the food prices escalating globally in 2008.
- Rising meat production in industrial farms is also increasing the competition for basic resources such as soya and cereals for consumption by people and animals. As demand rises so does the price which means that the poor sacrifice things like school fees to buy food with the little money that they have.
- Producing animal-based food is typically much less efficient than the harvesting of grains, vegetables, seeds and fruits, (although it might be more sustainable in developing countries where there is not as much industrial farming)

Water

- 64 per cent of the world's population are expected to live in water-stressed basins by 2025.¹¹ As the impacts of climate change affect water availability the amount of water the livestock industry consumes becomes a huge concern.
- The sector accounts for over 8 per cent of global freshwater use,¹² from the irrigation of feed crops and land, and from processing meat. The industry is highly water intensive with around 100,000 litres of water required to produce 1 kilo of beef in the US (this may vary in different countries and climates).¹³
- Meat production can also be a huge source of water pollution resulting from animal waste, chemicals used in fertilizers and pesticides and sediment from eroded pastures.

⁶ FAO (2006) *Livestock's Long Shadow*, pg. xxi

⁷ Clark, Duncan, *The Rough Guide to Ethical Shopping*, pg.118

⁸ FAO (2006) *Livestock's Long Shadow*, pg. xxi

⁹ http://unfccc.int/files/press/backgrounders/application/pdf/fact_sheet_reducing_emissions_from_deforestation.pdf

¹⁰ Desertification is land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities.

<http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21chapter12.htm>

¹¹ FAO (2006) *Livestock's Long Shadow*, pg. xxii

¹² FAO (2006) *Livestock's Long Shadow*, pg.271

¹³ <http://www.news.cornell.edu/releases/aug97/livestock.hrs.html> (A beef animal consumed 100 kg of hay and 4 kg of grain per 1 kg of beef produced. Using the basic rule that it takes about 1,000 liters of water to produce 1 kg of hay and grain, thus about 100,000 liters were required to produce the 1 kg of beef)

Cutting our dependence on meat and ensuring that livestock is produced in a sustainable way, ensuring responsible use of resources such as land, crops and water, is therefore important in cutting emissions and reducing environmental damage. It is also key in ensuring the food and water security of poor people.

Organic and sustainable farms

Unlike industrial farms, small-scale organic and sustainable farms rely on people power, not heavy machinery, and depend on nature, not manmade chemicals for soil fertility and to handle pests. As a result, small-scale sustainable farms have been found to emit between one-half and two-thirds less carbon dioxide for every acre of production.¹⁴ As an alternative, organic farming mitigates climate change by typically using 26 per cent less energy to produce the same amount of food as non-organic farming thanks to the decreased reliance on chemically produced feeds, fertilisers and pesticides.¹⁵

While not specifically addressed in this paper, the production of dairy products also impacts on greenhouse gas emissions, food security and environmental sustainability¹⁶.

Tearfund's response

Tearfund believes we need to take urgent action to tackle climate change by reducing emissions and by helping poor communities adapt to a changing climate. Global greenhouse gas emissions must decrease by at least 80 per cent by 2050 if global temperature rise is to be kept below two degrees. Emissions must peak and start to reduce by 2015.

Changes in the livestock sector will be crucial to tackling climate change given its high (and rising) emissions. The current methods of producing meat combined with the rapid growth of the industry are unsustainable and must be addressed if we are serious about tackling climate change.

The sector itself must look at ways to become more efficient both in terms of its energy use and its use of other resources. There should be a shift from chemical, energy intensive agriculture practices to ecological, organic food production. Choose sustainably raised and organic meat where possible. As beef is one of the most feed and water intensive meats, choosing grass-fed and organic beef will reduce resource use. Favour farmers' markets and local, organic, fresh seasonal products and short supply chains. Ecological organic farming also needs to be central to all adaptation strategies for dealing with climate change.

However, ultimately, unless the demand for meat is reduced it is difficult to see how emissions in this sector can decrease on the scale necessary. Therefore, because of the high emissions associated with the production of meat and the threat to food security, Tearfund considers that reducing the amount of meat we eat can help lower our emissions and make a contribution to the huge reductions needed to tackle climate change. In this way, it will reduce the vulnerability of the poorest whose food security and livelihoods are threatened by climate change and high food prices.

March 2009

Registered Charity No: 265464

¹⁴ IPCC (2007). *Climate Change 2007: Fourth Assessment Report of the Intergovernmental Panel on Climate Change*. New York, Cambridge University Press.

¹⁵ <http://www.thedairyhouse.co.uk/images/downloads/Environment.pdf>

¹⁶ Clark, Duncan, *The Rough Guide to Ethical Shopping*, pg.133-137