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GLOBAL WARNING:
CLIMATE CHANGE AND FARM ANIMAL WELFARE

EXECUTIVE SUMMARY

Compassion in World Farming
2008

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Livestock production is responsible for 18% of global greenhouse gas (GHG) emissions from all human activities, measured in CO_2 equivalent.[1] This is a higher share than transport, which accounts for 14% of global GHG emissions.[2] Nitrous oxide and methane emissions from animal manure, methane emissions from the animals' digestion and nitrous oxide emissions from mineral fertiliser used to grow feed-crops for farmed animals make up the majority of this 18%. The livestock sector is responsible for the following proportions of global anthropogenic emissions of the main greenhouse gases:

- 37% of total methane (CH_4)
- 65% nitrous oxide (N_2O) emissions
- 9% of carbon dioxide (CO_2) emissions.[1]

In addition, 64% of ammonia emissions originate in livestock production[1] and contribute to air, soil and water pollution, acid rain and damage to the ozone layer. According to the UN Food and Agriculture Organization (FAO), "The livestock sector has such deep and wide ranging impacts that it should rank as one of the leading focuses for environmental policy."[3]

Meat and milk are currently under-priced in relation to their real environmental and carbon costs. It is essential that the true costs of the livestock industry in relation to climate change are reflected in costs and prices in developed countries.

Compassion in World Farming believes that high-income, developed countries have a situation of unsustainable overproduction and over-consumption of animal products (meat, milk and eggs). We argue that a planned and well-managed reduction in the production and consumption of meat and milk in developed countries, such as those of the European Union, is an essential step in order to help stabilise climate change. We believe that this reduction will have many beneficial side effects for both people and animals and will open up new opportunities to reformulate our food production policies.

UNSUSTAINABLE LEVELS OF ANIMAL PRODUCTION

The FAO predicts that between 2001 and 2050, global meat and milk consumption will approximately double.[1] At present, nearly 60 billion animals a year are used globally to produce meat, milk and eggs.[4] This figure could rise to 120 billion by 2050. Such a marked upsurge would have an overwhelming impact on climate change and the environment.

Most of the world's animal production is carried out in industrial systems that make very heavy demands on natural resources of land and water in order to grow feed-crops for farmed animals. Industrial animal production also causes widespread pollution from animal manure and from the use of fertiliser, pesticides and herbicides. The FAO reports that industrial animal production systems are increasing at six times the rate of traditional mixed farming systems and at twice the rate of grazing systems.[5] At least 50% of the world's pig meat and over 70% of the world's poultry meat and eggs are produced in industrial systems.[6] [7]

Livestock-related GHG emissions are expected to continue to increase rapidly up to mid-century if no action is taken to curb them. The US Environmental Protection Agency considers the key factors in the growth of nitrous oxide and methane emissions to be "the growth in livestock populations … and the trend toward larger, more commercialised livestock management operations." Emissions from pig slurry and poultry manure are expected to grow strongly as industrialised pig and poultry production expands globally.[8]

ENVIRONMENTAL IMPACT OF INDUSTRIALISED ANIMAL PRODUCTION

Livestock production for meat, milk and eggs uses up an important share of world resources. One third of the world's total arable land is dedicated to animal feed-crop production;[9] over 90% of the world's soya beans and 60% of maize and barley are grown for livestock feed.[9] Deforestation is a major cause of CO_2 emissions and loss of biodiversity. Deforestation in South America is largely driven by livestock production; 70% of previously forested land has been converted to livestock pastures and much of the remainder is used to grow feed crops (soya or cereals).[3] [9] [10]

Soya production for feed has tripled since the mid-1980s, often by expansion into new land.[9] Feed-crops are taking over increasingly scarce pasture land, leading to overgrazing and potential desertification of existing and marginal grazing areas.[7] Desertification already affects the livelihoods of more than 25% of the world's population.[11] According to the FAO, "feed production consumes large amounts of critically important water resources and competes with other usages and users."[12]

Over-production of livestock will only exacerbate the damage to food production and the environment due to global warming, such as more frequent droughts, floods, storms and harvest failures. In addition, it damages animal welfare, as more animals are subjected to intensive (factory farm) rearing systems, and human health in those countries where there is over-consumption of animal-based foods.

HIGH GLOBAL WARMING POTENTIAL OF ANIMAL-BASED DIETS

Meat and dairy production account for 13.5% of total GHG emissions in the EU25.[13] [14] In the UK, meat and dairy account for 8% of total UK emissions, compared to 2.5% for fruit and vegetables.[14] [15] The real global warming potential of meat and dairy production in Europe is even higher than these figures suggest if we include important indirect effects such as deforestation in South America to grow soya beans for animal feed.[15] Diets high in meat and dairy products have much lower energy efficiency and a greater global warming potential compared to diets high in plant-based foods.[14 – 20] The energy input for one portion of cooked pork can be three times greater than the energy input for a portion of cooked beans or pulses.[21]

Choices about diet can affect an individual's carbon footprint as significantly as choices about transport. Increasing the proportion of meat and dairy products in an individual's diet can be equivalent to the difference between a year's use of a standard car versus an ultra-efficient hybrid.[18] [22]

These facts have implications for governmental GHG reduction strategies and targets and for the choices made by any individual consumer in order to reduce his or her carbon footprint. Diets high in animal products increase GHG emissions and increase an individual's carbon footprint. Diets high in plant products save energy and reduce an individual's carbon footprint.

WHY A REDUCTION IN MEAT AND MILK PRODUCTION IS ESSENTIAL

Strategies proposed by the Intergovernmental Panel on Climate Change to reduce livestock-related GHGs could probably only reduce emissions by less than 20%.[23] These strategies include reforestation, restoration of carbon soils, more careful and targeted use of fertilisers and disposal of manure.[1, 24] Such measures are clearly necessary, but are unlikely to make a large enough reduction in GHGs in a short time period. Other proposed strategies aim at the digestion or excretion of the animals themselves, such as feeding more grain and less forage (to reduce methane production) or chemical treatment of the animals. These could be very problematic if they lead to adverse effects on the animals' digestion or health. In any case, they are unlikely to be feasible for the majority of small farmers globally.

The leading sources of livestock-related GHG emissions originate in the natural biological processes of each animal (digestion, excretion).[1] A reduction in the size of the livestock industry in developed countries is therefore the simplest, quickest and probably the only effective method of cutting GHGs from animal production to the extent that is necessary to limit the future increase in global warming.

WHY INTENSIVE ANIMAL PRODUCTION IS THE WRONG ANSWER

Some agriculturalists propose intensifying animal production in order to increase yield per animal and hence reduce the GHG emissions per unit of output. Compassion in World Farming considers that intensification is a deeply flawed strategy from the point of view of halting climate change and from environmental and animal welfare considerations. It would also be ethically and politically unacceptable to consumers in developed countries, where concern about the welfare and environmental effects of farming, and the demand for free-range and organic animal products, is increasing fast.

Intensification would almost certainly mean an increase in factory farming of pigs and poultry and a reduction in free-range animals, including grazing cattle and sheep. It would often be counterproductive as already high-yielding animals were pushed even further for higher yields, leading to increased stress and ill-health, shorter productive lifetimes of dairy cows and breeding sows and increased potential for the spread of infectious disease. The increased demand for feed would put more pressure on land and water resources globally and increase pollution from manure and agrochemicals.

Compassion in World Farming believes that, rather than calling for "more of the same", agriculturalists and policy makers should look afresh at the whole issue of how we should rear animals for food in ways that protect the nutritional needs of people, the livelihoods of farmers, the welfare of farmed animals and the global climate and environment.

BENEFITS FOR HUMAN HEALTH

Recent estimates from public health experts suggest that a reduction of around 60% in daily intake of meat is developed countries would help reduce excess weight and obesity and offer other health benefits to individuals and society. [23]

Reducing consumption of red and processed meats is also recommended by the World Cancer Research Fund in its 2007 Report, which cites these meats as convincing causes of colorectal cancer. [25]

PROPOSED TARGETS AND STRATEGY FOR MEAT AND DAIRY REDUCTION IN EUROPE

In line with current UK and European GHG emission reduction targets, which may need to be increased in view of new scientific evidence, Compassion in World Farming believes that the European Union and other high-income, developed countries should reduce production and consumption of meat and milk to one third below current levels over the next decade (by 2020) and to at least 60% below current levels by 2050.[26]

Under our proposals:

- Consumers would eat a lower volume of higher quality meat and milk, preferably from local farmers. Farmers would earn a premium for their products, and higher prices would reflect the carbon costs of consuming meat and milk;
- A reduction of one third would be roughly equivalent to an individual who eats meat daily eating meat on only five days a week, or alternatively reducing portion sizes of meat and dairy products and substituting plant-based foods such as pulses, grains, vegetables and fruit;
- Farmers would be enabled to reduce stocking density, move from intensive to extensive methods and raise animal welfare standards up to the best free-range and organic farming standards of today, while protecting their livelihoods;
- Imported products would be required to meet the same standards. Governmental and intergovernmental targets and incentives for both producers and consumers would be needed to support this transition, including protecting the purchasing power of low-income consumers.

The benefits of this strategy are many, in addition to going a long way to meet the urgent task of reducing GHG emissions:

- A significant reduction in meat and dairy consumption would improve public health and reduce the prevalence of obesity, certain heart conditions and cancers. This would have a positive impact on related health care costs.
- Localisation of animal production and consumption would support rural communities and businesses.
- Reduction in demand for animal feed would allow a reduction in the intensity of arable farming and increase farmland biodiversity.
- The strategy would also lead to the end of animal factory farming and enable a revolution in standards of farm animal welfare.

In order to achieve a global and proportionate reduction in the production and consumption of meat and dairy products, Compassion in World Farming calls on all governments to negotiate an International Treaty on Meat and Dairy Reduction, or to incorporate meat and dairy reduction targets or production caps into any future climate change agreement. Such a treaty or agreement will set fair reduction targets for high-income countries, while allowing the poorer developing countries to enhance their small-scale livestock farming.

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