



**HOW YOUR DIET COULD
CHANGE THE WORLD**



CONTENTS

HELP PROTECT.....

LAND

| | |
|------------------------|---|
| FEEDING THE WORLD..... | 2 |
| THE WASTELAND..... | 3 |
| DEFORESTATION..... | 4 |
| BIODIVERSITY..... | 5 |

HELP PROTECT.....

WATER

| | |
|---------------------|---|
| WATER SCARCITY..... | 6 |
| POLLUTION..... | 7 |
| SUFFERING SEAS..... | 8 |
| FISH FARMING..... | 8 |

HELP PREVENT.....

GLOBAL WARMING

| | |
|-------|---|
| | 9 |
|-------|---|

HELP THE PLANET

| | |
|----------------|----|
| GO VEGAN!..... | 11 |
|----------------|----|

ARE YOUR MEALS COSTING THE EARTH?

World meat production has quadrupled in the past 50 years and farmed animals now outnumber people by more than three to one.¹ In other words, the livestock population is expanding faster than the human population and is projected to continue to expand as the Chinese middle classes increasingly adopt meat-centred diets and as the Western taste for meat, eggs and dairy products continues to grow (along with our waistlines).

This trend will contribute to continuing malnourishment in the developing world, global warming, widespread pollution, deforestation, land degradation, water scarcity and species extinction because more animals mean more crops are needed to feed them: the planet cannot feed both increasing human and farmed animal populations.

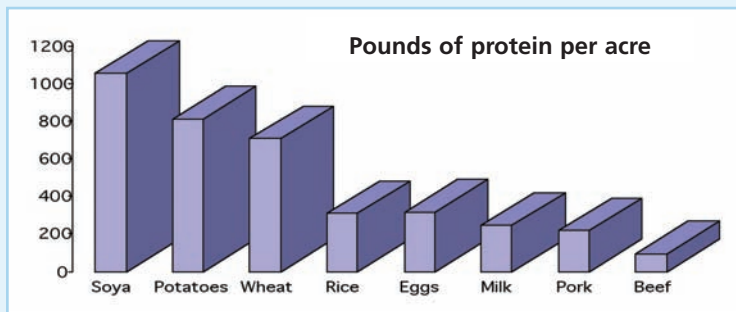
So if we are trying to reduce our car use, limit the amount of water we waste, become more 'energy-efficient' and generally lessen our environmental impact, we must also examine the most important factor of our personal ecological footprint: what we eat.



The United Nations Food and Agriculture Organization (FAO) 2005 report states that hunger causes the death of more than five million children a year. With the world's population expected to increase from 6 billion to reach 9 billion by 2050, one of the most urgent questions we now face is how we, as a species, will feed ourselves in the 21st century.

Land availability is one of the main constraints on food production. The Earth has only a limited area of viable agricultural land, so how this land is used is central to our ability to feed the world. Western diets play a large part in depriving the world's poor of much needed food. This is because livestock consume much more protein, water and calories than they produce. Most of the protein from vegetable feeds is used for the animal's bodily functions and not converted to meat, eggs or milk.

Land use for food production:



McCance and Widdowson, 2002,
P.W. Gerbens-Leenes et al. 2002, FAOSTAT data 2006⁴

Europe imports 70 per cent of its animal feeds – often from countries with high levels of malnutrition.²

HOW YOUR DIET CAN HELP

A varied vegan diet uses just one fifth of the land needed for a typical European omnivorous diet.³

Quite simply, we do not have enough land to feed everyone on an animal-based diet. So while 840 million people do not have enough food, we continue to waste valuable agricultural land by obtaining only a small fraction of its potential calorific value.

The world's population is increasing and viable agricultural lands are diminishing. If we are to avoid future global food scarcity we *must* find sustainable ways of utilising our natural resource base.

Industrial livestock production is unsustainable and unjustifiable.

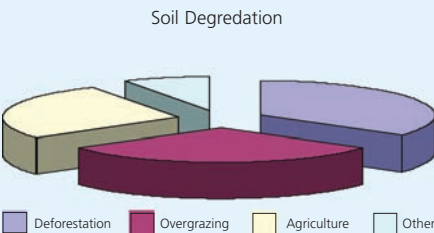
HELP PROTECT..... FERTILE LANDS

The World Resources Institute (WRI) states that nearly 40 per cent of the world's agricultural land is seriously degraded. The International Food Policy Research Institute (IFPRI) predicts that if land loss continues at current rates, an additional 150-360 million hectares could go out of production by 2020.⁵

Increasing population is therefore not the only factor that we have to consider when looking at future food production. Viable agricultural lands are diminishing, so there is less and less productive soil per person. Continuing to intensify production on already degraded lands is not a sustainable solution.

HOW YOUR DIET CAN HELP

Overgrazing is blamed for 35 per cent of soil degradation, deforestation for 30 per cent and agriculture for 27 per cent.⁶



These main causes are directly or indirectly related to the consumption of animal products.



It is a vicious cycle in which declining soil fertility pushes people to find new land to expand the agricultural base. This often leads to deforestation, which in turn causes soil degradation. This process is the epitome of unsustainable agricultural practice.

Switching to a vegan diet can help to prevent further deterioration of precious fertile lands.

THEY SAID IT...

"If present trends of meat-eating continue, then by 2050 the world's livestock will be consuming as much as 4 billion people do..... when many were doubting whether such human numbers could be fed at all."

Award Winning Science Writer:
Colin Tudge, Penguin 2004



HELP PROTECT.....

FORESTS

We need forests. They store large amounts of carbon dioxide, release oxygen, regulate climate, prevent floods, protect soils, and harbour millions of varieties of plant and animal species. They are also home to thousands of indigenous people whose livelihoods and ways of life are rapidly being destroyed.

HOW YOUR DIET CAN HELP

Forests are being destroyed not only to provide wood, paper and fuel, but also to provide land for grazing cattle and for growing crops to feed to farmed animals. WRI assessments suggest that 20-30 per cent of the world's forest areas have already been converted to agriculture. As agricultural lands become more and more degraded, most of the land for replacement and expansion comes from the world's forests. The expansion of agricultural land accounts for more than 60 per cent of worldwide deforestation.⁸



Most of this land is used to graze beef cattle. Two World Bank specialists in agriculture concluded: "Livestock-induced ranching in rainforests has led to significant loss in plant and animal biodiversity especially in Central America 320,000-430,000 ha/year and South America about 1.1 million ha/year."⁹

This process has become known as the 'hamburgerisation' of the forests.

Switching to a vegan diet can significantly reduce your contribution to the destruction of the world's forests.



HELP PROTECT.....

BIODIVERSITY

No one really knows just how many species there are on Earth. Estimates range from 2 million to 100 million, but most experts opt for a best estimate of about 10 million. Of these, only 1.4 million have been named and only a small percentage of these have been studied in any detail.¹⁰

THEY SAID IT.....

"Many extinctions attend the human harvest of food."

World Resources Institute.¹³

The World Conservation Union (IUCN) Red List of threatened species shows that 18 per cent of all of the vertebrates they assessed in 2002 were threatened with extinction. This included 24 per cent of mammals and 30 per cent of fish. 49 per cent of plants assessed in 2002 were threatened with extinction.¹¹ It has been estimated that the current rate of species loss is between 1,000 and 10,000 times higher than it would naturally be.¹²

Statistics such as these have led many environmental scientists to believe that we are in the process of a mass extinction. This loss of genetic diversity will have serious consequences for food production and environmental sustainability.

HOW YOUR DIET CAN HELP

Habitat destruction is the single greatest factor in species being lost forever. Deforestation, land degradation and intensive arable farming all represent the destruction of ecosystems, resulting in massive loss of biodiversity.

A report commissioned by the FAO, USAID, and the World Bank concluded that industrial livestock production contributes to species loss through "its demand for concentrate feed, which changes land use and intensifies cropping. The production of feed grains, in particular, adds additional stress on biodiversity through habitat loss and it damages in ecosystem functioning."¹⁴



Tropical rainforests, although covering only 10 per cent of the world's surface, are thought to contain about 90 per cent of all species – many of which have never been studied.¹⁵

The wholesale destruction of forest environments to provide grazing land for cattle and to grow feed for livestock directly contributes to loss of biodiversity.

Other factors affecting species depletion include pollution, climate change and invasion by introduced species. All these factors relate directly to livestock production.

THEY SAID IT...

"The roots of the biodiversity crisis are not 'out there' in the forest or on the savannah, but embedded in the way we live."¹⁶

World Resources Institute



Switching to a vegan diet will help to maintain biodiversity

HELP PROTECT.....

WATER

The United Nations Water Assessment Programme states:*"At the beginning of the twenty-first century, the Earth, with its diverse and abundant life forms, including over six billion humans, is facing a serious water crisis."*¹⁷

This situation is predicted to worsen as our population expands and consumption per capita increases with more and more people adopting resource-intensive Western meat-eating habits.

HOW YOUR DIET CAN HELP

Although statistics vary, all agree that it takes over five times the amount of water to feed a meat eater compared with that used to feed a vegan.¹⁸ This is largely because cropland has to be irrigated to make it agriculturally viable and to increase and improve crop yields. As has been shown, much of this land is entirely wasted by growing feed crops for livestock rather than food for direct consumption by people. The water used on this land – as well as that consumed directly by livestock – represents yet another wasted resource.



Since a large percentage of the crops fed to European farmed animals are grown in developing countries, this wasted water comes not only from European reserves but also from the very countries where drinking water is most scarce.

Switching to a vegan diet will help significantly reduce the world's water requirements.



Additionally, demand for animal feed is one of the major reasons behind the intensification of crop production. It is estimated that over 4.5 billion litres of pesticide are now used annually in the UK.¹⁹ The harmful environmental effect of pesticides is now well documented. They can affect wildlife populations – from beetles to songbirds – and many are also deemed detrimental to human health.

WATER POLLUTION

Agriculture is also the number one water polluter. Slurry from cattle and other livestock pollutes groundwater, streams and rivers. The global figure for waste from industrial livestock systems is in the region of 8 billion tonnes per year. Manure and slurry contain high levels of nitrogen and phosphorous. These elements can leach into groundwater and run off to pollute lakes, killing the fish and endangering the health of other animals. Ammonia is also given off and can cause acid rain.



By switching to a vegan diet you will help to improve water quality.

HELP PROTECT..... THE OCEANS

The single greatest threat to marine ecology is over-fishing. Catch sizes now regularly exceed sustainable levels, a trend that could have devastating consequences for the health of our oceans. Yet worldwide demand is increasing.

The problems caused by fishing fleets are not limited to the fish species they target. The marine environment is little understood, and the effect on the ecosystem of the removal of thousands of fish every day is difficult to estimate. However, some consequences of large-scale commercial fishing (particularly those using driftnets, purse seine nets and trawl nets) are obvious.

THEY SAID IT.....

“Increasingly destructive fishing methods and the staggering growth of many modern commercial fisheries... have spelt disaster for whales and dolphins around the world.”

The Whale and Dolphin Conservation Society.²⁰



FISH FARMING

With wild fish populations crashing because of over-fishing, attention has turned to fish farming to try to pick up the shortfall. Aquaculture is now the world's most rapidly expanding area of animal production. This has led to enormous problems.



Farmed fish are fed on meal made from wild fish. More than three tonnes of wild-caught fish are needed to produce one tonne of farmed salmon. For newly farmed marine species such as halibut and cod, the ratio of wild fish used in feed to farmed fish produced is about 5:1. Far from helping to prevent wild fish stocks from plummeting further, fish farming actually increases over-fishing.²¹

Fish are given chemical treatments in their feed or bathed in organophosphates or synthetic pyrethroids to try to limit infestation by parasitic sea lice. Many of the chemicals used are listed as dangerous under the EC Dangerous Substances Directive, yet they are being released into our oceans and used to treat fish that will later be eaten by humans.²² Additionally, fish waste and the chemicals used to treat disease and infestations are all environmental pollutants.

HOW YOUR DIET CAN HELP

By stopping eating fish – be it farmed or wild-caught – we can reverse the destruction of ocean environments.

HELP PREVENT.....

GLOBAL WARMING

When carbon dioxide, methane and nitrous oxide are released into the air they blanket the Earth, trapping heat inside the atmosphere. This is known as the greenhouse effect, and it keeps our planet at a temperature at which life can thrive. The problem is the massive increase in the output of these and other greenhouse gases since industrialisation has caused the effect to intensify.

HOW YOUR DIET CAN HELP

Meat eating is responsible for at least a third of all biological methane emissions.²³

Methane is produced by bacteria in the stomachs of sheep, cattle and goats and is released through the animals' bodily functions.

Molecule for molecule, methane is 20 times more potent than carbon dioxide as a greenhouse gas.²⁴

THEY SAID IT.....

'American feed (for livestock) takes so much energy to grow that it might as well be a petroleum byproduct.'

The WorldWatch Institute²⁵

Factory farming uses massive inputs of fossil fuels. The vast majority of this energy is used in producing, transporting and processing feed.²⁶

A vegan diet uses substantially less energy than a diet based on animal products and therefore contributes much less to air pollution, acidification, oil spills, habitat destruction and global warming.

A University of Chicago study comparing a typical US meat-based diet with a vegan diet found that the 'typical' US diet generates the equivalent of nearly 1.5 tonnes more carbon dioxide per person per year than a vegan diet. The authors of the study concluded that it would be more environmentally effective to go vegan than to switch to a petrol electric hybrid car.²⁷



The felling of forests to grow food for the exploding population of cattle, pigs and chickens, results in fewer trees to absorb carbon dioxide and is a major contributor to global warming.

HELP PROTECT.....

THE PLANET

It is widely agreed that agriculture is one of the most environmentally damaging activities that man undertakes.

As consumers, we can make a difference by choosing food that is produced in an environmentally sustainable way. As has been shown, livestock consume more protein and calories than they produce. This alone makes animal farming an unsustainable use of the Earth's resources. On top of this, the consumption of animal products contributes to global warming, pollution, water scarcity, land degradation, deforestation and loss of biodiversity – in other words, all the major environmental problems.

We should all be aware of the impact that our lifestyles have on the world around us: switching to a vegan diet will significantly limit your individual impact on our increasingly threatened environment.

Discover for yourself what a difference a vegan diet can make by visiting: www.earthday.net/footprint This site will help you to calculate your ecological footprint. First put in omnivore, then change it to vegan and see the difference this makes!



FOOD MILES

Environmentally conscious consumers are becoming increasingly aware of the benefits of buying locally produced food to cut down on 'food miles' (the distance travelled by lorry, ship or aeroplane by our food before it reaches our plates).

THE LIVESTOCK CONNECTION

When considering food miles, many people think only of the miles travelled by the 'end product.' They think that British chicken, pork or beef is an environmentally friendly option because the animals have not arrived from overseas, building up air miles. However, British animals increasingly eat feeds such as soya, manioc and tapioca that have been imported from abroad, consequently the environmental footprint left by eating British meat can be just as great as eating imported animal products. Vegan foods are better for the environment because eating vegetable protein directly, rather than through the intermediary of an animal, uses far less land. Eating locally grown vegetables is better still.

GO VEGAN!

Saving the planet is one reason to go vegan. There are many more: by going vegan you will save the lives of the thousands of animals you would have eaten otherwise and save many animals from cruel exploitation on factory farms.



You will also help to stop the spread of animal diseases such as BSE and Bird Flu to human beings. Your diet will not contribute to an increase in antibiotic resistant superbugs such as MRSA and it will be healthy and nutritious.



By joining the Vegan Society you can help us to continue to promote ways of living that are free from animal products – for the benefit of people, animals and the environment.

As a member you will receive our quarterly magazine and other useful information relating to the vegan lifestyle.

The more members we have, the more projects we can finance to take the vegan message to school and hospital caterers, product manufacturers, healthcare professionals, the media and the general public.

You don't have to be a vegan to join the Vegan Society – you just have to be willing to make a difference. So why not join today by filling in the form overleaf or join online at www.vegansociety.com.

REFERENCES

- ¹ Based on FAOSTAT, 2006
<http://faostat.fao.org/faostat/collections?subset=agriculture> accessed on 21/06/2006
- ² European Parliament, *Europe's Deficit in Compound Feedingstuffs and Agenda 2000*, Agriculture, Forestry and Rural Development Series, Working Document, AGRI-110, 1999. Cited in J. Turner, *Factory Farming and the Environment*, CIWF, 1999
- ³ FAO, 'The State of Food Insecurity in the World' 2005
- ⁴ Rice and soybean yields per acre are the EU average yields for 2005 taken from the FAOSTAT database <http://faostat.fao.org/faostat/collections?subset=agriculture> on 21 June 2006. Yields of the other foods shown are from P.W. Gerbens-Leenes et al., 'A Method to Determine Land Requirements Relating to Food Consumption Patterns', *Agriculture, Ecosystems and Environment*, 2002; 90:47-58.
- Protein contents of foods are taken from McCance and Widdowson's *The Composition of Foods (Sixth Summary Edition)*, Food Standards Agency, 2002.
- ⁵ IFPRI, 'How Large a Threat is Soil Degradation?' 2020 Newsletter, March 1999
- ⁶ United Nations Environment Programme (UNEP), *GEO: Global Environment Outlook 3* Press Release www.grida.no/geo/press.htm
- ⁷ Colin Tudge *So Shall We Reap*, Penguin 2004
- ⁸ Goodland & D. Pimentel, 'Sustainability and Integrity in the Agriculture Sector,' *Ecological Integrity: Integrating Environment, Conservation and Health*, D. Pimentel, L. Westra, R. F. Noss (eds), Island Press, 2000
- ⁹ C. de Haan & H. Blackburn, 'The Balance Between Livestock and the Environment,' Invited paper for the 8th Congress of Institutes of Tropical Animal Health and Production, Berlin 1995
- ¹⁰ WRI, *Biodiversity and protected areas* www.wri.org/wri/biodiv/b02-gbs.html (accessed 15/05/03)
- ¹¹ IUCN, *Red List of Threatened Species*, www.redlist.org/info/tables/table1.html (accessed 15/05/03)
- ¹² IUCN, *Background to the IUCN Red List of Threatened Species* www.iucn.org/themes/ssc/redlist2002/rl_background.htm (accessed 14/05/03)
- ¹³ WRI, *Biodiversity and protected areas*, op cit
- ¹⁴ C. de Haan, H. Steinfeld & H. Blackburn, 1998, op cit
- ¹⁵ UNEP, *GEO: Global Environment Outlook 3* www.unep.org/GEO/geo3/english/220.htm (accessed 15/05/03)
- ¹⁶ WRI, *Biodiversity and protected areas*, op cit
- ¹⁷ Water for People, Water for Life, Executive Summary, The UN Water Development Report, World Water Assessment Programme, 2003
- ¹⁸ J.L. Beckett & J.W. Oltjen, *Estimation of the water requirement for beef production in the United States* *Journal of Animal Science*, 1993, 71: 818-826
- ¹⁹ The Soil Association www.soilassociation.org
- ²⁰ Whale & Dolphin Conservation Society, Introduction to Fisheries, www.wdcs.org (accessed 12/05/03)
- ²¹ Naylor, Goldberg, Primavera, Kautsky, Beveridge, Clay, Folkes, Lubchenco, Mooney, & Troell, 'Effect of aquaculture on world fish supplies,' *Nature* 405, 1017-1024 (2000)
- ²² P. LyMBERY, 'In Too Deep – The Welfare of Intensively Farmed Fish,' CIWF Trust, 2002.
- ²³ National Aeronautics and Space Administration (NASA) study published in the February 2005 issue of the journal *Geophysical Research Letters*
- ²⁴ NASA Godard Space Flight Centre Report 2005 by Krishna Ramanujan
- ²⁵ WorldWatch Institute 'The Price of Beef' 1994
- ²⁶ de Haan, Steinfeld & Blackburn, 'Livestock and the Environment: Finding a Balance' FAO, USAID, World Bank, 1998
- ²⁷ Gidon Eshel and Pamela Martin in *New Scientist* 17 December 2005 page 19



MEMBERSHIP

I wish to become a member and support the work of The Vegan Society.

I wish to renew my membership.
 Membership No. (if known).....

Name:.....

Address:.....

Postcode:.....Tel:.....email:.....

Date of Birth:...../...../.....Occupation:.....

Please tick this box if you are a dietary vegan. This entitles you to voting rights in the Society's elections if aged 18+.

Please treat my membership subscription as Gift Aid. I have paid UK income or capital gains tax equal to the amount the Society reclaims.

My income is less than £8000 per year and I qualify for the low income discount of 33%.*

I wish to enrol other members of my household for an additional £7 each.**

A copy of the Society's rules (Memo & Articles of Association) can be viewed on our website or at our office. Alternatively you may buy a copy for £5.

| | |
|--|--|
| | |
| | |

Please give full names of additional members and specify if dietary vegan and / or under 18. (If more than four additional members please attach separate sheet.)

Membership

| | | |
|---|---------------------|--------------------------|
| Individual | £21 | <input type="text"/> |
| *Less £7 low-income deduction (if applicable) | | <input type="text"/> |
| ** Add £7 per additional household member | | <input type="text"/> |
| Under 18 years old | £7 | <input type="text"/> |
| Life | £350 | <input type="text"/> |
| Memo & Articles of Association | £5 | <input type="text"/> |
| Overseas: Europe | +£5 / Rest of World | +£7 <input type="text"/> |
| Donation | | <input type="text"/> |
| Total: | | <input type="text"/> |

How to pay

Cheque / PO payable to *The Vegan Society*

Credit / Debit card (enter details below)

Direct Debit (see previous page)

Website: www.vegansociety.com

Payment may be made by credit card, sterling International money order or sterling cheque drawn on a British bank.

Please debit my Visa / Mastercard / Access / Eurocard / Visa Delta / Connect / Switch / Solo card number

Name on card:.....Signature:.....

Today's date...../...../.....Start date:...../.....Expiry date...../.....Switch Issue No.:.....

Please return completed form to: