EATING UP THE WORLD

the environmental consequences of human food choices
Our planet faces serious environmental challenges. Water shortages, global warming, land degradation, deforestation, ocean degradation, food shortages and species extinction are just some of these important issues.

It is now clear that we are using the Earth’s resources at an unsustainable rate. The problems we face as a result have an impact at all levels: on our planet, our cities and towns, our families and ourselves.

Many Australians understand the fragile nature of our environment and are taking action to reduce their personal impact. We are reducing car usage, using energy efficient light globes, taking shorter showers and implementing other important actions. While these initiatives have some benefits, they fail to address one of the biggest causes of our environmental problems… what we eat.

This booklet highlights some of the key problems that are facing our planet and us, shedding some light on the current condition of the environment and what the future holds. Most importantly, effective solutions are offered that can easily be implemented to make significant improvements to the wellbeing and sustainability of our environment.

Many species are facing extinction.

The number of animal species in Australia is declining at a higher rate than any other country except the USA¹. In Australia there are 1,249 plant species and 347 animal species that are endangered at some level. This includes insects, frogs, fish, reptiles, birds and mammals.²

The biggest contributing factor to this endangerment is habitat destruction caused by clearing of land for animal pasture.³

Animal industries are the major cause.

In 2006 the Food and Agriculture Organization of the United Nations released a report called Livestock’s Long Shadow. This report states that animal industries are one of the ‘most significant contributors to the most serious environmental problems, at every scale from local to global.’⁴

Australia’s animal industries negatively impact bio-diversity through:

- habitat destruction
- climate change
- pollution
- the introduction of non-native species
- increased competition for food and water.
Over 67% of water in Australia is used for agriculture whereas only 9% is for household use. Many people are surprised to learn that the amount of water used to produce food is much greater than that used directly in households. A 2004 Melbourne University study concluded, ‘Water use through food consumption is 90% of a household’s water use. This implies that for any water saving effort to have an effect, it should be concentrated on indirect water use’. Wasteful production of animal products currently use more than 12 times as much water annually as will be produced by the Wonthaggi desalination plant. Rather than expensive engineering solutions which drive the price of water up for all consumers, a more effective way to ensure water availability in Australia is to reduce the water being wasted in the production of animal products such as meat and dairy.

Animal industries have additional detrimental impacts on fresh water supplies.
- Grazing animals trample river edges and pollute the water
- Clearing of native vegetation for pasture reduces rainfall, whilst increasing runoff and soil erosion
- The manufacture of animal products (such as leather) pollutes rivers with toxic chemicals such as chromium, mercury and formaldehyde
- Fresh water fish-farms pollute riverine environments
- Factory farms in the US pollute rivers more than all other industries combined (currently more than 500 million tonnes of manure is produced each year).
Over the past 20 years, carbon dioxide equivalent (CO₂-e) emissions from land clearing for cattle in Australia have averaged 69 megatonnes annually. Between the warming impact of methane and the impact of land clearing, this gives a total of 384 megatonnes of carbon dioxide equivalent (CO₂-e) emissions, far more than double the warming from the 169 megatonnes of carbon dioxide emitted from our coal fired power stations annually.

In addition, keeping land cleared also prevents revegetation, a powerful mechanism for removing greenhouse gases (especially carbon dioxide) from the atmosphere.

Supply Chain Emissions
The comparison above doesn’t include the significant emissions from the livestock sector’s supply chains. The feeding, transportation, slaughter, refrigeration and cooking of animals all require large amounts of energy and are consequently large producers of greenhouse gases.

Conclusion
Along with changing our power generation infrastructure away from highly polluting sources such as coal, we must substantially reduce our reliance on animal agriculture if we are to prevent catastrophic climate change. Both these actions are required in order to solve the problem.

The United Nations Environment Programme (UNEP) concludes that: ‘A substantial reduction of climate impacts from agriculture would only be possible with a substantial worldwide diet change, away from animal products.’
An enormous proportion of our land is used to produce animal products.

Nearly 60% of the Australian continent is grazed by animals raised for human consumption. This is in addition to the land that is cleared and used for the production of hay and other food for animals.

Clearing of forests and bushland for animal industries results in habitat loss throughout Australia, which is the major cause of wildlife species becoming threatened, endangered and extinct.

Clearing forests and bushland for animal production also results in:
- the removal of vegetative cover, which is the single most critical factor in preventing erosion
- loss of topsoil which is a critical factor in ecological productivity
- changes to the water table resulting in salinity problems across vast areas of Australia
- changes to our climate resulting in worsening droughts

In addition, animal grazing directly impacts the environment through:
- compacting and acidifying our soils
- spreading weeds
- increasing to unsustainable levels the volume of manure and other by-products on our land and in our waterways

According to the CSIRO and the University of Sydney, a massive 92% of all land degradation in Australia is caused by animal industries. Plant agriculture, mining, forestry, manufacturing, residential building and all other industries account for the small remainder.

When the land is exhausted, society will suffer.

Increased numbers of agricultural animals, over-farming and over-grazing can lead to vicious cycles of deforestation, erosion and habitat destruction. Eventually this can lead to starvation prompted by the disappearance of plant food sources and societal collapse.

The Australian Conservation Foundation make the point that ‘Sustainable and healthy food systems would promote and enable a diet rich in fresh and minimally-processed foods – predominantly fruits and vegetables – as the mainstream choice.’
Our oceans are dying.
While most people are aware of the widespread devastation of our land, the amount of damage occurring beneath the surface of our oceans may be even greater. In order to cater to the growing worldwide market for fish, modern fishing methods have depleted populations to such a level that the industry is now ‘fishing down the food web’, targeting deep sea fish and species not previously taken. Our appetite for seafood has created ‘dead zones’ in the ocean tens of thousands of square kilometres in area. Furthermore, there are virtually no fish safe from contamination. 

The destruction of fish populations is accelerating, with thirteen of the world’s seventeen major ocean fishing zones already depleted or in serious decline, and the remaining four fully or over exploited. Not only are we sending fish populations into a spiralling decline, destructive fishing techniques including dragnets, long lines, purse-seine nets and driftnets are destroying large parts of the ocean environment in the process.

In addition, today’s fishing techniques create enormous ‘by-catch’, which is the unintentional capture of sea animals such as non-target fish species, whales, dolphins, turtles, seals and sea birds like the albatross. Many of these species are facing extinction due to fishing. 

Fish farming, where fish are raised in netted cages, also causes significant environmental damage. In particular fish farming concentrates faecal contamination in specific areas of the ocean and rivers, promoting the rapid spread of disease and parasites, to both captive and wild fish populations.

Fish farming can also result in non-native fish species escaping and damaging the surrounding environment. Worst of all, farmed fish eat fish – 5kg of wild fish is needed as feed to produce 1kg of farmed fish.

All this destruction doesn’t come cheap! The United Nations Food and Agriculture Organization (UN FAO) estimated that over US$ 20 billion annually is used to subsidise global fishing industries.
Virtually all economic activity and every aspect of our lives is dependent on the availability of energy and materials. Australia’s oil production peaked in the year 2000 and is now in decline. From a position where we once produced all our own oil, we now import 30%, and our dependence on imports is increasing every year. Some predict 80% of our oil will need to be imported by 2020.29

This fuels the need for ever deeper and riskier drilling operations, and greater numbers of oil tankers travelling our waterways, with often tragic environmental consequences.

It takes a great deal more fuel to produce a kilogram of beef compared to a kilogram of grain or vegetables.30, 31

In addition, the raising of animals for food uses significant amounts of energy for:
- transport of feed and livestock
- operation of livestock facilities (including lighting, heating, cooling and slaughter)
- packaging, constant refrigeration and cooking

A reduction in animal industries would lead to increases in land available for native vegetation and sustainable forestry. The beef, sheep and dairy industries account for 92% of forest clearance and land degradation in Australia and use up 60% of our entire continent.14, 18

If we reduced or eliminated these industries, we could regain abundant land, some of which could be used for reforestation, forestry and the production of plant-based fuels, materials and fabrics.

Poverty and malnutrition are widespread. 790 million people in the world are chronically undernourished.32 About 27,000 children under 5 die of poverty and starvation every day.33

Most edible grain is used to feed animals for meat, dairy and egg production.

We grow enough edible grain to provide 50% more than is required for every person in the world.4 Most of this edible grain is used to feed animals for meat, dairy and egg production. As a result, the price of grain has risen by hundreds of percent in recent years, pricing poor people out of the market for basic foods.

The world’s cattle alone consume enough food to feed 8.7 billion people – more than the entire human population.34

‘Feeding millions of tonnes of grains to animals and raising billions of animals to feed humans is callously indifferent to the undernourished people in the world, whose sustenance depends on the same basics (wheat, soybeans, vitamins and materials) as the food fed to factory animals.’

United Nations, Food and Agriculture Organization 35

Plant-based foods are a more effective way to feed people.

It takes many kilograms of plant protein fed to a cow to produce a single kilogram of beef protein. 80-95% of food energy and protein available in plants is wasted when converted to meat for human consumption. It is much more efficient for people to consume foods lower in the food chain (i.e. to consume the plant foods directly). Protein from plant-based sources is also healthier than the protein in animal sources and does not contribute to problems such as heart disease or cancers.36

Human Health.

Studies show that vegetarians outlive their non-vegetarian counterparts by between 5 and 10 years.37 The China Study, the largest peer reviewed scientific study conducted on human diet, concluded that people on a plant-based diet had far less incidence of heart disease, cancers, diabetes, multiple sclerosis and many other diseases.36
If we want to preserve and restore our environment in Australia, we must make changes to our diet. The food we eat has a major effect on our waterways, the quality of the air we breathe and on the environment around us.

Eating fish and other sea life is killing our oceans, agricultural industries are polluting our waterways, and vast areas of land are wasted with the grazing of animals. These practices are unsustainable and the global impacts are being felt more than ever before.

By adopting a vegetarian diet you can make a significant contribution towards improving your health as well as that of the planet.

The significant environmental benefits that can be made by adopting a vegetarian diet include:

- enabling fresh water to be redirected to more efficient uses and to restoring healthier river flows and aquatic habitats
- allowing the rehabilitation of grazing land into bushland which would greatly reduce land degradation and the loss of Australia’s biodiversity
- reducing the drivers for climate change, including carbon dioxide and methane, and increasing the capture and storage of gases by the environment
- reducing oil consumption and dependence on foreign sources of energy and materials
- enabling our oceans to revert back to the vibrant ecosystems that they once were and allowing fish populations to recover to normal levels.

If we want to preserve and restore our environment in Australia, we must make changes to our diet.

Animal industries are eating up the world. It is up to us to save it!

References:

2. DEHYA, 2008, Threatened species, Department of the Environment, Water, Heritage and the Arts
4. UNEP, 2006, Livestock’s Long Shadow: Environmental Issues and Options, United Nations Food and Agriculture Organization
11. Australia’s UNFCCC submission 2013 [http://unfccc.int/national_reports/annex_i/gg_inventories/ national_inventories_submissions/items/7383.php]
35. Coats, C., 1989, Old MacDonald’s Factory Farm: The Myth of the Traditional Farm and the Shocking Truth About Animal Suffering in Today’s Agriculture, Continuum Intl Pub Group, 140-141
37. Fraser, D., 2009, Vegetarian diets: what do we know of their effects on common chronic diseases?, American Journal of Clinical Nutrition 89: 1607S-1612S.
Please support the sponsors who made printing of these booklets possible:

**Vegetarian Victoria**
Promoting a Healthy and Compassionate Lifestyle
Email: info@vegetarianvictoria.com
Web: www.vegetarianvictoria.org.au

**Animal Justice Party**
Political representation for non-human animals
Email: info@animaljusticeparty.org
Web: www.animaljusticeparty.org

**Be Vegan, Make Peace**
A Nobel Way Of Living
Email: beveganmakepeace.aust@gmail.com
Web: www.beveganmakepeace.com

**Edgar’s Mission**
A farm sanctuary creating a humane and just world for humans and non-humans
Email: info@edgarsmission.org.au
Web: www.edgarsmission.org.au

**Zadel Property Education**
Australia’s leading wealth education company
Email: stuart@stuartzadel.com
Web: www.zadel.com

**SURF**
Socially United Responsible Fundraising
Email: info@neotokyo.com.au

Thanks also to Hungerford Design Associates Pty Ltd