



ANIMAL-BASED FOODS

Environmental problems

Meat-eating is not sustainable and is responsible for a very high proportion of the environmental problems of the planet (see also [World Watch Magazine](#), July/August 2004, Volume 17, No. 4). Meat and milk products are resource-intensive. Estimates of water and energy used and greenhouse gases emitted vary with the way animals are farmed but are high and disproportionate to their food value.

Land clearing for grazing contributes to greenhouse gas production and reduces vegetation necessary for absorbing emissions. Allowing for steep land and range land, in general much greater food value can be obtained from cropping or vegetable growing on a given area of arable land than can be produced from meat or milk on the same area.

Approximately 1 billion people of the world's population of 6.5 billion are short of food, and virtually all arable land in the world is being cultivated. The inevitable continuing increase in the population ensures that more people will starve unless land use changes from animals to crops.

Animal products are massive water users. Various figures are quoted for litres of water per kg. of meat for consumption. Allowance must be made not only for irrigation and drinking water but also for the water embodied in feed grains and wash water in abattoirs. Russell (Geoff Russell *CSIRO Perfidy* p.38. Vivid Publishing Fremantle, 2009. p.42) believes a total figure between 10,000 and 15,000 litres of water per 1 kg of beef is a reasonable estimate for Australia. Further, two thirds of Australian beef is exported contributing to the loss of water from this country.

Ross Garnaut's September 2008 climate change report (www.garnautreview.org.au) estimated that for every kg of beef, cattle produce 24 kg of CO₂ equivalent and lamb 16.8 kg. Pork and chicken which are not ruminants produce 4.1 kg and 0.8 kg respectively. From an environmental point of view kangaroo meat has less impact on the environment, contributing little methane and negligible soil erosion. The meat has little fat and is therefore healthier.

Other environmental problems arising from animal industries include pollution of water-courses from faeces and urine especially from dairies, piggeries and feed-lots; and methane greenhouse gas emissions. Animal welfare issues are relevant to feed-lotting of cattle, factory-farming of chickens and live-animal exports.

Seafood sustainability

Despite the potential culinary and nutritional benefits of seafood, thought should be given to the sustainability of the fishery and to the areas where the products are obtained. Seafood worldwide is over-exploited; developed countries are taking fish from waters on which poorer countries' fishers depend. Ocean fishing methods, both

trawling and long-lining, destroy large quantities of non-commercial species discarded as by-catch and the nets destroy fish habitat on the seafloor. Further information can be found on the Australian Marine Conservation Society website www.amcs.org.au.

Aquaculture is not a solution to fish supplies. The captive fish require large quantities of wild-caught fish as feed, and the faeces and waste feed in the pens pollute the surrounding waters.

Health issues

Red and processed meat intakes are associated with modest increases in total mortality, cancer mortality, and hypertension and cardiovascular disease mortality. (Meat intake and mortality: A prospective study of over half a million people, R.Sinha et al. *Archives of Internal Medicine* 2009 (March 23): 169 (6): 562-571.) These results complement the recommendations by the American Institute for Cancer Research and the World Cancer Research Fund to reduce red and processed meat intake to decrease cancer incidence.

Beef from countries affected by mad cow disease (BSE - bovine spongiform encephalopathy) which can cause Creutzfeldt-Jakob Disease in humans, is not allowed into Australia by the Trade Minister at present but the policy could change.

Things you can do

- Reduce the number of times you eat meat during the week
- Cook a variety of plant-food recipes