

A group of African children are smiling and posing in a rural field. In the foreground, a girl in a teal top looks directly at the camera. Behind her, several other children are visible, some in school uniforms. The background shows a grassy field and distant hills under a blue sky.

Viva!

Guide 12

Feed the World

Why eating meat is a major cause of world hunger - and going vegetarian is a solution. Introduction by Jeremy Rifkin

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Meat makes the rich ill and the poor hungry by Jeremy Rifkin



When representatives meet at the World Food Summit they supposedly focus on how to get food into the mouths of nearly one billion people who are currently undernourished. However, at all the dinners

they attend you can expect to see the consumption of large quantities of meat. And herein lies the contradiction.

People go hungry because much of arable land is used to grow feed grain for animals rather than people. In the US, 157 million tons of cereals, legumes and vegetable protein – all suitable for human consumption – is fed to livestock to produce just 28 million tons of animal protein in the form of meat.

In developing countries, using land to create an artificial food chain has resulted in misery for hundreds of millions of people. An acre of cereal produces five times more protein than an acre used for meat production; legumes such as beans, peas and lentils can produce 10 times more protein and, in the case of soya, 30 times more.

Global corporations which supply the seeds, chemicals and cattle and which control the slaughterhouses, marketing and distribution of beef, eagerly promote grain-fed livestock. They equate it with a country's prestige and climbing the "protein ladder" becomes the mark of success.

Enlarging their meat supply is the first step for all developing countries. They start with chicken and egg production and, as their economies grow, climb the protein ladder to pork, milk, and dairy products, then to grass-fed beef and finally to grain-fed beef.

Encouraging this process advances the interests of agribusinesses and two-thirds of the grain exported from the USA goes to feed livestock. The process really got underway when "green revolution" technology produced grain surpluses in the 1970s. The UN's Food and Agricultural Organisation encouraged it and the USA government linked its food aid programme to the producing of feed grain and gave low-interest loans to establish grain-fed poultry operations. Many nations have attempted to remain high on the protein ladder long after the grain surpluses disappeared.

Human consequences of the shift from food to feed were dramatically illustrated during the Ethiopian famine in 1984. While people starved, Ethiopia was growing linseed cake, cottonseed cake and rapeseed meal for European livestock. Millions of acres of land in the developing world are used for this purpose. Tragically, 80 per cent of the world's hungry children live in countries with food surpluses which are fed to animals for consumption by the affluent.

The irony is that millions of consumers in the first world are dying from diseases of affluence such as heart attacks, strokes, diabetes and cancer, brought on by eating animal products, while the world's poor are dying from diseases of poverty. We are long overdue for a global discussion on how to promote a diversified, high-protein, vegetarian diet for the human race.

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Despite the rich diversity of foods found all over the world, one third of its population does not have enough to eat. Today, hunger is a massive problem in many parts of Africa, Asia and South America and the future is not looking good. The global population is set to rise from 6.5 billion (2006) to 9.3 billion by 2050 (2) and Worldwatch reports (3) forecast severe global food shortages leading to famine on an unprecedented scale.

This misery is partly a direct result of our desire to eat meat. Children in the developing world starve next to fields of food destined for export as animal feed, to support the meat-hungry cultures of the rich world. While millions die, one third of the world's grain production is fed to farmed animals in rich countries (4).

If animal farming were to stop and we were to use the land to grow grain to feed ourselves, we could feed every single person on this planet. Consuming crops directly - rather than feeding them to animals and then eating animals - is a far more efficient way to feed the world. This Viva! Guide looks at why eating meat is a major cause of world hunger and how vegetarianism can provide a solution.

The roots of hunger

The developing world hasn't always been hungry. Early explorers of the 16th and 17th centuries often returned amazed at the huge amounts of food they saw there. In parts of Africa, for example, people always had three harvests in storage and no-one went hungry.

The idea of buying and selling food was unheard of.

The Industrial Revolution changed all that. European countries needed cheap raw materials such as coal and iron ore that developing countries had plenty of. Through the process of invasion and colonisation, Western countries could not only take the raw materials but claim the land as their own

and make the indigenous people pay taxes or rent. Poor peasants (many of whom had never dealt in money before) were forced to grow crops such as cotton to sell to their new masters. Wealthy countries owned the land, all the food that was produced, and decided the price. After paying taxes, peasants had little money left to buy this expensive food and often ended up borrowing money simply to live. This whole process of colonisation continued right up to the beginning of the last century.

The problem today

Drought and other 'natural' disasters are often wrongly blamed for causing famines. Local people have always planned for freak acts of nature and although they may be the trigger that starts a famine, the underlying cause is the system of modern day neo-colonialism.

The land in poor countries is still largely not owned by the people who work on it and rents are high. Huge areas are owned by large companies based in the West. It is common for people to be thrown off the land, often going to the towns where there

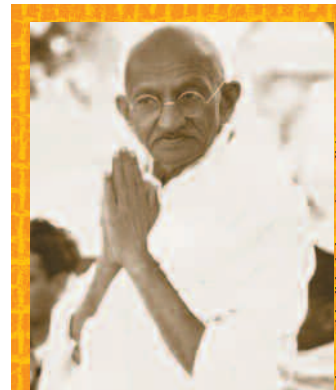


Photo: Vithalbhaj Jhaveri/GandhiServe

"The earth has enough for everyone's needs, but not for some people's greed."
~ Mahatma Gandhi (1869 - 1948)(1)

is little other work. About 160,000 people move from rural areas to cities every day (5). Many migrants are forced to settle in shanty towns and squatter settlements.

Much of this land is used to grow “cash crops” for export - like coffee, tobacco and animal feed - rather than to grow food for indigenous people. Countries agree to grow cash crops in order to pay off their crippling debts. Fifty-two of the world’s poorest countries owe the rich world in the region of £213 billion. Annual repayments total £14 billion - the majority of this from countries where most people are

living on less than one dollar a day (see p7: Why are countries in debt?). (6)

The sad irony is that the world produces more than enough plant food to meet the needs of all its

“Much agricultural land is also increasingly devoted to cash crops for export, depriving poor local people of land to farm and food to eat.”
United Nations Population Fund (5)

six billion people. If people used land to grow crops to feed themselves, rather than feeding crops to animals, then there would be enough to provide everyone with the average of 2360 Kcal (calories) needed for good health (7).

If everyone were to take 25 per cent of their calories from animal protein then the planet could sustain only three billion people (8). In simple, brutal terms, if we were all to imitate the average North American diet, we would only be able to feed half the world’s population.

Breeding animals means starving people

Breeding animals is an incredibly inefficient way to try and feed the world’s growing



Photo: Christian Aid/Adrian Ayob

population. Yet after food rationing during the second world war, intensive animal farming was actively encouraged as a way of ensuring our future “food security”.

Most meat in Western Europe is now produced in factory farms which, as the name implies, are production lines for animals. To meet the large demand for meat, billions of animals are kept in cramped, filthy conditions, often unable to move properly and not allowed fresh air or even natural light. Unable to feed outdoors naturally, they are fed grain, oil seeds, soya feed, fish meal and sometimes the remains of other animals. High quality land is used to grow grains and soya beans - land that could be used to grow crops for humans.

The grain fed to animals does not convert directly into meat to feed people. The vast majority is either excreted or used as “fuel” to keep the animal alive and functioning. For every 10 kilograms of soya protein fed to America’s cattle only one kilogram is converted to meat. Almost the entire population of India and China, nearly two

Livestock increase in Britain 1946-2005(9)

	1946	2005	Increase
Cattle	2.0m	10.3m	515%
Sheep	7.4m	35.2m	475%
Pigs	2.2m	4.8m	218%
Poultry	31.9m	159.3m	499%

billion people, could be fed on the protein consumed and largely wasted by the United States’ beef herd (10).

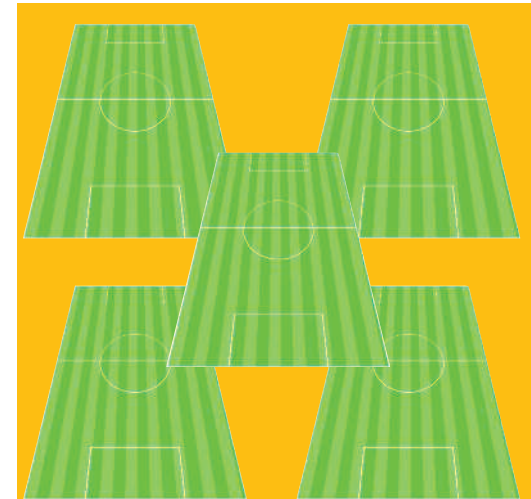
Because of the demand for animal feed, a Western meat-based diet uses four and a half times more land than is necessary for a vegan diet and two and a quarter times more than for a vegetarian diet (11). The Worldwide Fund for Nature (WWF) recommend that people reduce their intake of dairy and meat products in order to reduce grazing pressure on land (12).

Where does the animal feed come from?

The amount of land used to grow animal feed in Western countries is not enough to meet their own needs and more is imported from developing countries. Land in some developing countries, like India, is also used to grow grain for animals who are reared and killed for export.

Currently farmed animals eat one-third of the world’s cereal production. In the industrialised world, two-thirds of the agricultural land produces cereals for animal feed. The EU imports 45 per cent of its oilseeds (soya) and, overall, imports 70 per cent of its protein for animal feed (1995-6). As the European Commission admits, ‘Europe’s agriculture is capable of feeding Europe’s people but not of feeding Europe’s animals’ (4). The EU also imports cattle feed such as peanuts or soya because it is cheaper than buying animal feed grown in Europe.

At the height of the Ethiopian famine in 1984-5, Britain imported £1.5 million worth of linseed cake, cottonseed cake and rape seed meal. Although none of this was fit for humans to eat, good quality farmland was still being used to grow animal feed for rich countries when it could have been used to grow food for Ethiopians.



Imagine an area of land the size of five football pitches (10 hectares). It will grow enough meat to feed two people, or maize to feed 10; or grain to feed 24; or soya to feed 61 (7).

In the United States, farmed animals, mostly cattle, consume almost twice as much grain as is eaten by the entire US population (13). 70 per cent of all the wheat, corn and other grain produced goes to feeding animals (14). Over 100 million acres of US agricultural land is used to grow grain for animals (13) and still more is imported.

In Central and South America, ever-increasing amounts of land are being used to grow soya beans and grain for export - to be used as animal feed. In Brazil, 23 per cent of the cultivated land is currently being used to produce soya beans, of which nearly half are for export (13). The Oxfam Poverty Report explains that the subsidised expansion of the EU’s dairy and livestock industry has created a huge demand for high protein animal feedstuffs and that the demand has in part been met through the expansion of large-scale, mechanised soya production in Brazil. Smallholder producers of beans and staple foods in the southern part of the country have been displaced to make way for giant

soya estates. Soya has now become the country's major agricultural export, "however, it is a trading arrangement which had proved considerably more efficient at feeding European cattle than with maintaining the livelihoods of poor Brazilians." (16)

Twenty-five years ago, livestock consumed less than six per cent of Mexico's grain. Today, at least one third of the grain produced in the country is being fed to animals. At the same time, millions of people living in the country are chronically undernourished (13).

It's not surprising that the World Health Organisation has called for a shift away from meat production so that people can consume crops directly. It says:

"Farming policies that do not require intensive animal production systems would reduce the world demand for cereals. Use of land could be reappraised since cereal consumption for direct consumption by the population is much more efficient and cheaper than dedicating large areas to growing feed for meat production and dairying. Policies should be geared to the

growing of plant foods and to limiting the promotion of meat and dairy." (17)

Governments worldwide have ignored this advice. Instead of promoting the growing of plant foods for human consumption, they offer subsidy payments and financial incentives to livestock farmers, thereby actively encouraging meat production.

Who is hungry?

Around six billion people share the planet, one quarter in the rich north and three quarters in the poor south. While people in rich countries diet because they eat too much, many in the developing world do not have enough food simply to ensure their bodies work properly and stay alive.

826 million people around the world are seriously undernourished - 792 million people in developing countries and another 34 million in industrialised countries (18). Two billion people - one third of the global population - lack food security, defined by the Food and Agriculture Organisation (FAO) as a "state of affairs where all people at all times have access to safe and nutritious food to maintain a healthy and active life." (5)

Today, some 12 million children die annually of nutrition-related diseases. The Food and Agriculture Organisation says, "Doubtless, far more are chronically ill." (19)

There are more chronically hungry people in Asia and the Pacific, but the depth of hunger is greatest in sub-Saharan Africa. In 46 per cent of countries there, the undernourished have an average deficit of more than 300 kilocalories per day (19). In 1996-98, 28 per cent of the population on the African continent were chronically undernourished (192 million people) (20).

Access to food is a basic right, enshrined in a number of human rights instruments to



which states around the world have committed themselves. At the 1996 World Food Summit, leaders from 185 countries and the European Community reaffirmed, in the Rome Declaration on Food Security, "the right of everyone to have access to safe and nutritious food, consistent with the right to adequate food and the fundamental right of everyone to be free from hunger." They pledged to cut the number of the world's hungry people in half by 2015 (21) .

The FAO says that, "eradicating hunger is not merely a lofty ideal" (21). Yet it makes no sense for states to acknowledge the right of each individual to food whilst promoting diets based around animal protein. Starvation does not occur because of a world food shortage. If everyone ate a vegetarian, or better still, a vegan diet there would be enough food for everyone. The only sane way forward is to grow food for humans rather than to feed it to farmed animals.

World Trade

A report, The European Meat Industry in the 1990s, explains the obscene paradox of global food distribution: "World trade relations are dominated by low-priced animal feed and

meat. Low prices on animal feeds affect farmers in poor countries producing cash crops [ie animal feed crops for export]. Partly due to the use of imported feed, the rich countries today have a large surplus of meat while more and more people in less developed countries tend to be undernourished" (22).

Current trade agreements, like the Agreement on Agriculture under the World Trade Organisation (WTO), permit Western farmers to sell subsidised grain and other commodity surpluses cheaply in developing nations. This undercuts local farmers and forces many off the land. The Worldwatch Institute states, "In most cases, any benefits of this cheap food to the urban poor are likely to be transitory, as the destabilisation of the rural economy encourages migration to job-scarce cities, thereby increasing the ranks of impoverished city dwellers while harming urban agriculture programmes" (23).

Dependence on foreign markets for food also means that the importing countries are vulnerable to price fluctuations and currency devaluations that can increase the price of food substantially (23).

Why are countries in debt?

During the 1970s, developing countries were lent money by developed countries for a range of projects, including infrastructure development (e.g. dams and roads), industrialisation and technology. The World Development Movement (WDM) states, "Often the projects turned out to be unproductive." The loans were either multilateral (i.e. the World Bank and the International Monetary Fund lending to one government) or bilateral (i.e. one government lending to another) (24).

Then in the 1980s, interest rates rocketed because of the oil crisis, while at the same time, industrialised countries put high prices



Maneka Gandhi, India's former minister for social justice and empowerment, recently spoke out about the situation in her country: "In a country where millions of people go hungry, 37 per cent of all arable land is being used to grow fodder

for animals that are being raised and killed for export. As if that were not enough, we are exporting soya beans to feed European livestock, who will in turn be murdered for meat. These figures cry out against any kind of meat production at all - compassionate or otherwise. I see no reason why India should feed the world at the expense of her own land, her water, her people, her hunger." (15)

What would happen to all the animals?

Farmed animals are bred for people to eat and as the demand for meat falls, less animals will be bred. Far from being a loss to the countryside as some people imagine, a huge toll of suffering would be eliminated and wildlife allowed to recover.

The vast majority of farmed animals are kept in indoor units where they never see the light of day. Those that are kept outside are only kept alive for a fraction of their natural lifespans before being slaughtered for meat - often in the most barbaric manner imaginable.

Modern farmed animals have been bred over generations to produce as much meat as possible and they are a far cry from their wild ancestors. For example, birds are often so obese that they can barely walk and suffer from crippling leg disorders. Dairy cows are bred to produce so much milk that their udders can become painfully swollen and infected. Sheep have been genetically

manipulated to give birth earlier in the year so that each year 20 per cent of new born lambs die within days of birth from sickness, exposure, malnutrition and disease.

If people ate crops directly, we would need far less land for food production. The ancestors of today's farmed animals could begin to thrive as they would once again have space. Indigenous wildlife, which has been decimated by intensive farming techniques, could begin to thrive. In the UK, birds, butterflies and wild flowers would start to reappear.

Wild turkeys live in North and Central America. They roost in trees and roam in woodlands, eating vegetation and insects. They live in harems - the mothers being very protective of their young. An adult bird can fly up to 50mph.

Chickens are descended from the red jungle fowl (*gallus gallus*) in Asia. Wild birds like to move around almost ceaselessly in daylight hours. Wild hens lay only 20 eggs a year and need a safe, private place for laying.

It is believed that cattle originally descended from the wild auroch, of Eurasia and North Africa, a species that did not become extinct until the 17th century (48). Banteng are a species of wild South East Asian cattle found in hill forests. They are shy animals with a slight ridge on the back, a white rump and slender, curving horns (49).

Most wild sheep and goats live in mountains but some inhabit desert grasslands, tropical forests or Arctic tundra. Several species are highly prized by hunters because of their magnificent horns. Habitat loss, hunting and resource competition from farmed animals have resulted in most species being classified by the IUCN (World Conservation Union) as threatened, endangered or critical (50).



The European Wild Boar is the ancestor of the farmed pig. They live in forested areas, eating a wide variety of plants and occasionally small animals and insects. They lived wild in Britain's woodlands until hunted to extinction in the seventeenth century. They can still be found in other European countries, like Germany and France.

on many agricultural imports so that developing world farmers were not able to sell their produce (24). Consequently, developing countries were unable to pay off their loans and they have become increasingly indebted. These countries are paying back billions of pounds to the West in interest payments each year.

Often, the loans had conditions attached. When Costa Rica borrowed money from the World Bank, one of the conditions set was that they had to cut down rainforest and clear land for cattle grazing to supply rich countries with cheap beef. The destruction of rainforests is a disaster not just for its people and wildlife but for the world's climate (see Viva! Guide 9, *Planet on a Plate*).

Between 1975 and 1985, thousands of km² of forest were cleared in Thailand to grow tapioca to sell to the EU as feed for pigs and cattle. When beef and pork mountains meant that not as much meat was being produced, Europe no longer needed tapioca and stopped buying. This put Thai peasants into huge debt because they had borrowed money to spend on improving their farms to grow enough to meet demand. As a consequence, many people sold their children into child labour and prostitution.

In the hands of the rich

After extensive lobbying, the IMF and the World Bank set up the Heavily Indebted Poor Countries Initiative (HIPC) in 1996 with the apparent aim of alleviating debt burdens

(24). Some bilateral lenders, like the UK government, have agreed to write off 100 per cent of the debts owed to them when the countries in question complete the Initiative. When countries get half way through (called the Decision Point), they receive partial relief on their annual debt service payments.

In order to receive debt relief through the HIPC initiative, developing countries have to get a Poverty Reduction Strategy Paper (PRSP) agreed by the IMF and the World Bank.



PRSPs replace "Structural Adjustment Programmes" (SAPs), which were imposed on developing countries as part of their loan packages. These forced governments to reduce public spending and promote their export industries, in theory releasing more money for debt repayment. Unsurprisingly, a number of studies showed that SAPs made people poorer (24). The UNICEF-

sponsored Adjustment with a Human Face, documented increases in stunting, underweight and low birth weight in the wake of structural adjustment policies in nine of 11 Latin American, African and Asian nations surveyed in the 1980s (23).

PRSPs set out governments' strategies to reduce poverty and must include plans for how the money freed up by debt relief will be spent - e.g. on education and health care. The indebted countries also have to agree to implement economic reforms. (26). The WDM states, "As the IMF and the World Bank hold

the veto, PRSPs are unsurprisingly turning out to be very similar to the Structural Adjustment Programmes they replaced" (26).

Aid

Much of the aid given to developing world countries has been 'tied aid' - this means that the countries who receive it have to buy goods and services from the countries who give it. In this way, most of the money is simply returned to those who gave it.

During the 1970s, the US only gave aid to Nicaragua in exchange for the production of

beef, causing the loss of 1,000 km² of rainforest per year. By 1979, Nicaragua was Latin America's biggest supplier of beef to the US.

Lobbying efforts by NGOs like Action Aid to "untie" aid mean that tied aid is now declining. In an unprecedented move, the UK government has now agreed to untie all its aid.

However, an increased proportion of aid is now granted as "technical cooperation", which is excluded from the definition of tied aid. According to a World Bank report, "some 100,000 foreign technical experts are currently employed in Africa, tending to displace local experts... it has probably weakened capacity in Africa." Action Aid says that technical cooperation, "ensures a steady supply of lucrative contracts for consultants in donor countries" (28). "Aid" to developing countries is often more concerned with providing financial support for the West.

Food aid is also excluded from the definition of tied aid. Action Aid says that, "the exclusion of food aid may encourage the provision of donor foodstuffs when locally available produce could be purchased" (47). Whilst food aid can be helpful in times of famine it does nothing to change the basic

causes of hunger. As rich countries eat more meat, more land in poor countries will be turned over to produce animal feed.

Falling Harvests

At the 1996 United Nations World Food Summit, the American Agriculture Secretary, Dan Glickman, said that, "World grain stocks have dwindled to dangerously low levels, highlighting the fragility of food supplies" (29).

Reasons for falling grain harvests include poorer soil, lack of water and climate change but the message is clear - unless we change our diet to one not centred on animals we will force millions more people into starvation throughout the world.

Whilst grain harvests are falling, the demand for grain is rising. The Worldwatch Institute states that, "Grain production is unlikely to rise fast enough to satisfy projected demand for both food and feed" (30). If global grain production does not rise fast enough, there will not be enough grain to satisfy demand and grain prices will rise. But livestock farmers would still be able to sell their meat to the wealthy, and so would be able to outbid the poor in the market for scarce grain.

Human starvation will worsen whilst animals will continue to be fed so that rich people can continue to eat meat.

The Green Revolution

The "Green Revolution" of the late 1960s and early 1970s was billed as the solution to world hunger. Productivity was increased through farm machinery, pesticides and fertilisers, irrigation and the replacement of traditional crops with high-yielding varieties.

It failed to benefit those who needed it. This "revolution" focused on boosting the yields of a narrow base of cereals - corn, wheat and rice. The gains in cereal production often came at the expense of cultivation of more

nutritious legumes, root crops and other grains. This resulted in reduced dietary diversity and contributed to widespread nutritional deficiencies as well as depletion of the soil and wildlife loss (23).

The "revolution" also favoured wealthier farmers because they were the ones who could afford to invest in the new technologies. The United Nations Population Fund states that, "Landlessness among former subsistence farmers and impoverishment have been unlooked-for consequences of the Green Revolution" (5).

"The issue which concerns Oxfam is... the export of meat from the poor countries of the South to the rich countries of the North. We are concerned about the World Bank and International Monetary Fund designing economic development strategies which encourage poor countries to gear their production almost exclusively towards the production of exports, rather than improving national food security."(27)

The "Livestock Revolution"

Many countries in Asia and Africa have traditionally based their diets around rice, beans, pulses and vegetables, either following a wholly vegetarian diet or only including low amounts of meat and fish. This is exactly the type of nutritious diet that is now being promoted by health officials in the West in an attempt to combat diseases like obesity, heart disease and cancer - low in animal fats and high in fibre, vegetable

Beef Battles in Botswana

The cattle herd in Botswana increased from a few hundred thousand in the 1950s and 1960s to close to three million by the 1990s. The government, supported by millions of dollars of World Bank funding, has parcelled out a large proportion of the traditional communally-owned tribal pastures to individuals. As a result, just 5,000 farmers, many of them government officials, today control the majority of the national herd.

Much of the beef goes to the EU under specially favoured trading arrangements. Beef exports to Europe are worth more than US \$100million a year to Botswana and are sold well above market rates under the terms of trade aid agreed with African nations.

Vast areas of natural habitats have been degraded due to overgrazing and the country's once-teeming wildlife has been drastically reduced. But cattle rearing has made a few hundred of Botswana's 1.5 million people very rich. The country now has one of the largest disparities between rich and poor. According to the United Nations, the income of the wealthiest 20 per cent of Botswana's population is 24 times that of the poorest 20 per cent, a ratio exceeded only by Brazil (25).



protein and essential vitamins. Yet developing countries, keen to copy Western lifestyles, increasingly perceive meat-eating as a sign of wealth and progress. This shift towards meat consumption is being described as "The Livestock Revolution".

The International Food Policy Research Institute projects that meat demand in the developing world will double between 1995 and 2020. Per capita demand for meat is projected to increase 40 per cent (5). Growth in livestock farming is primarily taking place in the intensive pig and poultry sectors (31).

Intensively farmed meat is billed as being a cheap source of protein whilst the global picture - the "grain drain" created by increased meat consumption - is ignored. Demand for cereals to feed to farmed animals is predicted to double in developing countries over the next generation (5). Demand for maize (corn) will increase the most, growing by 2.35 per cent over the next 20 years. Nearly two thirds will go towards feeding animals.



Photo: Ecoscene/Dave Wootton

Meat consumption tends to rise as people migrate from rural areas to cities. The meat industry is naturally only too pleased by these new commercial opportunities. An article in the UK's Meat Trades Journal states, "People living in rural areas are likely to have traditional eating habits while people living in towns aspire to Western eating habits, such as meat, and value the attribute of convenience more highly." This creates, "a massive opportunity for satisfying the increased demand, with the major growth occurring in South and East Asia" (32).



Photo: Viva!

The insanity of factory farming

This increase in factory farming is creating huge problems. In Bangladesh, for example, which is one of the world's poorest countries, battery hen systems have become widespread. The country has massive shortages of food, many unemployed people and very little money to spare. Factory farming needs money for equipment, creates hardly any jobs and uses up much valuable plant food that could be fed to people.

Factory farming does not meet the needs of these people but it does benefit people in Western countries where much of the equipment needed, such as tractors and building materials, is made. When developing countries buy them they then become dependent on the suppliers for spare parts and repairs.

Poultry World magazine

highlighted "the great scope for expansion" in Africa. It emphasized how African countries are largely dependent on Western countries for breeding stock, feed and pharmaceuticals (33).

Poultry farming has grown so fast in India that they are producing more meat than their own people can afford to buy. Despite widespread hunger, they are exporting chicken to wealthy countries such as the Gulf States.

China has seen an enormous rise in pork production over the past decade and hence an enormous increase in its need for animal feed. The country has transformed from being an exporter of 8 million tonnes of

grain in 1993 to becoming a net importer of 16 million tonnes by 1995 (34).

If developing countries look to consuming the same quantity of meat per head as the average American, food shortages will become desperate. Yet rather than switch to vegetarianism, livestock scientists advocate boosting the "feed efficiency" of animals. A modern intensively raised chicken will put on 3 kilograms from the same amount of feed that in 1957 only yielded 2 kilograms. US scientists have discovered that pigs can be made to grow 40 per cent faster on 25 per cent less feed if they are injected with DNA encoding a modified, long lasting releasing factor for growth hormones (30). In livestock

science, animals are perceived as unfeeling, unthinking, protein-making machines who can be tweaked and manipulated for our own benefit.

Exporting factory farming means exporting the

overuse of antibiotics and the increased risks of food poisoning and diseases such as cancer and heart disease which are associated with increased meat-eating. It also means exporting the environmental damage caused by intensive farming systems, including the overuse of water and land degradation to provide the massive amount of crops these poor creatures are fed (see *Viva! Guides 2 - Stop Bugging Me; 7 - Your Health in Your Hands; 9 - Planet on a Plate*). Is this really what the developing world needs in order to "develop"?

The predicted shift towards increased meat consumption is still in its infancy. Even in China, which is at the forefront of the "Livestock Revolution" and where per capita



Photo: Viva!

meat consumption doubled between 1983 and 1993, people eat on average just a quarter as much meat as the average American (30). If we act now, we could still stop this cycle of insanity and move towards agricultural systems which would genuinely feed the world.

Malnutrition and obesity

For the first time in history, we have reached a situation where the number of overweight people rivals the number who are underweight, both estimated at 1.1 billion (35).

As countries grow wealthier, meat consumption tends to rise. Hunger problems are reduced but hospitals begin to see more cases involving illnesses such as obesity, cardiovascular disease, diabetes and cancer - all of which are linked to diets

high in animal produce. China is at the forefront of the "livestock revolution". The share of adults who are overweight jumped from 9 per cent to 15 per cent between 1989 and 1992.



The number of diabetics worldwide whose condition results from overeating is projected to double between 1998 and 2025, with more than three quarters of this growth occurring in the developing world. Some countries will be battling hunger and obesity at the same time.

"More than 5 million children die of hunger-related diseases each year, while survivors are often physically or mentally stunted, performing well below their potential at school. Meanwhile, millions of people in wealthy countries spend years or even decades late in life crippled with heart disease, diabetes, cancer, or other diseases attributable at least in part to overeating." The Worldwatch Institute(23).

In a nutshell: countries whose people are starving are using their land to grow grain for export to feed the West's farmed animals. Nutritionally valuable food is being fed to animals to produce meat, which Western countries are literally gorging themselves to death on. Now, we are exporting factory farming to the developing world. Meat consumption is rising and so are the associated health problems.

Send a cow

Charities have been set up in the UK with the specific aim of promoting livestock farming in the developing world - claiming they are working to alleviate poverty. Some projects receive funding from the Department for International Development (DFID).

"Send a Cow" was set up by a group of Christian farmers in 1988. Most of Uganda's dairy cows had died during the civil war and the farmers literally began sending live cows from England to Africa. The charity has now set up a breeding programme within Africa (36).

Share of Children who are Underweight and Adults who are Overweight, Selected Countries, Mid-1990s (23)

Country	Share Underweight (%)	Country	Share Overweight (%)
Bangladesh	56%	United States	55%
India	53%	Russian Federation	54%
Ethiopia	48%	United Kingdom	51%
Vietnam	39%	Colombia	41%
Indonesia	34%	Brazil	36%

"Farm Africa" also promotes livestock farming. Its promotional literature states, "The sort of poverty we see in the developing world is simply unacceptable.

Our moral imperative must be to do everything in our power to overcome it" (37).

The point to be grasped is that whilst encouraging animal farming may temporarily alleviate the poverty of individual families, it can only contribute towards poverty in the long run. Promoting meat production can never be a solution to world hunger because it means promoting a diet which drains valuable grain stocks and devastates the environment.

Hippo

A welcome antidote to these charities is Hippo - or Help International Plant Protein Organisation. It provides emergency relief for the hungry in the less developed world but

just as importantly it encourages people to grow their own food - not meat or dairy but plant protein.

The World Health Organisation (WHO) recommends a shift away from meat-eating. It states, "Diets associated with increases in chronic diseases are those rich in sugar, meat and other animal products, saturated fat and dietary cholesterol... Policies should be geared to the growing of plant foods, including vegetables and fruits, and to limiting the promotion of fat containing products." (17)

Hippo's logic is simple: why wastefully feed millions of tons of soya to animals when it could feed far more people directly? It has nearly 50 per cent high quality protein, is rich in iron and calcium and all kinds of other vitamins and minerals, keeps without refrigeration, has low fat, no waste, no food poisoning bugs and doesn't cause suffering to animals (38). Textured Vegetable Protein (TVP) - made from soya - can feed 60 people from the same amount of land that would feed two

people on meat - and much more healthily.

Currently, Hippo is supporting projects in various parts of Africa and one in Europe. At Keyevunze, they are supporting the training of 120 health workers who are showing people how to improve their diets by

growing soya. Results are already beginning to show with a reduction in kwashiorkor - a disease of poor nutrition.

In Malawi, Hippo is working with the regional agricultural department to introduce soya as a crop to local villagers. They are helping to construct a small reservoir for irrigation and providing a soya mill to process the beans.

Hippo was set up by Neville Heath Fowler after a trip to Ethiopia in 1992. Says Fowler, "If only some of the cotton fields could be devoted to soya, we dreamed, and if people could learn to value it as the miracle of nutrition that it is. Then saplings such as those which the goats routinely destroyed could grow into spreading trees. Perhaps Ethiopia could then begin to recover the forests it had lost, climate change would be reversed and soil erosion arrested. And this could happen all over the world. If only we could deliver the antidote to the diseased Western idea that progress is synonymous with meat." Hippo can be contacted at: Llangynog, Carmarthen SA33 5BS. E: hippocharity@aol.com

Fish Farming

Fish farming, or aquaculture, is the fastest growing sector of the world economy and has been growing at 11 per cent a year over the past decade (39). In 1990, 13 million tonnes of fish were produced but by 2002, this had risen to 39.8 million tonnes.

85 per cent of fish farming is in developing countries. China accounted for 27.7 million tonnes of the 39.8 million tonnes of world aquacultural output in 2002, and India 2 million tonnes. Bangladesh, Indonesia and Thailand are also major players in the industry.

Breeding fish in captivity is billed as the way to protect ever-diminishing wild fish stocks. But paradoxically, carnivorous farmed fish are

actually fed wild fish - further depleting the oceans. It takes 5 tons of fish caught from the sea to produce one ton of factory farmed salmon (39). Wild-caught fish are also fed to halibut, cod and trout.

Fishmeal is made from fish or fish parts for which there is said to be little or no human demand. But the huge need for wild-caught fish on fish farms still places much additional stress on our fragile, overfished oceans (40).

According to the Food and Agriculture Organisation, 69 per cent of the world's commercial marine fish stocks are "fully exploited, overfished, depleted, or slowly recovering" (5).

Non-carnivorous farmed fish like carp and catfish are fed grain rather than wild-caught fish. Fish are said to convert grain more "efficiently" than cattle - they add a kilogram of weight with less than two kilograms of grain. But the global fixation with obtaining protein from animals means that the most efficient option of all - consuming the grain directly - is ignored (for the environmental impact of fish farming, see *Viva! Guide 9, Planet on a Plate*).

Global water shortage

The massive quantities of grain required to sustain a meat-based diet are not the only problem. The meat production process uses up vast quantities of water in a world where water is in short supply. It takes 1,000 litres to produce 1kg of wheat and 100,000 litres to produce 1kg of beef (41). About three quarters of the water we use goes on growing food (42) but vegetarians need less than a third as much water to sustain their diet as meat-eaters (13). See also *Viva! Guide 9, Planet on a Plate*.

Living in the West, it's easy to imagine that our water supplies are unlimited but globally, our fresh water supplies are being used up so

fast that almost half a billion people already depend on nonrenewable sources. (43) Seven per cent of the world's population has not enough water and by 2050, this will be 70 per cent (42). The situation is so dire that battles over water supplies are predicted to become a major source of conflict.

Worldwatch Institute chairman Lester Brown states, "In consumption terms, 480 million of the world's 6 billion people are being fed with food produced with the unsustainable use of water. We are already using up the water which belongs to our children" (43). The International Water Management Institute predicts that by 2025 about 2.7 billion people - a third of the world's population - will live in regions faced by regular and severe water scarcity. Asia and sub-Saharan Africa will be hit the hardest (44).

It's hard to imagine a scenario more sickening than a rich elite gorging itself on meat while the poorest third of the world's population literally dehydrate. A shift away from meat consumption must become a global priority if we are to have a hope of meeting the basic needs of the world's six billion inhabitants.

GM - the truth

Multinational companies promise us that there is a new solution to global poverty: genetically modified crops. Thanks to their life-saving research, we will soon be able to grow enough food to feed the world, they promise us. So what's the real reason for their sudden altruism?

Don't forget that there is already enough food to feed the world - on a vegetarian diet. What there is not enough of is animal feed - cereals to drive the predicted increase in meat consumption. The amount of productive land is diminishing through desertification and soil degradation, due largely - ironically - to intensive livestock

agriculture. It will diminish even further with flooding from global warming. But the potential market for animal feed is huge.

The pharmaceutical giants who are pushing GMOs bank some \$161 billion dollars between them every year. They walk hand in hand with agribusinesses and the livestock industry - often they are one and the same company. Intensive livestock farming accounts for over 40 per cent of their income and it is these companies are responsible for producing the vast quantities of fodder consumed by farmed animals world-wide - as well as the cocktail of drugs, growth enhancers and pesticides which prop up intensive farming systems (45).

The driving need, therefore, is to make maximum use of existing land by destroying all weeds and wild plants which compete for nutrients, and to increase crop yields - hence genetic modification. Companies promoting GMOs are more interested in boosting the production of animal feed and hence meat than in feeding the world. See *Viva! Guide 8, Genetic Engineering*.



Photo: Oxfam

The solution is in our hands

The fast growth of the world's population is a serious problem because it means there are

Traditional farming methods work best and have done for centuries. According to Greenpeace, in Latin America soil conservation and organic fertilisation programmes tripled or quadrupled yields within a year. (46)

more mouths to feed, resulting in more pressure on water, land, wildlife and so on. By 2050, the 49 least-developed countries will nearly triple in size, from 668 million to 1.86 billion people (2). By 2050, today's developing countries will

account for over 85 per cent of the world population (2).

However, although this makes the hunger problem worse, it does not actually cause it. It is the growth of incomes and demand for 'luxury' items in rich countries that have triggered the hunger crisis. The world is a much wealthier place today than it was 40 years ago and as wages have risen they have encouraged large-scale meat eating in richer countries, heightening the competition for cereals between animals and humans.

A huge "consumption gap" exists between industrialised and developing countries. The world's richest countries, with 20 per cent of global population, account for 86 per cent of total private consumption, whereas the poorest 20 per cent of the world's people account for just 1.3 per cent.

A child born today in an industrialised country will add more to consumption and pollution over his or her lifetime than 30 to 50 children born in developing countries. (5)

The decline in world fish stocks, the erosion of agricultural land and the limits of technology to boost grain yields mean we are fast approaching the limit of resources and the earth's carrying capacity. We need to rethink the way limited supplies of plant food are distributed and start feeding the world.

Eating meat is not the only reason for world hunger but it is a major cause. We must drastically change our eating habits if we are to feed the world adequately. People are going hungry while ever increasing numbers of animals are fed huge amounts of food in a hopelessly inefficient system.

By not using animals as meat producing machines, this food could be freed to help those that need it most. Vegetarianism, by using up far less of the world's resources of food, land water and energy, is a positive step that we can all easily take to help feed people in poorer countries.



"Unless there is a dramatic change in the attitude of the wealthy countries of the world towards the poorer and a major shift of resources, there will be famine,

bloodshed and catastrophe on a scale never before seen in history.

Governments will not change their policies because to do so would threaten the control and resources which maintain them in power. Fortunately, we, as individuals, can do something. Meat consumption is obviously not the only reason for world hunger, but it is high up there in the major league. It is also something which we don't need permission to do something about. We can wield an immediate influence today, simply by changing our diet. By not eating meat or fish, vegetarians reduce the need to import food from poor countries, but a vegetarian diet does more than that. It throws down a challenge to the established order and breaks the cycle whereby people go hungry while ever-increasing numbers of appallingly treated animals are fed huge amounts of food in a hopelessly inefficient system.

Vegetarians, and even more so vegans, use far fewer of the world's resources of food, land and energy, and offer the only feasible example for the future. Unless there is a positive global move towards this way of living, the expanding world population will be condemned to disease and suffering on an unimaginable scale. In a desperate search for protein, all the living creatures on the globe will be hunted and killed. The wonderful diversity of living things, the last of a species, the most beautiful of creations, will mean nothing more than a mouthful of food to get a family through another day. And we will wring our hands and ask how on Earth it happened."

Juliet Gellatley, Founder & Director of Viva! and the Vegetarian & Vegan Foundation

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**but give a helping hand on all
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Make one simple decision today and you will help to end starvation every day for the rest of your life. *Go veggie!*

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