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# **Meaty issues**

By Anuradha Sawhney Nov 21 2011 Tags: Knowledge

#### Cutting down on meat consumption is not only a healthy option but it could also feed more hungry people all across the world

The next time you reach for a second helping of that juicy steak, consider this: If we could cut the meat consumption to a level reported only 10 years ago (37.4/kg/capita in 2000), by 2050, we, apparently, could free 400 million tonnes of cereal. According to the United Nations Environment Programme, that is enough food to satisfy the annual caloric needs for more than one billion people!

Meat, egg and dairy consumption is rising the fastest in the developing world, where people eat as much as 91 kg of farmed animal products per person per year, more than doubling consumption since 1963.

As urbanisation increases, economists and demographers predict an increase in demand for meat. In some parts of Asia, consumption of beef, pork, and/or poultry products could increase by 100 per cent by 2025. This is a huge cause for concern.

According to Eric Holt Gimenez, executive director of the Institute for Food and Development Policy/Food First, in addition to the global economic crisis and high prices for food, the effects of fluctuating weather patterns as a result of climate change, extremely low grain reserves, high oil prices, the surge in biofuels production, and the "meatification" of the global diet have contributed to the increase in the number of hungry in recent years. More people, particularly the growing middle class in the developing world, are consuming greater quantities of meat and other animal products than ever before, with much of it coming from industrialised animal operations.

According to the Food and Agriculture Organisation (FAO), the worldwide production of meat and dairy is projected to more than double by 2050. From 229 million tonne in 1999/2001, global meat production is slated to increase to 465 million tonne. From 580 million tonne in 1999/2001, global dairy production is slated to increase to 1,043 million tonne.

Much of the growing demand for animal products is being met by industrial animal operations — large-scale production facilities that are spreading around the world, including Brazil, China, India, Mexico, Thailand, and Vietnam. On a global scale as of 2001-2003, these operations produced 67 per cent of the world's farmed chickens, 50 per cent of eggs, and 42 per cent of farmed pigs.

# Breeding ground for diseases

Industrial animal agriculture facilities intensively confine animals by the hundreds of thousands, preventing them from engaging in much of their natural behavioural activities, and produce massive amounts of waste. Confined animal feeding operations in the United States produce more than 500 million tonne of waste annually, polluting the air, soil, and water. Large-scale facilities can also exacerbate the emergence and spread of food borne pathogens and zoonotic diseases, such as pathogenic E coli and avian influenza

### Skewered math

Typically, three kg grain is needed to produce just one kg of meat. Meat

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production typically uses five, 20, or even 100 times the land, water, and energy that plant food production does. As much as 80 per cent of the global soybean crop and 40 to 50 per cent of the annual corn crop are fed to cattle, pigs, chickens, and other animals used in agriculture. Feeding of these grains in large quantities, facilitates rapid weight gain, which allows industries to slaughter animals in less time. According to recent research by the International Food Policy Research Institute, if this practice continues, the global meat industry "may find itself in a position of competing with poor people for cereals" and other grains used as feedstocks for farmed animals.

#### Water woes

According to the International Water Management Institute and the Stockholm International Water Institute, an average of six m3/kg (1 kg water is 1/1000 m3) of water is required to produce one kg of chicken, whereas, 0.4 to three m3/kg of water is needed to produce one kg of cereals. It is not only food resources that are depleted to produce meat, eggs, and dairy.

Water is, perhaps, the most important ingredient in agriculture — both for food crops for the animals and meat, egg, and dairy production. As the effects of climate change increase, however, water resources will be jeopardised. Raising animals for food requires substantially greater quantities of water than raising plants for human consumption. It can take five times as much water to supply 10 gm of protein from beef than from rice, and 20 times more water to supply 500 calories from beef than from rice.

Additionally, water is needed for hydrating farm animals and an increasing amount is required — particularly at industrial operations — to clean cages, stalls, pens and sheds, to dispose of waste, and for cooling animals during periods of high temperatures.

Processing animal products also requires large volumes of water and can result in significant amounts of wastewater. At cattle slaughter plants, globally, 44 to 60 per cent of total water used for processing is utilised during slaughter, evisceration, and de-boning.

#### Land-use mismanagement

The land used to grow crops to feed livestock is 10 times more than land used to grow crops for human consumption. Seventy per cent of former Amazon rainforest is now used for pastureland. The increase of carbon dioxide due to forest clearing, as well as the tremendous methane production of huge herds of cattle, contributes a great deal to the greenhouse effect and to global warming.

#### Wasted proteins

Protein conversion inefficiencies, compiled by Vaclav Smil, faculty of environment at the University of Manitoba, show that depending on animal products for protein is not the most efficient use of resources. According to his research, chickens fed a diet of corn and soybeans can only utilise 20 per cent of the protein present in those grains, 80 per cent is wasted; for pigs, 90 per cent of the protein they are fed in grain is lost.

Most of the energy farm animals consume from grains and other sources of food is used for their own metabolic processes or for forming bones, cartilage, and other non-edible parts (offal), as well as faeces.

## Energy eaten up

According to author Keith Akers, the United States uses twice the energy per capita on food production than the less developed countries use per capita for all purposes. Even if 100 per cent of all the land on the six inhabited continents were used for agriculture (including the Sahara desert and Greenland), and even if that land were as productive as the US agricultural land, there would still not be enough land to feed the world population if their diet continues to be meat-based. zz

The writer is an environmentalist and former head, Peta, India

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