The hidden environmental costs of meat production

The meat industry involves global trading of feed, live animals and processed meat. A new study suggests that environmental costs are not necessarily expressed in the price paid by the consumers benefiting from cheap meat, but as environmental damage further back up the supply chain.

Global meat consumption has increased by 75 per cent in 20 years, with consumers becoming increasingly removed from the agricultural process. Up to 70 per cent of global pig and chicken farming is industrial.

The researchers assessed the impact of meat production on four countries with different roles in the industry – the USA and Brazil (both feed producing and meat exporting countries), the Netherlands (grain importers, meat exporters to much of Europe) and Japan (meat importers). They also estimated the cost of direct commodities in the industry (feed, livestock and meat) using UN trade data, and then calculated the industry’s consumption of three environmental commodities: land, water and nitrogen. They found that the environmental commodities incurred hidden expenses which are not realised in the actual market values of the direct commodities.

The results revealed that production of livestock feed consumes nearly 100 per cent of water and land and 70 per cent of the nitrogen needed by the industry. Therefore, the researchers suggest that the most effective methods for reducing the environmental impact of meat production are to improve the efficiency with which feed volume is converted to meat and to increase per-hectare yields of feed crops. Small changes to the contents of animal feed may produce disproportionate benefits or costs elsewhere. For example, reducing soybean use in European animal feed would lower the associated ‘indirect’ cost in Brazilian rainforests, which are rapidly being swallowed up for soybean agriculture, although it would not necessarily prevent this damage from happening.

The study also finds that the environmental cost of meat production in the USA for global trade may be up to 20 per cent higher than for domestic consumption. Nations which switch from domestic to imported meat sources shift the environmental burden abroad, shielding their citizens from the true cost of their consumer decisions. Feed, livestock and meat need to be more realistically priced to reflect their environmental cost and re-connect meat production with the land.

The most important implication of the study is that the hidden costs of meat are paid by grain-producing nations or regions, mainly as environmental damage from pollution and ecosystem loss and the financial cost of remediation. The authors state that the study provides a rationale for interventionist agricultural policies, and for regulation of both nitrogen fertilisation and the conversion of fragile environments to agriculture. They also suggest consumer education has an important role to play, since consumer choices are not regulated in a global market.


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