



# Food for thought: What's at 'steak'?

How does food production affect our environment? By **Zander Venter**

**A**s you slice into that tender steak covered in creamy mushroom sauce and raise it toward your mouth, the last thing on your mind is climate change or deforestation. It is often difficult to think beyond the tantalising hamburger, glass of smooth red wine, or warm chocolate brownie that seemingly entices you to eat it without much thought or consideration. We live in a world with a food system increasingly dominated by intensification and factory production, where the only piece of farm soil we see is in the picture on the box of 'free range' eggs in the supermarket.

So where does our food come from and how does its production affect our environment? Well, within South Africa, it may surprise you that, according to a 2010 World Wildlife Fund report, only 3% of our soils are considered truly fertile. This is why our largest agricultural sector is livestock farming which uses non-arable land (69% of our land surface) for extensive grazing. As our economy increases and our pockets get heavier, we tend to buy more meat. For instance, between 2001 and 2004 the average per capita chicken consumption increased from 6 kg to 27 kg.

This may seem positive, yet a closer look at the environmental footprint of that meat production reveals otherwise. A 200 g hamburger from feedlot beef can require 1 000 l of water to produce – roughly the equivalent of a month's worth of showers. When combined, the meat and dairy industries use roughly one third of all the fresh water in the world. What is even tougher to swallow is the fact that animal agriculture produces more of the world's greenhouse gas emissions than all transportation combined.

Compounding this effect on the climate is that increasingly, meat and animal feed is imported from South America, where animal agriculture is responsible for a clear majority of Amazon destruction. Biodiversity loss is not only restricted to land. For every 1 kg of fish caught, roughly 5 kg of different marine species are also caught and discarded as by-catch.

But, before any of you think that vegetarianism is the only solution, let's get to the root of the issues behind that healthy looking fruit-salad or wholesome loaf of bread. Each year, around the world, about 10 million hectares of crop land are lost due to soil erosion. It has been estimated that, in some regions of the world, for each 1 kg of bread you eat 7 kg of

topsoil are lost. That lost soil contains pesticides and pollutants that disrupt water ecosystems and affect our drinking water. In fruit production, very little of sprayed pesticide reaches the target pest. The rest is washed away or remains as residue on the fruit. In this case, an apple a day may not keep the doctor away.

By now, some of you may be asking 'But how else are we meant to feed the world?'. Reducing food wastage would be a great starting point. In South Africa, as much as a third of food produced is wasted or lost before it even reaches our dinner tables. This is like throwing away a third of your pizza before you even get to taste it. Not only is this emptying our stomachs, but it is also depleting our natural resource base. Given that agriculture uses 62% of the country's water supply, it is clear that we are not only going to be hungry, but also thirsty if this wastage continues.

Reducing wastage along the food value chain is only one of many ways to create a more sustainable food system. Environmental issues often seem overwhelming, yet the solution can sometimes, quite literally, be a piece of cake, made from sustainably produced ingredients. Next time you are faced with a piece of juicy steak on the end of your fork, take a moment to ask yourself where that meat came from and how its production has affected the environment. Each time we buy a product from the store or take a bite of our dinners, we are casting a vote for or against the destruction of the environment. There is a little food for thought! **Q**

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*My barefoot passion for soil and the biodiversity it sustains found its roots on my childhood raspberry farm outside Johannesburg. In between studies in conservation ecology, my drive for adventure has taken me on travels around the world from hitchhiking through the Chilean Andes to chasing goats in New Zealand, or weeding gardens in an Egyptian monastery. Working on various farms overseas inspired my MSc in Sustainable Agriculture at Stellenbosch University through which I hope to reconcile farming, social justice and biodiversity conservation in South Africa, my home. At the moment my wife and I are freerange nomads, farm-hopping our way through South Africa on a working honeymoon. I aim to complete my PhD in sustainable rangeland management and continue communicating the results of applied science to those that need to hear it.*