FOOD SENSE

A COMMON SENSE APPROACH TO FEEDING THE WORLD

Danica May Camacho, recognised by the UN as one of the world's symbolic 'seven billionth' babies

One of the most important challenges of our time is how to feed a growing world population at a time of shrinking resources. And what role should be played by industrialised animal rearing, or 'factory farming'?

Planet Earth recently heralded its 7 billionth baby. Nearly one billion people are currently hungry[1]. By the middle of the century, there will be 9 billion people or more to feed. We need an important reality check – factory farming is not feeding the world; in fact, the grain-feeding of confined animals uses more food than it produces[2]. It is part of a highly resource-intensive and wasteful food system. The present failure to feed people is scandalous and requires nothing less than urgent action. Industrialised animal rearing is a major factor holding back our ability to feed all of the world's people.

The United Nations estimates that food supply needs to increase by 70-100% by 2050[3, 4]. The current food system, increasingly based on the industrial model, is hugely wasteful. More than half the food value of the world's crop harvest is lost; through losses after harvest, food waste and feeding vast quantities of grain to factory farmed animals[5].

Compassion in World Farming is arguing for 'Food Sense'; a common-sense approach to feeding the world that puts people first, reduces food waste and is based on farming like tomorrow matters.

Put people first

A third of the world's cereal harvest is fed to farm animals[6, 7, 8]; if it were used directly for human consumption it would feed about 3 billion people[9]. In addition, 97% of the world's soyameal is destined for farmed animals[10].

Industrial livestock production involves feeding vast quantities of human-edible food to confined animals. If given the chance under more natural conditions, those animals would convert things that people don't or won't eat into edible food for humans. For example, ruminants, like cows and sheep, will turn grass into meat and milk. Chickens will search pasture, woodlands and orchards for food; producing meat and laying eggs. Along with pigs, they will recycle food waste with great enthusiasm.

The rise in industrial animal rearing in recent decades has put farm animals directly in competition with people for food. And people are losing out. For every 6kg of plant protein such as cereals fed to livestock, only 1kg of protein on average is given back in the form of meat or other livestock products[11]. In terms of food value, for every 100 food calories of edible crops fed to livestock, we get back just 30 calories in the form of meat and milk[12]; a 70% loss. Factory farms are food factories in reverse; they waste it, not make it; and they waste valuable cropland in the process.

As a recent UN food security report put it: *"When livestock are raised in intensive systems, they convert carbohydrates and protein that might otherwise be eaten directly by humans and use them to produce a smaller quantity of energy and protein. In these situations, livestock can be said to reduce the food balance[13]."*

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The story is repeated when we consider our dwindling fisheries. Up to a third of the world's fish catch never reaches a human mouth; much of it is diverted to feed farmed fish, pigs or poultry. Producing one tonne of farmed fish like salmon and trout takes between two[14] and five tonnes[15] of wild fish.

People don't have to choose between eating cereals or meat. Both can be produced far more effectively if farm animals are kept in ways that add to the world's food supply, rather than detract, as they do on factory farms. The industrial approach forces animals and people to compete for food in a way that ill-serves them both.

Stop wasting food

North America and Europe waste up to half of their food. That's enough to satisfy the hunger of the world's billion undernourished people between three and seven times over[16].

Globally, about a third of food produced for human consumption is lost or wasted[17]. That excludes the vast quantities of food fed to livestock. Developing countries can experience losses of 30-50% of staple crops simply for want of decent storage facilities, refrigeration and transport[18,19].

Much greater effort is needed to reduce food waste. Householders in the UK alone, for example, throw away a quarter of the food they buy. Reducing food waste in storing, manufacturing, distributing and consuming food would free up much of what is needed for a growing population. It would also make better use of the resources that went into making it; land, oil, water and the inevitable greenhouse gas emissions. For example, the irrigation water used to grow the world's wasted food would satisfy the domestic needs of 9 billion people[20].

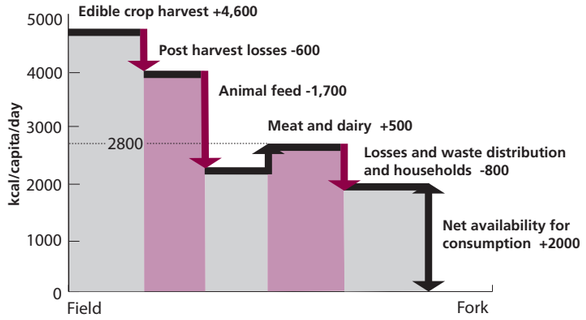

Figure 1. A schematical summary of the amount of food produced (kcal/person/day) globally, at field level and estimates of the losses, conversions and wastage in the food chain. Source: Lundquist, 2008[21] (for illustrative purposes only).

Reducing food waste is key to an effective food system. It will require changes in practices and investment, but they could be transformative. Humanely kept pigs and poultry potentially have a big role as nature's recyclers through turning unavoidable food waste into food products.

Farm like tomorrow matters

The world's farmland could decline in productivity by a quarter by the end of the century according to the United Nations[22]. Soil erosion is already affecting over 30% of the world's cropland[23]. Europe and North America have been losing soil at 17 times the rate at which new soil is formed[24]. Cropland cannot simply be expanded; it is being lost to urbanisation, salinisation and desertification at the same rate or faster than we are adding to it[25]. It is under pressure from the rise in land use for biofuels and the continued growth of industrialised livestock farming.

Degraded land becomes less productive or useless for crop production. Monocultures with their reliance on chemical pesticides and artificial fertilisers can be punishing to the soil and the environment. Much greater emphasis is needed on soil-healthy rotational farming with a mix of crops and farm animals. Nitrogen-fixing rotational crops integrated with livestock can reduce reliance on artificial fertilisers, as well as providing for better animal welfare.

Food Sense

What is needed is 'Food Sense' – a common-sense approach to producing food. A more effective food system geared toward putting food into people's mouths. Keeping animals humanely is fundamental – on farms, not in factories. 'Food Sense' can be seen through five guiding principles for animal production and consumption:

1. **Pasture-reared ruminants** Food from ruminant animals, such as beef, mutton, lamb and milk, should be produced by grazing on mixed, rotational farms, permanent pastures or marginal lands. This converts plant-life that humans can't eat into edible food. The wasteful practice of feeding grain to confined cattle for intensively produced beef or milk should be ended.

2. **Pigs and poultry on food waste and foraging** Pigs and poultry are nature's great foragers and recyclers – the perfect recipients of food waste. They should no longer be factory farmed; instead, being integral to mixed farms where they can forage and turn food waste into eggs and meat. The current practice of feeding them cereals and soya squanders vast amounts of food.

3. **Food from mixed farms of crops and animals** Mixed farms where animals are rotated with soil-enhancing crop rotations should be encouraged. Most pigs and poultry in Europe and the USA are currently confined on factory farms. Restoring the natural link between farm animals and the land needn't require huge amounts of extra space. The UK, for example, rears over 800 million meat chickens a year. Keeping them free range would need an area around a third of the size of the Isle of Wight; less than one thousandth of the nation's total farmland[26]. Integrating them within mixed farming systems would benefit animal welfare and sustainability.

4. **Fish for people, not livestock** Up to a third of the fish landed in the world is not consumed directly by people. It is used mostly as feed for farmed fish and other livestock. Overfishing and the practice of throwing back dead or dying fish are now well documented. The plundering of our seas to feed confined farmed animals is less well-known. Ending the practice would take pressure off our often over-exploited seas.

5. **Avoiding over-eating meat** Most people in the west eat more animal fat and protein than they need. The saturated fat in many meat and dairy products can be harmful to health and may contribute to obesity, type-2 diabetes and heart disease[27]. Reducing consumption of saturated animal fats by 30% would lead to about a 15% reduction in heart disease in the UK and Brazil[28]. Ensuring a balanced approach to eating resource-intensive meat, dairy and eggs would help reduce the high environmental impact of animal farming and improve human health.

Conclusions

In industrialised nations in particular, the last half century has seen many farm animals disappear from the land to be caged, crammed or confined on factory farms. Our global society currently wastes more than half its food in two ways. We waste it by feeding farm animals with enough food to satisfy billions of people. An even greater amount is binned, sent to landfill or rots for want of basic technologies. Land is often being driven so hard that we are playing off tomorrow's sustainable harvests against today's short term gains.

With the prospect of 2 billion more people to feed by 2050, our food system needs to be 70-100% more *productive*, more *effective*. That cannot mean simply doubling farm outputs in a business-as-usual fashion.

Just doubling output from our current food system would be like a water company with badly leaking pipes, losing half their water, simply laying down a second set of equally leaky pipes. Yes, it would double the water to peoples' homes. It would also double the waste. Far better to have more effective pipes, free from leaks, than more of the same.

'Food Sense' is a call for a common sense approach to feeding the world. One that ends the competition for food between people and farm animals; reduces and recycles food waste; supports the keeping of animals on farms, not in factories; and delivers more effective food systems geared toward feeding all people, now and in the future.

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