

The time to act towards globally sustainable livestock is now

April 6 2018

The livestock sector is developing rapidly in low and middle-income countries, becoming increasingly global. In the same time, society's expectations regarding the sector are changing rapidly. We therefore need to develop new knowledge to achieve a safer, fair and sustainable livestock sector worldwide and cope effectively with the dual demand for protein-rich foods and sustainability. This message Prof. Pierre Gerber will argue in his inaugural address as a special professor at Wageningen University & Research on 5 April. His special chair is financed by the FAO.

In his inaugural lecture and in his research Prof. Gerber will focus on the global environmental sustainability challenges in [livestock](#) systems.

Growing demand in animal products

"Milk, meat and eggs are important sources of nutrition and health. Today, livestock supply 26 percent of the protein and 13 percent of the calories in human diets," Prof. Gerber says. The sector has been on the rise over decades. During the last fifty years, the world milk production doubled from 100 million tonnes to almost 200. Pork and eggs production rose in the same dimension whereas chicken meat production multiplied by over 40 times.

In the future a further increase of animal food demand is foreseen, but at reduced growth rates. "The main drivers of this increase is the growing

world population, a raising living standard and more urban dwellers, but the drivers of growth are fading away among the most effluents," Prof. Gerber adds.

Livestock is under the limelight, as the world unites behind the new Sustainable Development Goals and Paris Agreement to mitigate climate change. Prof. Gerber with colleagues calculated that the global livestock sector total greenhouse gasses (GHG) emissions are 7.1 gigatons of CO₂-equivalents. This means 14.5% of the total anthropogenic emissions. The sector is increasingly seen as an opportunity to achieve global GHG mitigation targets.

Diversity in production systems

"We see that in the on-going discussions and debates about the [livestock sector](#) today the vast diversity of livestock production systems, both among and within countries and regions of the world, is overlooked, or worse still, ignored. These different systems respond to contrasted societal needs, in contrasted contexts."

In grazing systems, animals feed on grass and browse, often supplemented with crop residues and occasionally with grains. Pastoralism is a successful livelihood strategy for some 100 million people living in dry or harsh environments where no other livelihood is possible.

In mixed or integrated systems, animals and crops are produced on the same area of land and are mutually and positively interdependent: the waste products of one component serve as resources for the other. For instance, animal manure is used to enhance soils and crop production, while crop residues and by-products are used to supplement feed for the animals. Mixed crop-livestock systems make up the largest category of animal production in the world and cover about 2.5 billion hectares of

land.

Today, over 60 percent of pork and 85 percent of chicken meat and eggs are produced in industrial production systems. Surging urban demand, infrastructure development, and decreasing production costs in larger operations drive the development of industrial production. Whether it is for cattle, pig or poultry, feed generally consists of more than 80 percent grains, fodder crops and by-products from the food and energy sectors.

Three sustainability 'fairy tales'

Professor Gerber distinguishes three different sustainability stories. All three of them are appealing, but none of them offer the ultimate answer to the challenges we face.

The first is the story of resource use efficiency in production, which can substantially reduce impacts per unit of product. But, efficiency also results in low costs, thus in rapid consumption growth, and possibly in significant absolute impact. Cages, manure management and the misuse of antibiotics raise animal welfare as well as public health concerns. We have to take into account that livestock production relies on biological processes, disconnecting it from ecological cycles is hazardous.

The second is the story of including livestock in the circular economy. Using residues flows from agriculture and the food industry to produce animal feed makes a valuable contribution to food systems, but it is limited. Pigs feeding entirely on co-[products](#) and food waste could produce about 14 g protein per person per day that can be consumed. Integration is constrained by input and output fluxes, which is not necessarily in line with society's needs and expectations.

The third, is the story of embedding [livestock production](#) in ecosystems. Such production is multi-functional, and provides for a range of goods

and services. Such form of production is however geographically dispersed, and limited. "We are simply with too many and too hungry to blend in nature," prof. Gerber says.

On their own, none of these stories does offer the full answer. But combined, and also coupled with changing demand patterns they can contribute to finding a sustainable contribution of livestock to our global food system. Longer livestock supply chains, increasingly international and predominantly located in low- and middle-income countries require novel assessment methods, monitoring tools and management frameworks to support investments and policy making.

Provided by Wageningen University

Citation: The time to act towards globally sustainable livestock is now (2018, April 6) retrieved 23 June 2024 from <https://phys.org/news/2018-04-globally-sustainable-livestock.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.