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Greenhouse gas emissions and animal protein for human consumption.

Homero Salinas

salinas-gonzalez@lincolnu.edu

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Greenhouse gas emissions and animal protein for human consumption.

In the last ten years, there have been around 620 million undernourished people. However, it is estimated that 2021 has increased to 768 million people. Food production has to rise for the next 30 years to cover that food deficiency. It is estimated that cereals have to grow 54%, meat 52%, dairy 40, eggs 39%, fish 35%, oil seeds 35%, fruits, and vegetables 49%, and cash crops 44%. (FAO, 2018).

However, producing more food contributes to CO₂ (equivalent) gas emissions and reduces carbon sequestration. Producing animal protein through meat, dairy, eggs, and fish is a concern about methane emission. However, livestock can be a key for potential mitigation.

Also, livestock is a key to nutrition and food security. Livestock is key to livelihoods, and it is calculated that there are 400 million poor animal keepers.

There are two indicators of gas emissions. One is the GDP in \$US per ton of CO₂e, and the other is the jobs created per ton of CO₂e. For this presentation, the comparison of interest is agriculture vs. other productive activities. So, at the broad world level, around 300% more GDP is produced from other goods than from agricultural goods per ton of CO₂e. Even in high-income countries, there is 700% more GDP/CO₂e than in the agricultural sector. However, the job scenario is another story. At world broad level agriculture sector generate 0.12 jobs/Ton CO₂e vs. 0.06 jobs/Ton CO₂e, and in the high-income countries are developed 0.03 jobs/Ton CO₂e in the agriculture sector vs. less than 0.01 jobs/Ton CO₂e in all other industry of production.

To overcome undernourishment is needed to produce protein. Protein production is also related to CO₂e. So, almost 40 gr of protein per ton of CO₂e and 39% of that protein comes from livestock (world broad). However, in low-income countries, only are produced 25 gr protein/ton of CO₂e and 21% is animal protein.

In a study by Bruun Werner et al, 2014 shows the greenhouse gas emissions (GHGE) per kg product of food. And calculate the carbon footprint for each food. But also calculate the Nutrient Density of Climate Impact (NDCI) index. Explains that foods contribute differently with respect to energy and nutrients. So even beef has a high carbon footprint and beans, oatmeal the lowest; however, the oatmeal, beans, carrots, and eggs have the higher NDCI but the beef the lowest index. The same happen for dairy products. The authors conclude in their study excluding livestock products from our diet does not necessary mitigate climate change but in contrast may have nutritional consequences.

Reference

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