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Sustainable Meat Farming: A Responsible Way to Feed the Planet

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SUMMARY

With the rise in global population, the demand for meat has gone drastically high. No doubt population is one of the reasons why the meat production has increased so rapidly, but it doesn't account for the major cause its increment. Another key factor is the rising income in the developing countries. Around the world, the living standards of people have increased, with the global average income escalating 3 times higher in half century. Certainly, we need to stop burning fossil fuels, but at the other hand reducing meat consumption in higher and middle-income countries will prove beneficial in protecting climate and healing nature. We ought to suppose for a meat that is produced sustainably.

INTRODUCTION

In 2019, the typical person consumed 43.16 kg of meat, according to the Food & agriculture organization (FAO). This varies from more than 100kg in the United States and Australia to less than 5kg in India. By 2027, global meat consumption per capita is predicted to rise to 35.4 kg, up 1.1 kg from the baseline period. Beef and lamb have a carbon footprint that is around three times that of pig, poultry, or farmed fish per 100g of protein, and 24 times that of pulses like beans and lentils.

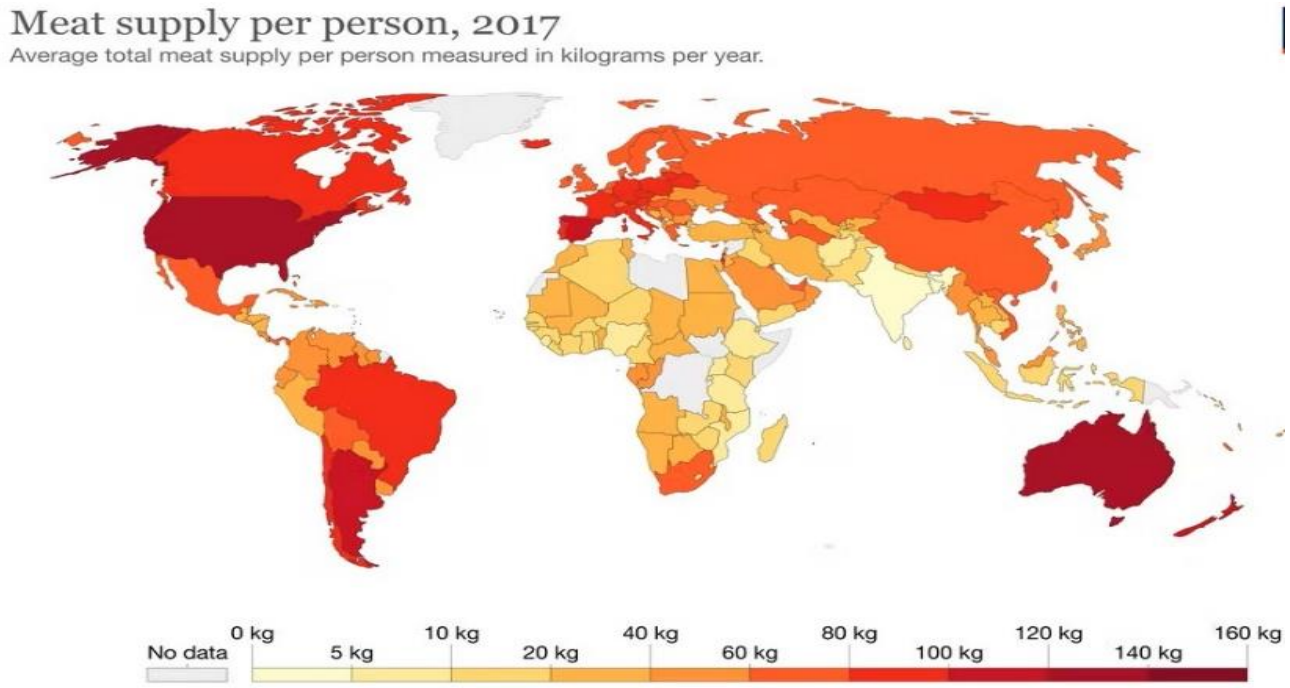

Fig. Average total meat supply per person measured in kilograms per year. (Data source: Food Balances, FAOSTAT Domain, Statistical division, Food & agriculture organization of United Nation)

What is the definition of "Sustainable meat"?

Sustainable meat production is a multifaceted method that prioritizes the environment in the long run health while maintaining the farm's economic viability and addressing customer concerns about the meat they consume.

"**Sustainable meat**" could mean:

- Meat produced by farms which use low impact farming practices such as:
- Holistic grazing, which allows livestock to graze on grass in one pasture before moving on to another, allowing the soil to organically recover.

- Programs for water and energy recycling.
- Chemicals, insecticides, and antibiotics are used in the smallest amounts possible.
- Agriculture that is organic.
- Grass-fed (instead of grain-fed) livestock.
- Meats which are produced at nearby areas reduce the transportation cost.
- Agriculture that is truly free-range (By allowing animals to walk freely outside, this improves animal welfare.)
- Meats with a lower environmental impact (e.g., chicken rather than beef or lamb)
- Meat from wild animals rather than cultivated animals is called wild sourced meat.
- Although contentious, this is perhaps more ethical than extensive cattle production.

Sustainable livestock farmers employ a range of techniques not only to grow animals humanely, make better goods, and provide a living for themselves and their family, but also to improve soil and store carbon, reducing greenhouse gas emissions. The mainstay of sustainable livestock production is well-managed pasture, forest, or rangeland, where animals can freely migrate and graze.

From grazing and farm administration to acquiring trustworthy processing facilities, rearing on grassland is labor intensive and costly. Hence, the livestock products obtained in sustainable way turns out to be somewhat expensive. Each purchase reflects a worthwhile long-term investment in a drastically different food system that is better not only for customers, but also for pasture-based farming community, animals, and the environment for those who are able to pay a premium price.

Ways of sustainable meat farming:

Rotational grazing: Among rotational grazing system, controlled grazing/management intensive grazing (MIG) will result in more efficient use of pasture. The paddocks are separated into regulated grazing pastures. The animal is relocated to another pasture after grazing to a certain level, not returning to the first paddock until the fodder have grown back to the required height.

Soil fertility management: Distribution of manure can be more consistent in rotational grazing compared to conventional grazing. Because cattle, sheep, and goats do not eat the same vegetation and have different grazing habits, multispecies grazing can boost net yield per acre. Another advantage of multispecies grazing is parasite management, which can save farmers from huge economic loss, especially when it comes to small ruminants.

Alternate feed for livestock

- Crop wastes have the potential to be used as feed. Crop wastes of low quality, such as straw, can be processed with ammonia/alkali to enhance fibers and protein digestibility.
- Byproducts from cereal milling are useful in cattle feeds. Food processing & industrial byproducts include molasses, reclaimed leaker products such as bread & cookies, beet pulp, dried citrus pulp & vegetable canning byproducts.
- Distillery and brewers' grain, as well as fishmeal, are excellent sources of protein for animals; maize gluten feed is a rich supply of bypass protein and digestible fiber.

4. Selection of species & breed: Producers should select a breed that meets the needs of their operation as well as the market to whom they will sell. Selecting a breed that is tailored to a specific region reduces input costs.

5. Low stress handling: Stress can cause sickness and weight loss, as well as lowering the worth of meat and interfering with reproduction. "Dark cutters," or meat that is nearly purple, are said to be caused by stress preceding to butcher.

6. Pest & parasite control: Pest affecting livestock includes flies (horn, face & stable), ticks, grubs & lice. Integrated pest management is a crucial approach for pest control that uses the least amount of pesticides possible. Integrated pest management combines biological, physical & cultural techniques to reduce pest to economically tolerable level. Dung burying beetles aid in the dispersal of dung pits, lowering the parasite habitat. Free-range hens also aid in the reduction of parasites by picking apart fresh dung pits, which dries the pits out speedier and eliminates the environment for parasitic growth.

7. Least toxic deworming: Diatomaceous earth (DE) controls internal & external parasite in livestock. Diatomaceous earth/kieselgur penetrates the parasite's and larva's external protective layers in the GI tract and helps in killing it.

8. Sterile Pasture: It's a meadow/ pasture/ grassland which hasn't been grazed by a livestock in at least a year It could be a new pasture, one that has been grazed by cattle that do not carry the parasite, or one that has been hayed and cycled with row crops. To avoid re-infection and disease spread, dewormed and vaccinated livestock should be maintained on sterile pasture if at all possible.

9. Social concerns: Usually antibiotics are used in sub-therapeutic level to increase growth or production, which has resulted in development of antibiotic resistant bacteria. Dependence on antibiotics has to be reduced for producing healthy, safe and wholesome meat for the consumers.

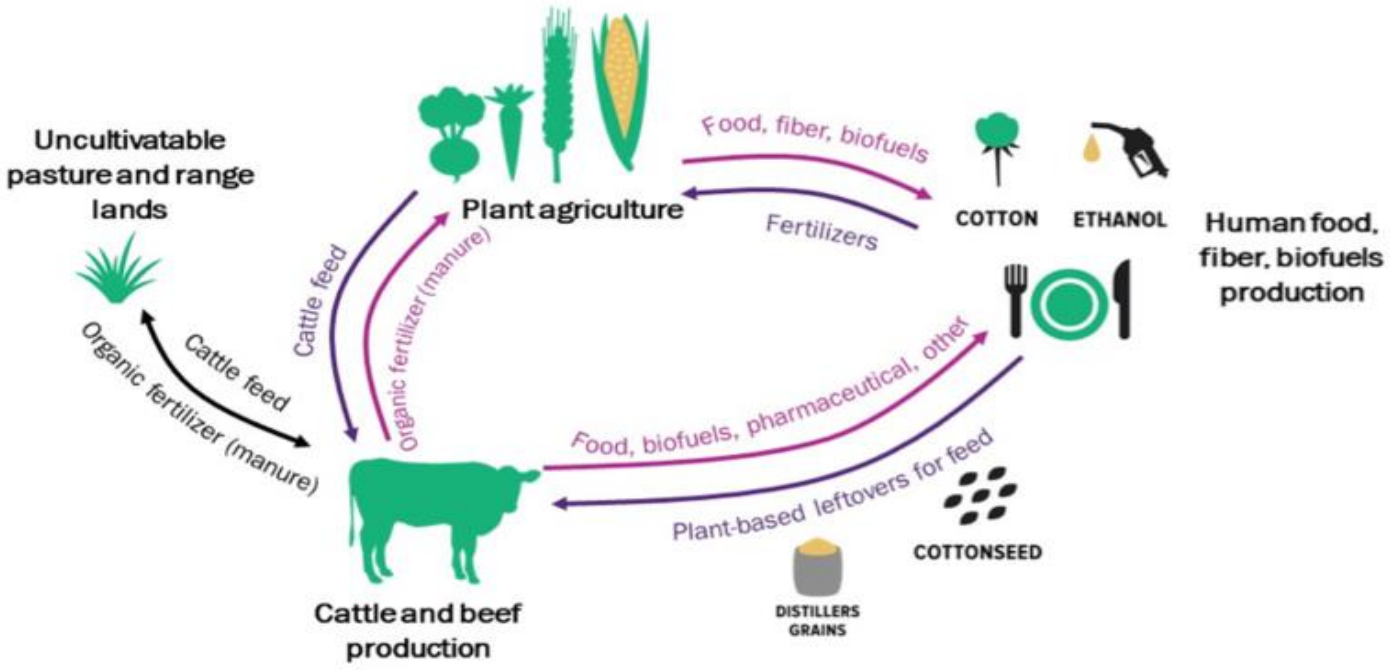

Fig. Interdependency of supply chains & beef's role in sustainable circular bio-economy. (Image courtesy of Sara Place, Sr. Director, Sustainable Beef Production Research at NCBA)

CONCLUSION

It's genuine that purchasing sustainable meat will have a financial consequence on consumers. Shifting to green or grass-fed meat will make consuming meat a luxury in many households. Shifting to green or grass-fed meat will make consuming meat a luxury in many households. The most efficient strategy for people to decrease their dietary impact is to reduce consumption or switch to lesser impact meats such as poultry, eggs, or pig. Without a doubt. Chicken emits a fraction of the carbon produced by beef, and it has the least environmental impact of any animal protein. We must consider where our flesh originates from, the farms on which it is raised, and the farming techniques that are employed. Because buying bulk meat at an economic price on a regular basis will never be viable. Though there are concept of producing organic meat, but it can't be done in a large scale because of the economic reasons. Suddenly, we cannot completely shift from conventional/industrial based meat farming to organic meat farming. But opting to sustainable ways of meat farming somewhat, can lower much of its adverse effect on the environment and human health. Future of the meat farming will be shaped by the demand for protein among the consumers and search for a responsible way of consuming protein. Individuals have to be more aware of the planet's long-term viability. As we all know production of a commodity in a market is driven by its demand. Sustainable production can only happen when the consumers will choose sustainability over irresponsible meat consumption. Plant based meat, tissue engineered meat, lab grown meat, etc. are some of the sustainable meats in the future. The globe will not, at least not immediately, forsake cattle husbandry totally. There are several reasons why we don't want it to. One of the reason his is not just a significant source of cash for many people, but it may also be a significant food source in rural areas. Tiny quantities of meat and dairy, especially in lower-income nations with less diverse diets, can be a major source of protein and minerals.

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