Proteins of low socio-environmental impact: the next agenda for sustainability

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In the struggle for the conservation of human living conditions on the planet, an abstract concept such as the impact of fossil fuels on climate change, is grasped by most. What seems difficult to relate is that personal choices of consumption contribute to environmental destruction; to recognize that our own diet contains foods that threaten our survival. Nevertheless, we need to face the fact that livestock farming and livestock feed crops are largely responsible for changes in land use, deforestation and fires, with gas emissions as significant as those from non-renewable energy sources [WRI, 2016].

While there is a strong movement of the public sector, companies and scientists trying to find alternatives to burning fossil fuels, the discussion about our diet and its consequences is still flimsy [CHATTAM H., 2015]. Rare are the studies on the impact of food consumption decisions especially of animal proteins [LAMB et alii, 2016]. In fact, as a human civilization, we have so far prioritized proteins of high social and environmental impact - which few consumers are aware of.

The increase in income, urbanization, and the expansion of new eating habits, has radically changed our diet, as meat and dairy products are increasingly replacing significant portions of grains.

The warning came in 2006, when the Food and Agriculture Organization of the United Nations (FAO) concluded that meat production accounted for 18 percent of all global greenhouse gas (GHG) emissions and as demand continues to grow, meat supply will need to double in less than 50 years, which should worsen the index. Half of the planet's arable land is occupied by livestock or feed crop cultivation, exhausting possibilities for other diversified uses of the land. The issue, therefore, is not restricted to the agenda of vegetarians, certain religions, or animal advocacy, it is the whole planet that has no more space for the production of such inefficient *high-impact proteins* [FAO, 2006 and 2009].

The production of 1 kg of beef requires 15.5 tons of water, which results in animal products contributing to more than a quarter of humanity's *water footprint* [HOEKSTRA et al., 2008]. The inefficiency in meat's energy conversion requires high feed crops and pasture inputs (one third of the world's grains are destined solely to animal feed, as is 90% of all Brazilian soybeans). To insist on the current model for meat and dairy production is to threaten global food security, especially that of the poorest. By allocating half the land to livestock (or livestock feed crops), we are failing to meet the protein needs of two-thirds of the world's population who are already excluded from access to meat and dairy for lack of financial resources.

Brazil, though a big villain in this matter, is not worried about it and strives to establish itself as the world leader in the production of animal proteins. Around here, we indulge in the idea that livestock and feed grains are the engine of our economy [SILVA NETO & BACHI, 2014]. However, this sector is actually highly inefficient and archaic, occupying about 30% of the country's territory, some 2.4 million square kilometers, while accounting for less than 8% of our GDP and generating none but a few jobs, most of them informal. Cattle farming alone represents 62% of the country's GHG emissions [BARRETO, 2015].

Rediscussing our diet - a taboo?

If the impacts of animal protein production are devastating, then why is the appeal for popular contributions to the environment restricted to childish recommendations such as "separate your garbage" and "take fewer baths"? Why don't the media, academic institutions and even activists discuss the diet of Brazilians and of the planet? What justifies the maintenance of the apparent privileged position enjoyed by meat value chain in Brazil?

Curiously enough, Brazilians seem to be among the most concerned about the issues of environment and climate-change [LEISEROWITZ, 2007; PEW 2015]. Still, most of us do not make rational, knowledge-based decisions about the socio-environmental impact of meat consumption and its consequences for future generations.

It is about time we look for proteins with low socio-environmental impact and low economic cost, that promote employment, income generation, equality, human and animal welfares, and the possibility of surviving on this planet, with a highly positive impact on human health and climate [SPRINGMAN, 2016].

To openly discuss the problem is the first step. The issue needs to be in the school curriculum, in scientific research and in the media (why haven't the trendy culinary TV shows touched on the problem yet?). We need accessible and honest indicators that inform us about the socio-environmental impact of what we eat. Thus, with more access to information and debate, who knows if perhaps we will make better, conscious, consumption decisions?

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Picture: As a human civilization, so far, we have prioritized proteins of high socio-environmental impact – the point is the planet has no more space for the production of this type of protein in an increasingly populous world.