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Why Sugar Is a Concern for the Environment – Part 2

Over the past century, the expansion of sugar production and its growing popularity in the food industry created a new area of concern for many environmental scientists. As with most popular food commodities, sugar requires large areas of land dedicated to its cultivation and fulfilling this demand requires land clearing in regions that make up some of Earth's most biodiverse regions (World Wildlife Fund, n.d.). On top of this, the mass production of sugar also adds to our numbers for global greenhouse gas emissions, water waste, and animal species impacted.



The Heart of Sugar Production

Sugar production begins with sugar cane agriculture which is only feasible in countries with a tropical climate like Brazil, India, China, and Thailand. In about a dozen of these countries, 25% of their total agricultural land is dedicated towards sugar (World Wildlife Fund, n.d.).



Brazil: The Largest Producer of Sugar in the World in 2022

Today, Brazil is the top producer of sugar in the world, but this position comes with a cost to its local population and environment. In a study coming from the Brazilian state of Sao Paulo, it was found that sugar cane agriculture was directly responsible for the eutrophication of many water bodies due to an upsurge in the use of agrochemicals like fertilizers, herbicides, pesticides, and more (Luciano et al., 2012). In simple terms, eutrophication describes the rapid proliferation of aquatic plants like algae due to a sudden spike in plant growth factors such as those contained in fertilizers. When lakes and rivers experience this rapid blooming of plants, their animal species end up suffering from a shortage of oxygen (Carpenter, 2005). Fish are the primary victims of this event, and when these die off, their predators also fall to their demise, and the entire surrounding ecosystem crumbles.

In addition to the environmental impacts, the land cleared for sugar production caused many of its rodent species to lose their natural habitat, leading the animals to invade areas populated by humans. In fact, in Sao Paulo, there have been a rise in cases of human infections from hantaviruses, a type of virus transmitted by wild rodents (Luciano et al., 2012).





India: A Historical Producer of Sugar That Has Maintained Its High Ranking

As was briefly detailed in the previous part of this article series, India is one of the birthplaces of sugar cane cultivation, and it is where the sugar that we know most famously today was first crystallized. Data show that India produces 15% of the world's sugar, making it the second largest producer of sugar in the world (USDA, 2022). This is great news for the growing Indian economy, and even for locals who now have new job opportunities at their disposal, but is this story really as sweet as sugar tastes?

A report coming from the Indian Central Pollution Control Board revealed that the sugar industry was one of the 17 highest-polluting industries in the country (*Central Pollution Control Board, n.d.*). One of the main reasons involves the amount of wastewater produced each day and released into surrounding river systems, causing significant damage to the environment. Subsequently, local populations also suffered and to this day continue to be affected as their groundwater remains contaminated (Mondal, 2021). Many are often left without choice and upon using this water regularly, end up with infections, liver and kidney damage, and decreased immunity.

The Rest of The Story

In other countries, the story repeats itself. Over and over again, sugar production damages the environment, endangers animals, harms the health of locals, and represents a cause for local social and political conflicts. Here is a list of the rest of the world's largest producers of sugar where the same consequences have been observed, and this too, in recent years:

- China (Li et al., 2018)
- Mexico (Meza-Palacios, 2019)
- Thailand (Prasara-a et al., 2019)
- Pakistan (Panezai et al., 2021)



Final Thoughts

If you are overwhelmed after having read through this article, rest assured that you are not alone. Sugar is so widely used in our food that many of us have never thought about its origin, how it is manufactured, who it affects, and what it does to our planet. However, now that you know, it may be useful to take a minute or two to reflect and think about your own consumption of sugar.

As the consumer, you are the last recipient in the process of sugar production, but this does not mean that you are the least important. Consumers have more power than they think they possess. After all, if you refuse to buy a product, this is an opinion the producer needs to consider as the whole process ends with selling it to you, the user. So, what can you do from here on?

- Educate yourself on the sugar industry, and the brands that you purchase sugar from.
- Spread awareness and share your knowledge with others to enlarge your impact.
- Continue to stay informed about the industry by following news stories, studies, and the work of non-profit organizations like the WWF.

Curious about how sugar affects you personally? Read Part I of this article which is available [here](#) and share it with your social circles as prompted above.

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