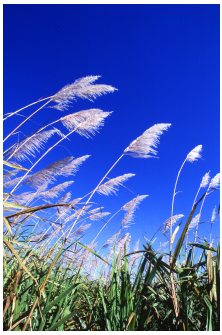
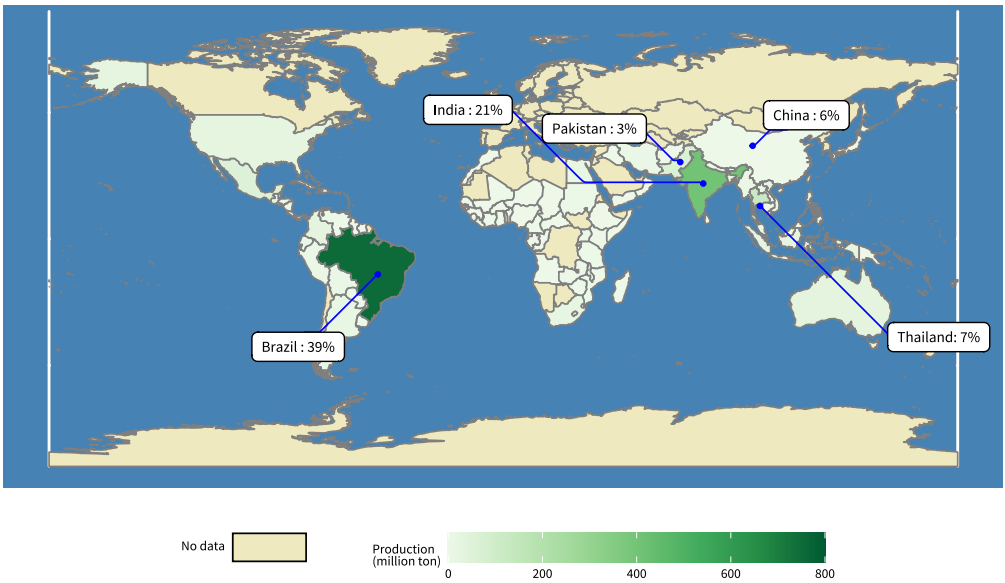
A sweet and powerful crop



Sugarcane is a large perennial **grass**, cultivated in tropical and sub-tropical areas. It accumulates high levels of sucrose in the stems and is largely used as **food and bioenergy source**. Sugarcane is one of the most efficient crops in converting solar energy into sucrose and biomass. It has a high economic value, as it is highly productive and can be locally converted into **valued products** such as sugar, ethanol, chemicals, and energy. Therefore, it is a **primary trade commodity** in the countries where it is grown.

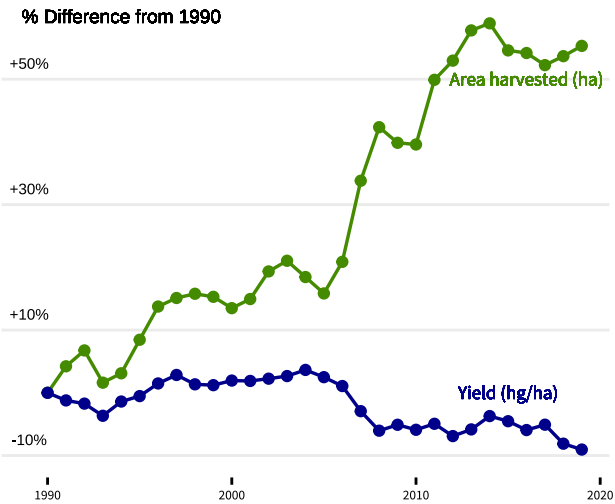
Where in the world is sugarcane produced?

The **Top 5 sugarcane producers** are labeled with the percent contribution to the world's total production.
Brazil is the largest producer, followed by **India**. Together, they are responsible for more than half of the world's production.



The sugarcane area harvested increased since 1990, but not the yield

The **area harvested** corresponds to the total area in the world from which sugarcane was gathered, whereas the **yield** is the production per unit of harvested area.



Trends from 1990 to 2019 show a **decrease** in the sugarcane production **yield**.

The world is producing more sugarcane by **expanding** the **cultivation area**. In 1990, the total harvested area was 181 Mha, and in 2019 it was 282 Mha.

To increase the production **sustainably**, we need to produce more using less land.

To increase biomass and fiber contents, some varieties, named **energy cane**, have been developed. In general, they are more suitable for energy production from fibers, not for sugar, although some varieties can be used for both.

Another way of **increasing productivity** can be using more parts of the plant (the leaves, straw, and bagasse) to **generate products and fuels**. Biomass yield, as shown here, would not change, but more products could be generated from the same amount of biomass.

Data from FAO, text and visualization by Amanda Fanelli (twitter @amandafanelli).