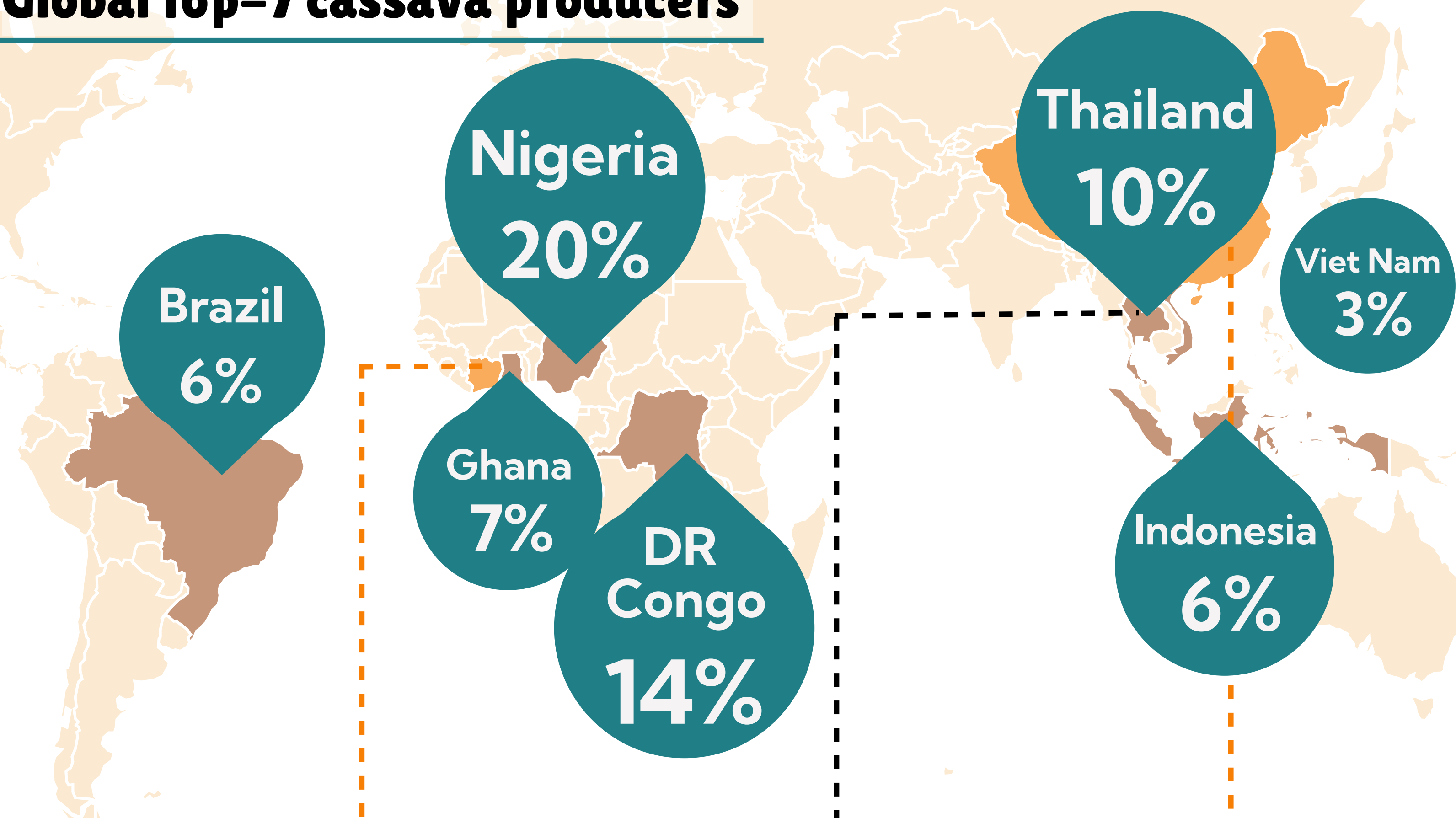


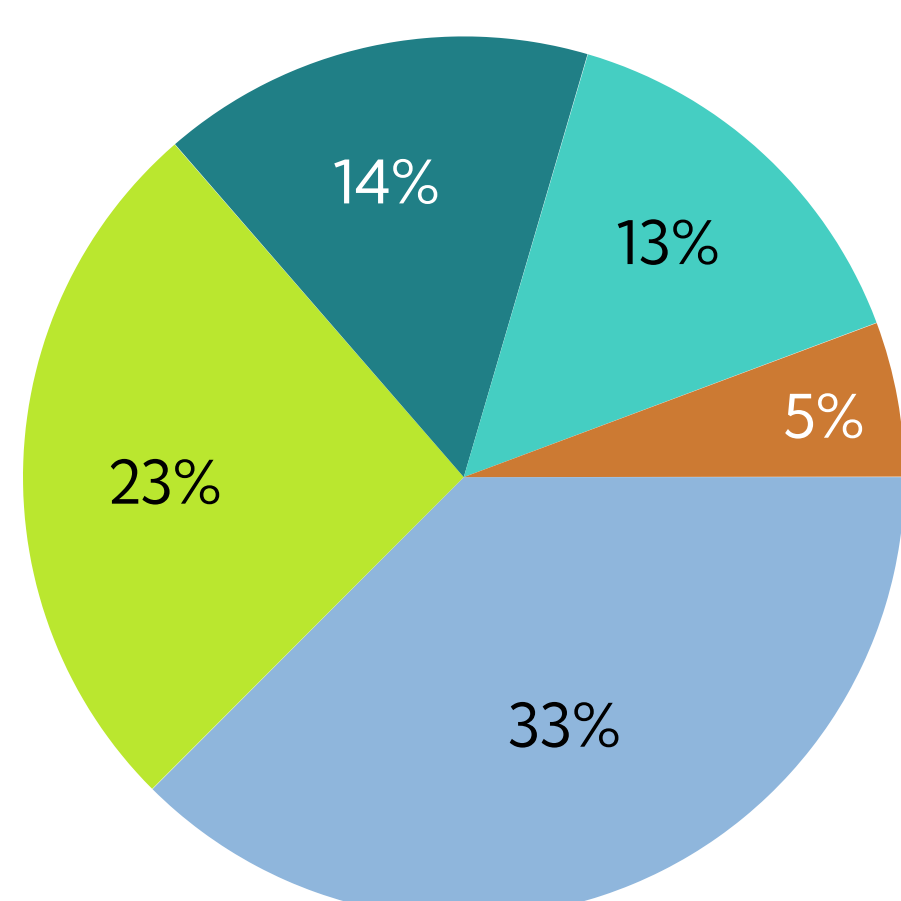
Tapioca

Production & Trade

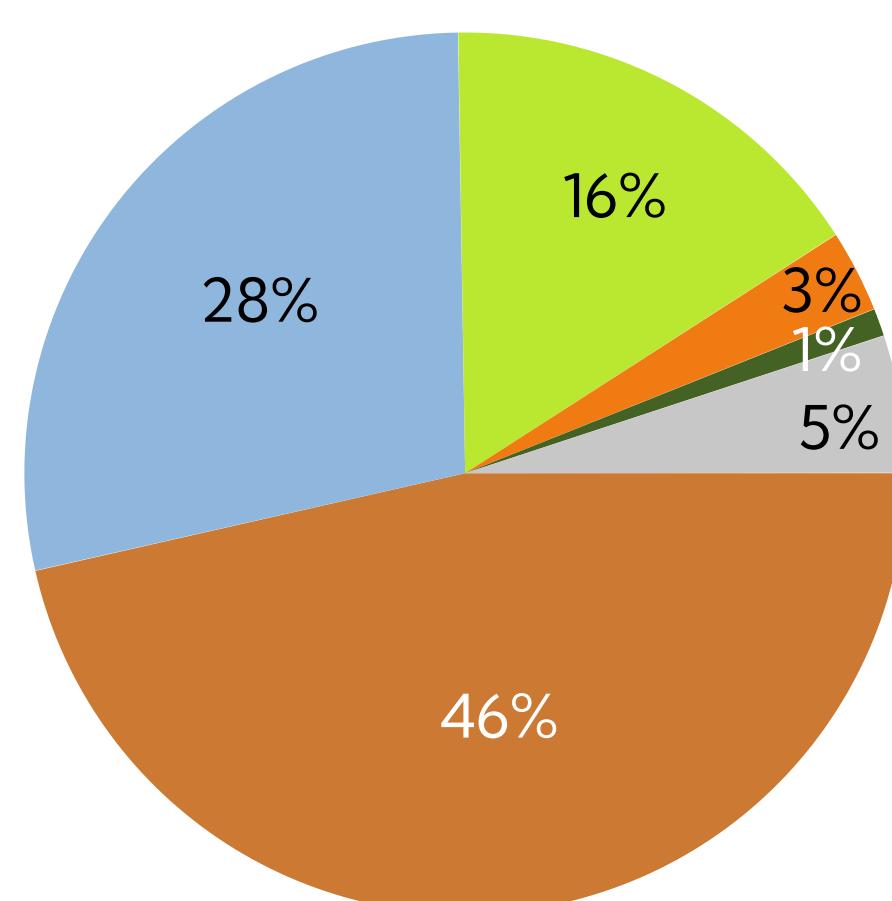
Global top-7 cassava producers



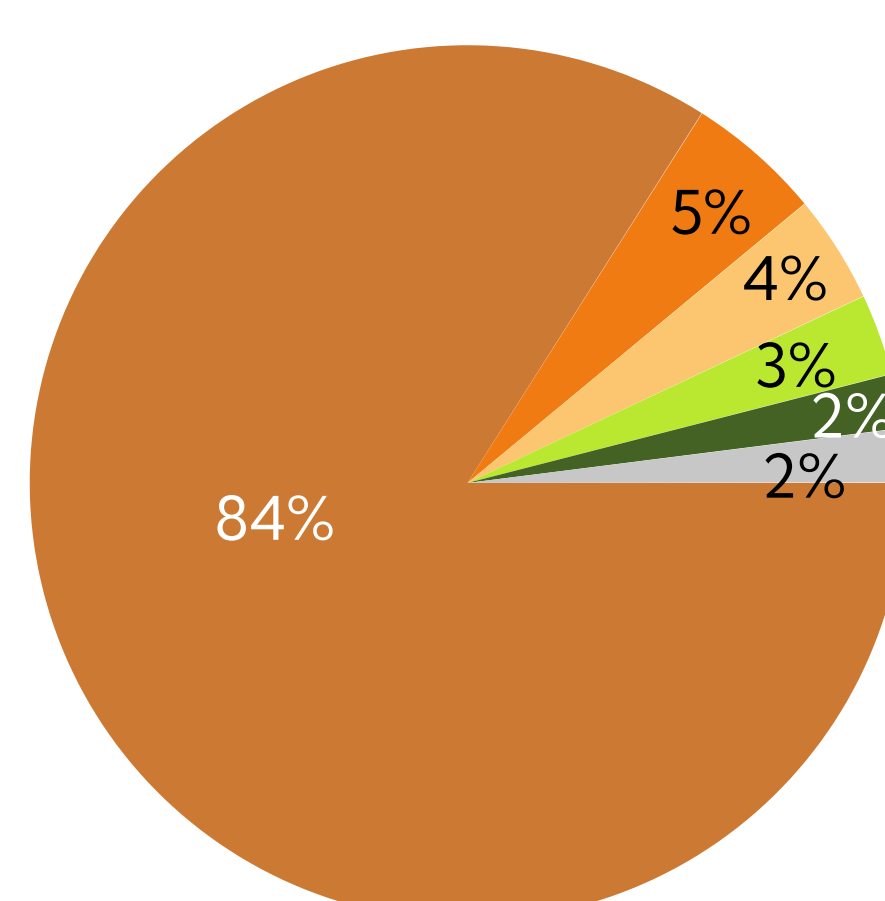
Top 5 EU27 + UK recipients of Côte d'Ivoire exports



Top 5 EU27 + UK recipients of Thailand exports



Top 5 EU27 + UK recipients of China exports



Italy France Netherlands Sweden Other EU27+UK countries
Germany Spain Poland Belgium



The EU does not produce cassava/tapioca, and therefore only imports from (mainly) tropical countries.

The EU predominately imports tapioca from Thailand (37%), Côte d'Ivoire (21%), China (18%), and Taiwan (13%). This is followed by Brazil (4%) and Indonesia (2%).

In 2021, the Netherlands and France were among the top-5 recipients of tapioca originating from Thailand, Côte d'Ivoire, China, and Brazil. In 2020, the UK ranked #5th as a recipient of tapioca from China, and #3rd from Brazil.

Tapioca is a starch extracted from the storage roots of the **cassava plant**, therefore for its origin, the production of cassava is relevant. In 2020, the top 7 producing countries comprised 66 % of cassava production worldwide. Other countries with more than 2% share in global cassava production are Angola, Cambodia, Tanzania, Côte d'Ivoire, Malawi, Mozambique, India, China and Cameroon.



In 2020, **Nigeria** (20% share of global production), the **DRC** (14%), and **Thailand** (10%) were the largest global producers.



Tapioca

Environmental Risks

Hydrogen cyanide

is liberated during tapioca processing

Cassava processing is generally considered to contribute significantly to **environmental pollution**. There are indications that the growth of the tapioca starch industry (e.g. in Thailand) has resulted in "**heavy water pollution**" as it generates large amount of solid waste and wastewater with high organic content.

Cassava/tapioca processing effluents cause acidification and hydrogen cyanide, the latter being **toxic to household animals, fisheries and other organisms**. In contrast, the application of fertilisers on cassava crops is usually low.

Contamination

While there are reports of cassava processing causing **depletion of water resources**, the water footprint of tapioca of cassava is **relatively low**, with 2,818 cubic meters per ton.

2,818 m³/ton is the water footprint of tapioca

Water Footprint

7,750 ha

deforestation risk in Brazil in 2018 is linked to cassava production

There is (limited) deforestation linked to cassava production. In 2018, there was an estimated 7,909 ha of associated **deforestation risk** in Cambodia, 7,750 ha in Brazil, 5,454 ha in the DRC, and 5,182 ha in Tanzania. Brazil is ranked the fifth supplier of tapioca to the EU27 and the UK.

However, production of cassava on slopes generally causes **erosion**.

Land use & Deforestation

Emissions from tapioca production occur at the cassava plant cultivation stage, transportation, and in its processing stage in a starch factory. Estimates for the carbon footprint for tapioca starch production in Thailand, 0.320 kg CO₂eq per kg of tapioca starch, point to a **low carbon footprint**.

0.320 kg CO₂eq is the carbon footprint per kg of tapioca starch

Emissions

Tapioca

Social Risks

Labour conditions

Tapioca (starch) is typically produced in countries where **labour conditions are adverse**. In Thailand, migrant workers are excluded from elements of basic labor law. Seasonal workers have bad salaries, working hours and facilities. Also in China, the risks to workers' rights are very high. In Côte d'Ivoire, informal labour accounts for nearly 60% of all paid jobs.

72 hours

working week is common practice for many workers in China

Child Labour

88.6 million

children are employed in child labour in Sub-Saharan Africa

Most of the cassava-tapioca farms are family owned. It is typical that **the entire family helps out at the farm, including children**. A study on factory workers in a tapioca starch facility in Thailand revealed that "some of the farmers were worried about their children's ability to balance between helping at the farm and attending school."

Gender Issues

Weed control for the cassava crop puts a big burden on the lives of farmers, **especially of women and children**. In West-Africa, the crop is traditionally grown by women, who have issues with gaining **control of the land they need**.

Health & Safety

A study on workers in a tapioca processing facility revealed that 40% of the factory workers worry about their safety, mainly linked to **working machinery and chemical safety**.

40%

of factory workers have concerns about their safety in a tapioca starch facility in Thailand