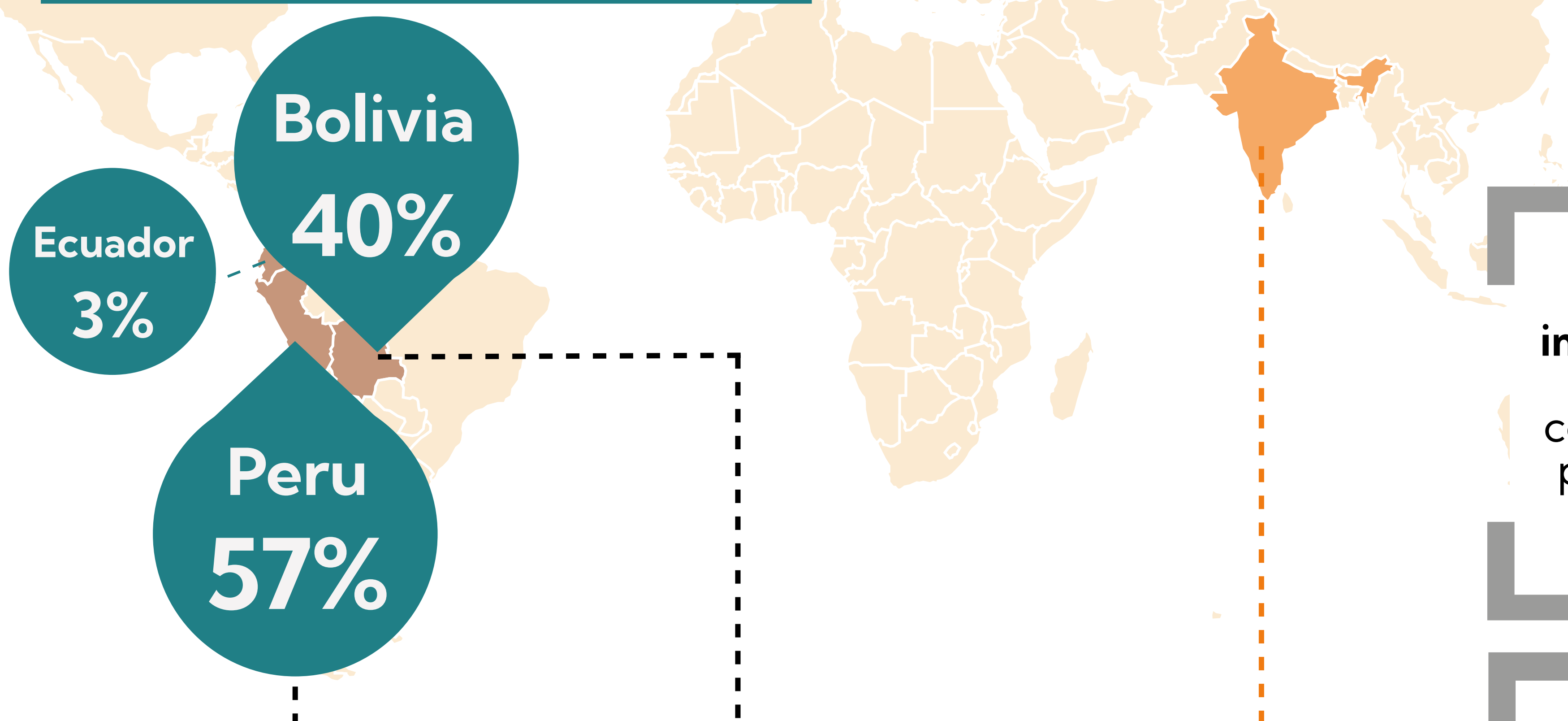


# Quinoa

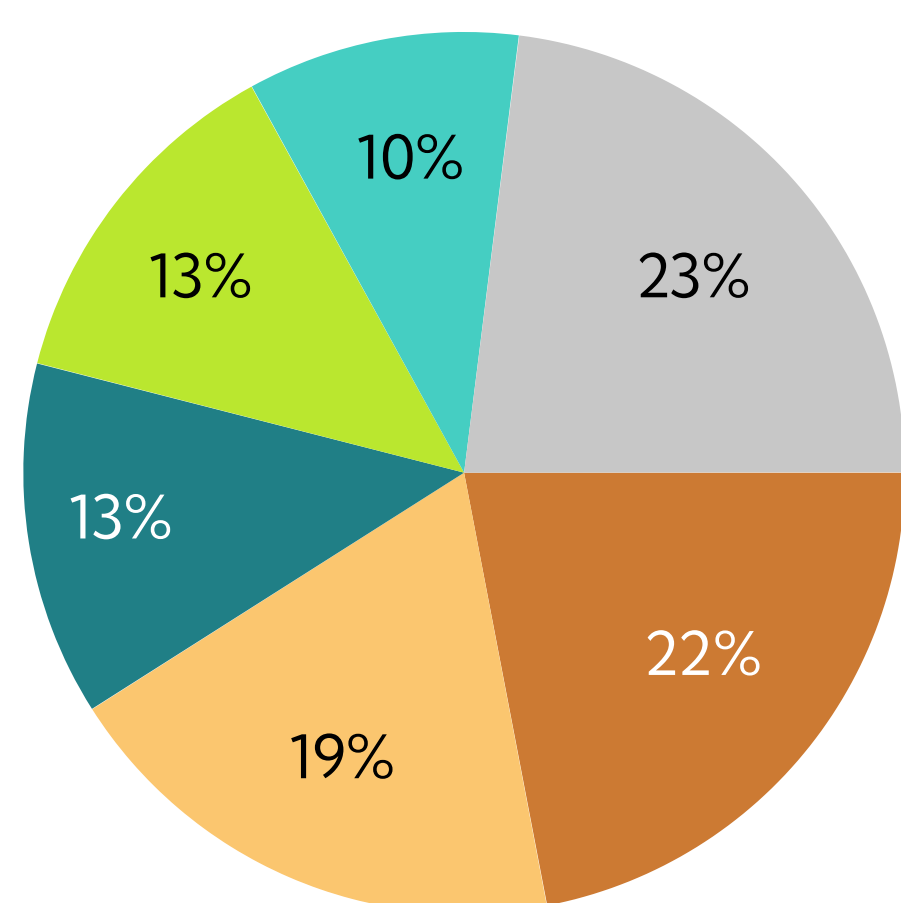
## Global top-3 quinoa producers



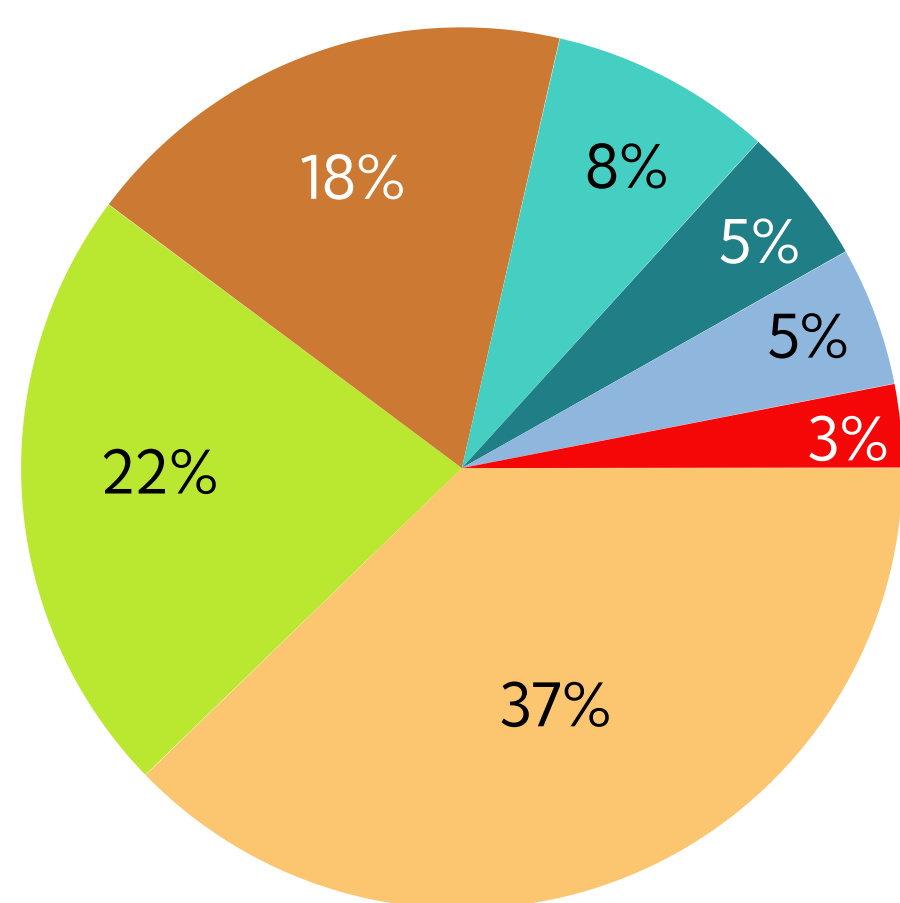
Next to Peru and Bolivia, the EU also imports 1% of quinoa in 2021 from India, a country non-listed as a producer of quinoa in FAO 2020 global production data.

The remainder (all <0.5%) originates from Ecuador, Zambia, Turkey, and Canada. Apart from Ecuador, none of the countries are listed as global quinoa producers in FAO 2020 data.

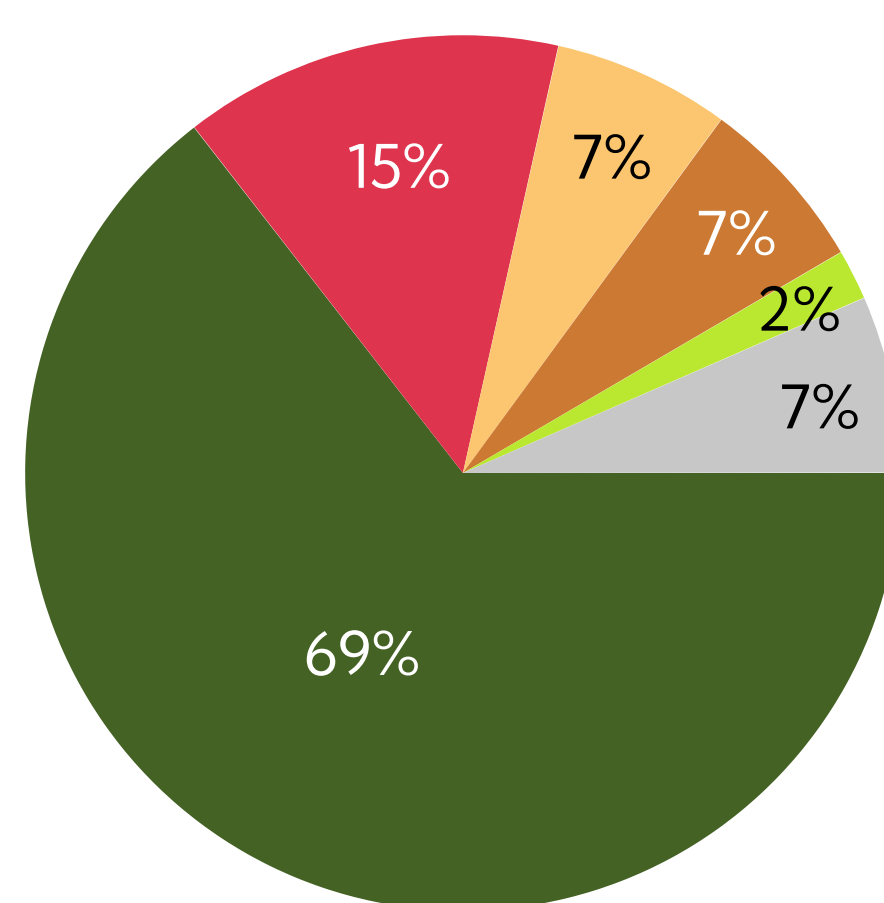
Top 5 EU27 + UK recipients of Peru exports



Top 5 EU27 + UK recipients of Bolivia exports



Top 5 EU27 + UK recipients of India exports



Germany (26%), the Netherlands (20%), and France (17%) were the top importers of Peruvian and Bolivian quinoa in 2021. In 2020, the UK ranked fifth as a recipient of Bolivian quinoa.

In 2020, global production data of quinoa highlights only three producing countries, **Peru (57% share in global production), Bolivia (40%), and Ecuador (3%).**



In 2021, the EU imported 22,931 tons of quinoa, mainly from **Peru (60%) and Bolivia (37%).**







# Quinoa

## Environmental Risks

**120 varieties**

exist of quinoa. But farmers continued growing only about 20 varieties to serve global demand for light-coloured, large grains

The 'quinoa boom' since 2009 caused an unprecedented grow in demand (export volumes grew 18 times, prices rose 600%), leading to loss of (agro-)biodiversity as farmers turned to monocropping and abandoned traditional and sustainable farming practices.

Monocropping single-variety quinoa and mechanisation on the land has made the crop and environment more prone to plant diseases, land degradation, desertification, erosion, and poor quality soil.

Biodiversity Loss



The water footprint of the quinoa crop is relatively low. However, the introduction of industrial farming methods in the Andean region reportedly caused wasteful consumption of water, energy and gas. Wastewater polluted nearby bodies of water.

**3,306 m<sup>3</sup>/ton**  
is the water footprint of quinoa

Water use



**124% & 440%**

is the increase in area occupied for quinoa in respectively Peru & Bolivia in the past four decades

There is relatively little associated deforestation risk linked to quinoa production. In 2018, 1,261 ha of deforestation risk was reported in Peru, and a minor 137 ha in Bolivia.

However, the quinoa boom and its linked expansion of production area had negative effects on Peruvian farmlands and the environment, as described above.

Land use & deforestation



The carbon footprint of quinoa production can be considered low.

**0.96 kg CO<sub>2</sub>eq**  
is the carbon footprint per kg of quinoa

Emissions





# Quinoa

## Social Risks

### Land Appropriation

The introduction of large-scale production methods (e.g. use of tractors to clear land) caused **community ownership conflicts**, since most of the land in Andean communities is traditionally held in common.

### Community Conflicts

are linked to expansion of quinoa farmland area

This was seen as a form of land appropriation. Also the expansion of quinoa farmlands created **tension with llama farmers**, who search for grazing land for their llamas.

### Livelihood Issues

**2014–15**

were years with a huge drop in demand and price of quinoa, causing adverse effects on farmers' livelihoods

While the economic quality of life of quinoa producers had improved during the boom, there are also significant risks to their livelihoods.

First, many farmers are **fully reliant on the crop**, resulting in farmers' vulnerability and loss of livelihoods when demand drops.

Second, Andean (smallholder) farmers suffer from **unbalanced competition** from large-scale farmers (with technology, capital and credit to increase yields and monopolise the market) and from developed countries (e.g. USA begins to cultivate and sell their own quinoa).

### Gender Issues

On the positive side, **the quinoa boom has been an income boost to female farmers** who had hardly any alternative income sources.

**40%**

of quinoa farmers in Peru are women