



**Source:** [Tea | Markets and Trade | Food and Agricultural Organization of the United Nations \(fao.org\)](#), [Infonet Biovision](#).

**Watch out for:**

- Increasing temperatures and reducing rainfall. The area suitable for tea planting will significantly reduce by 2030 due to climate change.
- Old tea cultivars that have reached maximum production limit.

Tea is a beverage made from the *Camelia sinensis* plant. It is the world's most-consumed drink, after water. It is one of the most important cash crops and plays a significant role in rural development, poverty reduction, and food security in exporting and developing countries. It is a principal source of livelihood for millions of smallholder producers. The total area of land under tea cultivation is 4.37 million ha, with an annual production of 5.30 million tons in 2015 (ITC, 2016). Smallholders are the main force in tea production, especially in mountainous regions. It was estimated that China and India have 20 million and three million rural laborers involved in tea production and processing, respectively. Smallholders constitute 73%, 60%, and 47% of the total tea production in Sri Lanka, Kenya, and Indonesia. Tea also plays a vital role in relation to economic development. For example, in Sri Lanka, it generates 1.3 billion US dollars in exports, comprising 14.84% of the total export earnings or 59.72% of the agricultural export earnings. Tea exports contributed 20% to Kenya's total national foreign exchange earnings (Azapagic et al., 2016). As it is a rain-fed mono-cropping system, tea cultivation depends on weather conditions for optimal growth.

The ideal growing conditions for tea are average annual temperatures of 18-20°C, an average daily amount of sunshine of 4 hours per day, as well as an optimum of 2000-2200 mm of rainfall distributed evenly throughout the year. Higher rainfall causes erosion through soil runoff, especially on steep slopes. A minimum of 1400 mm of rain is required but tea can grow adequately with less rainfall in areas with frequent mists and low clouds or under irrigation. Relative humidity should lie between 70 and 90%. Tea is grown in an altitude range of 1500-2200 m above sea level. Below 1500 m yields increase but the tea flavor decreases.

In regions with extensive dry seasons, shading trees play an important role in providing and maintaining sufficient humidity. Additionally, tea plantations in windy regions should also be protected by windbreaks, to reduce the intensity of evapotranspiration.

Tea performs best in the soil of volcanic origin. Areas with bracken (ferns) are indicators of suitable ecology. The soil should be deep (1.8-2.0m), well-drained, and aerated. Nutrient-rich and slightly acidic soils are best (optimum pH-value 4.0-6.0). Outside this range, basic nutrients are rendered immobile, i.e., above pH 6, calcium restricts the uptake of potassium and below pH 4, phosphorus is fixed (locked in).

Sufficient drainage and aeration of the soil can be lastingly and economically achieved with the combination of shading trees and deep-rooted green manure plants. China tea (*C. sinensis* var. *sinensis*) is especially suited to hilly regions. It is resistant to drought and can tolerate short periods of frost (yet has a low tolerance for shade). Contrastingly, Assam tea (*C. sinensis* var. *assamica*) is a purely tropical crop and reacts sensitively to drought and cold (yet has a high tolerance for shade). With a slope of above 30°, expensive soil conservation measures will be necessary. If terraces are dug, they should be 1 m wide at 2 m vertical intervals and have a 1:30 gradient for drainage.