QUIZ OF THE DAY

Refer to The Hindu News Analysis Video (YouTube)

Date: 05th Dec 2022

Q1. Consider the following statements about the Gini Coefficient:

1. The coefficient ranges from 0 to 1 with 0 representing perfect inequality and 1 representing perfect equality.
2. The Gini coefficient is defined mathematically based on the Lorenz curve.

Choose the correct option:

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q2. Consider the following climatic conditions for this crop-

"This plant requires heavy rainfall from 150 to 250 cm but stagnant water is harmful. It is grown on hill slopes at elevations from 600 to 1,600 meters above sea level. Hot and humid climate with temperature varying between 15°C and 28 °C is required. It does not tolerate frost, snowfall, high temperature above 30°C and strong sun shine. It is generally grown under shady trees and well drained, rich friable loams containing a good deal of humus is ideal."

Which of the following crops is suitable for the aforementioned conditions.

a) Rubber
b) Jute
c) Coffee
d) Coconut

Explanation and Solutions

Q1. Answer: B

Explanation:

What Is the Gini Index?

The Gini index, or Gini co-efficient, measures income distribution across a population. Developed by Italian statistician Corrado Gini in 1912, it often serves as a gauge of economic inequality, measuring income distribution or, less commonly, wealth distribution among a population.

The co-efficient ranges from 0 (or 0%) to 1 (or 100%), with 0 representing perfect equality and representing perfect inequality. Values greater than 1 are theoretically possible due to negative income or wealth.

Understanding the Gini Index

A country in which every resident has the same income would have an income Gini co-efficient of 0. Conversely, a country in which one resident earned all the income, while everyone else earned nothing, would have an income Gini co-efficient of 1.

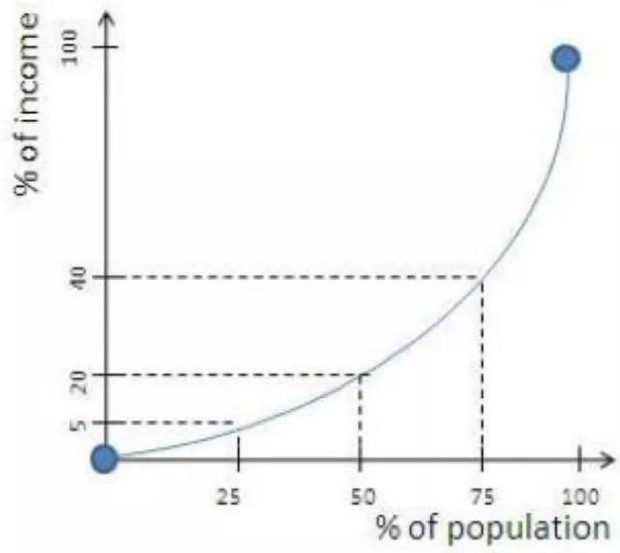
The same analysis can apply to wealth distribution (the wealth Gini co-efficient), but because wealth is more difficult to measure than income, Gini co-efficients usually refer to income and appear simply as the Gini co-efficient or Gini index, without specifying that they refer to income. Wealth Gini co-efficients tend to be much higher than those for income.

Even in affluent countries, the Gini index measures net income rather than net worth, so the majority of a nation's wealth can still be concentrated in the hands of a small number of people even if income distribution is relatively equal.

The Gini co-efficient is an important tool for analyzing income or wealth distribution within a country or region, but it should not be mistaken for an absolute measurement of income or wealth. A high-income country and a low-income country can have the same Gini co-efficient, as long as incomes are distributed similarly within each. For example, Turkey and the United States both have income Gini co-efficients of around 0.39–0.40, according to the Organisation for Economic Co-operation and Development (OECD), despite Turkey's vastly lower gross domestic product (GDP) per person.

Graphical Representation of the Gini Index

The Gini index is often represented graphically through the Lorenz curve, as depicted below, which shows income (or wealth) distribution by plotting the population percentile by income on the horizontal axis and cumulative income on the vertical axis. The Gini co-efficient is equal to the area below the line of perfect equality (0.5 by definition) minus the area below the Lorenz curve, divided by the area below the line of perfect equality. In other words, it is double the area between the Lorenz curve and the line of perfect equality.



Limitations of the Gini Index

Though useful for analyzing economic inequality, the Gini co-efficient has some shortcomings.

The metric's accuracy is dependent on reliable GDP and income data. Shadow economies and informal economic activity are present in every country. Informal economic activity tends to represent a larger portion of true economic production in developing countries and at the lower end of the income distribution within countries. In both cases, this means that the Gini index of measured incomes will overstate true income inequality. Accurate wealth data is even more difficult to come by due to the popularity of tax havens.

Another flaw is that very different income distributions can result in identical Gini co-efficients. Because the Gini attempts to distill a two-dimensional area (the gap between the Lorenz curve and the equality line) down to a single number, it obscures information about the

shape of inequality. In everyday terms, this would be similar to describing the contents of a photo solely by its length along one edge, or the simple average brightness value of the pixels.

Though using the Lorenz curve as a supplement can provide more information in this respect, it also does not show demographic variations among subgroups within the distribution, such as the distribution of incomes across age, race, or social groups. In that vein, understanding demographics can be important for understanding what a given Gini co-efficient represents. For example, a large retired population pushes the Gini higher.

Q2. Answer: C

Explanation:

Rubber: requires more than 200 cm of rain and temperature above 25°C. Also it requires bright sunshine most of the times.

Jute: is a water intensive crop grown in West Bengal and nearby areas and water logging takes place

Coffee:

Heavy rainfall from 150 to 250 cm but stagnant water is harmful.

So grown on hill slopes at elevations from 600 to 1,600 meters above sea level.

Hot and humid climate with temperature varying between 15°C and 28 °C.

It does not tolerate frost, snowfall, high temperature above 30°C and strong sun shine and is generally grown under shady trees.

Dry weather is necessary at the time of ripening of the berries

Well drained, rich friable loams containing a good deal of humus and minerals like iron and calcium are ideal for coffee cultivation.

Coconut can survive on low rainfalls and grows well in areas with even 100 cm rainfall.