

Abstract

Food Security has attracted a lot of interest in the economic literature, especially in recent years¹. One of the ways to measure poverty is food security. Since minimum calorie intake is a basis for measuring poverty. Food security on the other hand is defined as “Food security, at the individual, household, national, regional and global levels is achieved when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”². Thus, if enough food is not available, we would call a certain population food insecure. On the other hand, out of the various measures of poverty the basic needs approach tries to identify the nutritional requirement as per person calorie requirement and then convert it into monetary terms to determine a poverty line(Atkinson 2019). The other method is the capability approach as proposed by Amartya Sen which tries to explain poverty in terms of basic capabilities or functioning. The basic needs approach is an old theory. The poverty literature also identifies the measurement issues under two broad heads one is the direct method and the other is the indirect method. The direct method takes into consideration the shortfall in minimum calorie requirement, whereas the indirect method takes into consideration the income required to satisfy the minimum calorie required³. The minimum calories required for basic sustenance are used as a method for determining poverty lines in many countries⁴. There is also a vast literature which has tried to identify the relation between food security and poverty(Kakwani and Son 2016).

¹ (Kakwani and Son 2016)

² UNDP Human Development Report 1994

³ (Palmer-Jones and Sen 2001) takes the view of how the calorie method can help us understand the poverty line and the other methods associated with the calculation of poverty line.

⁴ (Angus Deaton 2013)

The interest by economists in the hypothesis of calorie intake and its effect on income is central to the efficiency wage hypothesis, proposed by Leibenstein (Leibenstein 1957). The seminal work states that the efficiency of work depends on wages, which comes from nutrition (Dawson, Tiffin 1998) and thereby nutrition will play a major role in the country. Thus, we can claim there is a relationship between poverty and food security.

In India, the poverty line is determined using the minimum calorie approach and therefore we state that people falling below a certain calorie norm are considered to be food insecure. The required dietary allowance or the recommended calorie at the poverty line is usually taken from the RDA proposed by ICMR. We use the direct method to determine the extent of poverty and thus food security in our surveyed population.

The research hypothesis we propose are:

Research Hypothesis

- Poverty and food security are related, poverty leads to food insecurity and food insecurity leads to poverty.
- Tea gardens of North Bengal exhibit marked regional disparities in terms of food security and poverty
- PDS has helped to address the problems of Food Insecurity in the Tea Gardens of North Bengal.
- Other determinants of Food Security show that there exists food insecurity in Tea Plantations

Research Questions:

- What is the present socio-economic status of the Tea Plantation workers in the selected gardens?
- What is the role of the public distribution system in India in mitigating food security?
- How has the PDS evolved in the tea gardens?
- Is Poverty and Food Security related?
- Are the people in Tea Gardens suffering from undernourishment?
- What are the other determinants of Food Security?

We use household-level data to test the hypothesis. We also determined the other factors that might affect food security. We find evidence that food security and poverty are indeed related. Results also show high incidence of undernutrition among the Tea plantations, which is a core indicator of food security. Our analysis suggests among the various determinants of food security, the most important are household size and education.