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# A Study of Economic Impact of COVID-19 Pandemic on the Tea Growers of Assam

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## ABSTRACT

*The tea industry of Assam is 172 years old and it contributes significantly to the economy of Assam in terms of production, revenue, employment etc. The tea industry in Assam provides average daily employment to more than 6.86 lakh persons in the State (Economic Survey of Assam, 2018). Assam alone produces more than half of India's tea production. Due to outbreak of the pandemic, the tea gardens of Assam have been closed down since 24th March 2020. Due to the continuation of lockdown during the peak season, the stakeholders of the tea industry of Assam will face huge hardships in terms of production, revenue and employment. Even tea garden labour force would face the same music. The NETA figured out that estimated loss of total crop yield will be about 80 million Kg. and estimated total revenue loss worth of Rs. 1,218 cores for the state.*

*In this paper an attempt has been made to study the impact of COVID-19 lockdown on the financial health of tea industry of Assam. The research is descriptive in nature. Three variables i.e., production, revenue and employment are considered for the study. Data source is secondary which are collected from Annual Reports of Tea Board, Economic Survey of Assam, reports of NETA, WHO, Tea Market Research Report and related research articles, newspaper articles and websites. Data are analysed with the help of tables, diagrams, correlation and regression analysis. The study highlights about economic loss suffered by the stakeholders due to decline in production, revenue and employment of the industry. It also highlights the measures taken by the Tea Board and the Ministry of Industry and Commerce for revival and minimisation of financial impact (Covid impact) among tea growers of state.*

**Keywords:** Tea Industry of Assam, COVID-19, pandemic, economic impact etc.

## Introduction

In India the tea industry was set up by the British Rulers in the nineteenth century which now occupies a significant position in the economy (Gogoi, U.). Tea is one of the industries which is controlled by *Tea Board* and the board is created by an act of Parliament. Tea is cultivated in 15 states in India

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comprising Assam, West Bengal, Tamil Nadu, Kerala, Tripura, Himachal Pradesh, Uttarakhand, Bihar, Karnataka, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Sikkim. Tea produces of Assam, Darjeeling, Nilgiri and Kangra are world famous for their finest quality, delicate flavour, strength and brightness (Tea Board). Indian tea is primarily sold through Tea Auction Centres including Darjeeling tea, Assam tea, Nilgiri tea, Kangra tea, Munnar tea, Dooars-Terai tea, Masala tea and Sikkim tea. The Tea Board of India has allowed license to some of the producing states to market and sell their products under their own brand like Assam Orthodox, Assam CTC, Nilgiri Orthodox, Sikkim Tea Organic, Munnar Green Tea, Dooars-Terai Tea, Kangra Tea and Tripura Tea. Moreover, the small tea growers of Assam also produce and sell small amount of tea varieties like green tea, oolong tea, orthodox black tea, dhaki-made tea, white tea, golden tea etc.

### **Status of Assam in Indian Tea Industry**

Assam is one of the major tea producing state of the country. According to the 64th Annual Report (2017-18) of Tea Board, India ranked second position in the world tea production by producing 1,322 million kgs of tea where share of Assam is 676.31 which account for 51.16 per cent of total tea production of India. During 2018-19, India produced 1350.04 million kgs of tea out of which Assam contributed 701.35 million kgs of tea which accounts for 51.95 per cent of total tea production of the country. Here the contributions of big tea growers of Assam are 389.80 million kgs, which accounts for 55.57 per cent and small tea growers of Assam produced 311.55 million kgs, which accounts for 44.42 per cent of the total tea production of the state (Tea Board Statistical Report). The Tea Board figured that Assam has the highest number of tea gardens i.e, 1,01,850 which accounts for 48.08 per cent out of total 2,11,794 tea gardens in the country. Here, the number of big tea gardens of the state are 765 which is being cultivated in 2,32,399.35 hectares of land and the number of small tea gardens in the state are 1,01,085 cultivated in 1,05,291 hectares of land. The tea cultivated land area of the state is also highest i.e. 53.04 per cent of total tea cultivated land area of the country.

The tea industry in Assam provides average daily employment to more than 6.86 lakh persons in the State, which is more than 50 per cent of the total average daily number of labour employed (on an average 11.1 lakh labour employed per day) in the country as a whole under tea industry (Economic Survey of Assam, 2018). The tea industry employs 1.2 million permanent workers making the industry largest employer in formal private sector (Saha, D., Bhue, C. & Singha, R.). It provides livelihood to tea estate owners, professionals, tea garden workers, owners of small tea gardens and home based micro-mini factories, tea agents, tea shop owners, sellers of equipment, chemicals, pesticides etc., employees of research institutions and other related institutions. Tea gardens provide employment both on permanent and temporary basis. Permanent workers are mainly engaged in clerical, factory and garden assistants, supervisory work etc. While temporary workers are engaged in plucking, helper, cleaner etc. Moreover, a good number unemployed youths of the state are engaged in the small scale tea farming for their livelihood and gradually it becomes a promising home based industry as well as a source of livelihood in the rural economy of Assam. The 64th annual report (2017-18) of the Tea Board figured out that there are 87, 675 of registered small tea growers in the state which is highest among all tea growing states of the country and they contributed 44.42 per cent of total tea production of the state.

fourth in world tea export because around 80 per cent of such production of the country goes for domestic consumption (Tea Board). During 2018-19, the figure is 80.74 and in 2017-18 it was 80.63 (compiled from Tea Board statistical report). The total export of the country for the year 2018 is 2,56,060 thousand Kgs, which valued Rs. 53,353,260 (thousand). The exported tea varieties are bulk tea, instant tea, packet tea and tea bags (Tea Board Statistical Report). The exports are generally made to European countries, Middle East countries, USA, UK, Sri Lanka, Pakistan, Bangladesh, Taiwan, Malaysia, China, Japan etc. The average annual world auction price for Indian tea is US\$ 2.03/Kg. Assam has sizable contribution of the total tea export of the country. The Auction Data 2018-19 of Tea Board figured that the Guwahati Tea Auction Centre sold total 1,53,470 thousand Kg. tea at annual average price of Rs.148.07/kg. The total Assam Tea sold through Tea Auction centres during the year 2018-19 was 2,89,311 thousand Kg. at an annual average price of Rs.158.87/Kg. generating revenue of Rs. 4,59,62,838.57 thousand for the state.

### **COVID-19 Pandemic and Tea Growers of Assam**

The COVID-19 pandemic has spread over 213 countries and globally the number of reported confirmed cases is 3,090,445 and confirmed deaths are 21,7,769 (as on April 30, 2020, WHO). Due to outbreak of the pandemic, nationwide lockdown was called by the Government of India from midnight of 24th March, 2020 and since then the operation of tea gardens of Assam have been completely suspended. Due to the continuation of lockdown during the peak season, the stakeholders of the tea industry of Assam face huge hardships in terms of production, revenue and employment in days ahead. The Tea Association of India reported that the country will loss estimated 110 million kg. tea due to on-going lockdown. The lockdown will cause an estimated loss around 150 million kg. of tea and revenue loss of 12 per cent for the state of Assam and West Bengal (The Assam Tribune dated 1st April, 2020). The North Eastern Tea Association (NETA) figured out that estimated loss of total crop yield will be about 80 million Kg. and estimated total revenue loss will be about Rs. 1,218 crores for the state. The Ministry of Industry and Commerce, Assam reported that the state has incurred a loss nearly Rs.600 crore due to decline in production estimated at 32 million kg. during the lockdown. The employment of workers and employees also become uncertain due to non-operation of the tea gardens.

### **Objectives of the Study**

The study of Covid impact on tea growers of Assam has been made with the following Objectives;

- 1.4.1 To examine of the impact of COVID-19 pandemic on the production, revenue and employment of tea growers of Assam.
- 1.4.2 To figure out the role of government and Tea Board to minimise the economic loss of the tea growers of Assam.

### **Research Methodology**

The present research study is descriptive in nature. Three variables i.e., production, revenue and employment are considered for the study. The population of study is tea growers of Assam including both big growers and small growers. Data source is secondary which is collected from Annual Reports of Tea Board, Economic Survey of Assam, reports of NETA, WHO, Tea Market Research Report and related research articles, newspaper reports and websites. Data are analysed with the help of tables, diagrams, correlation analysis, ANOVA, regression analysis by using SPSS.

## Results and Discussions of the Study

The results and discussions of the study are made under the headings like (i) impact of the pandemic on tea production, (ii) impact of the pandemic on tea revenue, (iii) impact of the pandemic on employment and, (iv) role of the government and institutions for the tea sector of Assam in view of Covid 19 pandemic.

### Impact of the pandemic on tea production of Tea Growers of the study area

Due to break out of the pandemic the nationwide lockdown has been implemented in phases by the Government of India. The on-going lockdown temporarily suspended all economic activities of the country except some selected emergency service sectors. The tea industry sector of the country also completely suspended their operations since 24th March, 2020. Although the State Government allowed for commencement of operations of tea gardens of Assam with only 50 per cent of workforce from 15th April, 2020, it also led to crop loss due to insufficient workforce. During these lock downs, the tea garden owners faced huge losses of their crop productions because the first flush season begins during this period and even such loss will continue till May 2020. Because there is a necessity for skiffing<sup>1</sup> of overgrown tea leaves to maintain proper plucking of tea. It also leads to loss in manufacturing of made tea of the state and the country as a whole.

To figure out the probable loss of green tea leaves production in Assam due to the lockdown, the researchers have estimated productions for the month of March and April for the current year (2020) by considering last ten year's productions of respective months with the help of correlation analysis. The table-1, table-2, table-3 and table-4 are related to the estimated production of Assam for the month of March, 2020.

The table 1 (correlation) shows that value of Person Correlation is .670 which indicates high positive correlation between the dependent and independent variables. The P value is .034 which is less than .05 implying that correlation is significant at .05 level of significance.

**Table 1: Correlations**

		Year	Production of March
Year	Pearson Correlation	1	.670 <sup>a</sup>
	Sig. (2-tailed)		.034
	N	10	10
Production of March	Pearson Correlation	.670 <sup>a</sup>	1
	Sig. (2-tailed)	.034	
	N	10	10

Source: SPSS outcome (calculated by using last ten years statistical data of Tea Board)

**Table 2: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.670 <sup>a</sup>	.449	.380	7.31851

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The table-5, table-6, table-7 and table-8 are related to the estimated production of Assam for the month of April, 2020. The correlation table 5 revealed the value of Pearson correlation is .647, implying that the dependent and independent variables are highly correlated with each other. The correlation coefficient is significant as P value (.043) which is less than .05.

**Table 5: Correlations**

		Year	Production of April
Year	Pearson Correlation	1	.647 <sup>a</sup>
	Sig. (2-tailed)		.043
	N	10	10
Production of April	Pearson Correlation	.647 <sup>a</sup>	1
	Sig. (2-tailed)	.043	
	N	10	10

\*. Correlation is significant at the 0.05 level (2-tailed).

Source: SPSS outcome (calculated by using last ten years statistical data of Tea Board)

The model summary table 6 reveals that the R square value is .419 implying that the independent variable (i.e. year) is 41.9 per cent and is responsible for any variance in dependent variable (i.e. production of April). The ANOVA test (table 7) highlights that the regression is significant as P value is .043.

**Table 6: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.647 <sup>a</sup>	.419	.346	5.62062

a. Predictors: (Constant), year

Source: SPSS outcome (calculated by using last ten years statistical data of Tea Board)

**Table 8: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-2955.266	1246.595		-2.371	.045
year	1.485	.619	.647	2.400	.043

From the values of co-efficient table (table 8), the estimated production for the month of April 2020 is calculated by using the appropriate equation-

Here, dependent variable (y) = estimated production of April

Independent/predictor variable (x) = year (i.e. 2020)

Constant (m) = 1.485

And, beta value (b) = -2955.266

Therefore, the equation is  $y = mx + b$

$Y = 1.485 \times 2020 + (-2955.266)$

= 44.43 (approx.)

Thus, the estimated production for April, 2020 in Assam is approximately 44.43 million kg. which is lost by the tea growers of the state. The total estimated crop production loss for the tea growers of Assam during the month of March and April, 2020 is nearly 77.23 million kg. This led to a huge reduction in the annual production of the State and it also significantly influenced on annual production of the country because Assam is the major tea producer of the country.

#### **Impact of the Pandemic on Revenue of Tea Growers**

The tea growers of Assam and the state government earn sizable revenue from the tea industry of Assam. But the huge production loss and closure of tea Auction Centres in the state during the lock down periods has led to huge revenue loss for the stakeholders of tea industry of Assam. The table-9 shows estimated revenue loss of the tea industry of Assam due to close down of their operations for continued lock downs in the beginning of the season. The estimated production loss of Assam tea industry for the year is 77.23 million kg.

As per Tea Board figure all India average tea auction price of Assam Tea for previous year is Rs. 158.87 kg. Hence estimated revenue loss for the tea growers of Assam is approximately Rs.12269.53 thousand (Rs.158.87/kg. x 77.23 million kg.) which is a huge attack on the economy of Assam as it hampers the state GDP.

**Table-9: Estimated Revenue Loss for Tea Growers of Assam**

Sl. No.	Estimated Production Loss(million kg)	All India Average Auction Price of Assam Tea(2018-19) (Rs./kg.)	Estimated Revenue Loss (thousand Rs.)
1.	77.23	158.87	12,269.53 (approx.)

Source: Calculated by authors

#### **Impact of the Pandemic on Employment of Tea Industry**

A sizable population of Assam is directly or indirectly dependent on tea industry of the state. Being a labour intensive sector, there are more than 6.86 lakhs daily wage earners engaged in the tea industry

(Economic Survey of Assam, 2017-18). It provides direct employment approximately to four lakhs people and indirectly to approximately 20 lakhs people (The Assam Tribune dated May 7, 2020). The outbreak of covid-19 pandemic brought economic crisis to all these people as they are unable to generate earnings due to the suspension of activity during the season. With permission of State Government 50 per cent of the workforce get back to employment. The State Labour Welfare Minister has ordered all employers and management to pay wages on due dates and also the rations to labourers without any deduction. Recently the State Government has ensured the payment of full wages to all workers and employees of Assam Tea Corporation Limited (ATCL) for the lockdown period. The tea labourers having PMUDY have been credited in their accounts of Rs.500 and those who do not have ration card or bank account have been given Rs.1000 each. Although such financial relief packages are provided by the government, but their employment security is still uncertain. The owners of small tea gardens of Assam have been already suffering from financial crisis and liasoning with the State Government over the years for financial packages and other benefits. And now the Covid 19 has further aggravated economic crisis to them.

### **Government and Institutional role for the Tea Industry of Assam**

The measures and strategies adopted by the Central/State Government and Tea Board to minimise the economic losses of the tea industry of the study area are;

- a) The state government allowed tea gardens to resume the operations from 15th April, 2020 with 50 per cent workforce with various health safety conditions.
- b) A Standard Operating Procedure guideline for Tea Sector COVID-19 is issued by the Tea Board for implementation of various preventive measures by the tea gardens during their work time. Some of them are
  - All Estates (big and small growers) have to adhere to the guidelines issued from time to time regarding the preventive measures for COVID-19 outbreak by the Central/ the State Government. The garden management should ensure the screening of health parameters of their workers and staff deployed in the field operations, and provide basic protection care such as handgloves, notified face masks, protective uniforms, sanitizers, water facility (in fields, crèches) for hand wash with soaps etc.
  - Only minimum number of workers have to be deployed (as prescribed by the State Government/ District administration from time to time) in production activity and due consent from each worker/staff shall have to be obtained. Details of workers, such as name, age, medical history of their family members have to be maintained in a separate register. Proper social distancing norms have to be adopted during the field operations and other duty hours within the estate and factory premises as directed by the respective State health department/ District Administration.
  - The migrant workers must be properly screened before they are deployed for the field operations. Their details such as travel history, previous nature of work, general health conditions etc., shall also be recorded, maintained and shared with the respective District administration.
  - Depending upon the pruning cycle, the un-pruned sections may be skiffed so that the over grown tea leaves are discarded to get the new shoots.

- Minimum handling of green leaves and proper hygiene shall be ensured while plucking and handling of green tea leaves. The agriculture equipment used in the garden operation shall properly be sanitized before and after use.
- The management may organize health awareness camps in the gardens to disseminate various regulations issued by the State Government/the Central Government regarding prevention of COVID-19 out break among the workers.
- The management should furnish the list of vehicles and workers with necessary information such as registration number, name and designation of worker, etc., to obtain vehicle pass and exemption permits from the respective District Administration.
- c) The Tea Board conducts random checking of auction teas to check the compliance of Food Safety and Standards of India (FSSAI) so that sellers able to realise better remunerative price to minimise their loss occurred during lockdowns.
- d) The Consultative Committee of Plantation Associations (CCPA), the largest apex body of Tea Association of India (TAI) has cited to the Government of India about the crisis situation of tea industry due to the lockdowns and asked liberal financial support from Central Government during this situation.
- e) The Kamrup (metro) District Authorities permitted the Guwahati Tea Auction Centre (GTAC) to restart and conduct e-auctions in a limited manner from 20th April, 2020.
- f) In order to help sellers during the lockdown GTAC has decided to reduce "waiting time for sellers" to 17 days instead of 19-21 days. Now, the producers need not to wait for usual 19-21 days to sell their crops and it will reduce their cost of warehousing.

## Conclusion

Tea industry of Assam has a great influence in the economy of our country as it occupies highest position in terms of production, quality, demand, area of cultivation, export and employment among all tea producing states of the country. Assam tea has a good demand in international market for its quality, liker and good aroma. A sizable amount of local population and also from outside the state people are directly or indirectly earning livelihood from the tea industry of Assam. But due to outbreak of the pandemic the economy of the tea industry like all others is badly affected. The covid-19 pandemic is considered as threat for the whole tea industry since nationwide lockdowns, during beginning of peak season of tea industry, cause decline in production, consumption, export, revenue and employment rate. As it is a primary source of livelihood of many rural people, it also declined per capita income and finally GDP of the state. The state Government, Central Government, Tea Board, GTAC etc. have adopted some measures minimise the negative impact of the pandemic by issuing health safety norms, societal norms, financial relief packages, tea garden operation procedures etc. The collective effort of government and the society as a whole will certainly help to overcome the economic losses in the days ahead.

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### Appendices

**Table A.1: Actual Production of Assam Tea for the month of March and April (2010 to 2019)**

Years	Production of March (Million kg.)	Production of April (Million Kg.)
2010	14.79	38.17
2011	23.67	37.02
2012	11.74	30.13
2013	9.38	42.46
2014	15.53	27.17
2015	11.87	35.14
2016	31.29	32.38
2017	21.09	44.24
2018	33.35	48.31
2019	32.91	44.92

Source: Compiled from Tea Board Statistical data