

## **Study the effectiveness of government income support schemes in mitigating the impact of COVID-19 pandemic on the rural people of the Cooch Behar district of West Bengal**

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DOI: <https://doi.org/10.33545/26180723.2025.v8.i1a.1504>

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### **Abstract**

COVID-19 is the disease caused by the SARS-CoV-2 virus. It emerged in late 2019 and rapidly spread worldwide, causing a global pandemic. On March 24, 2020, the Indian Government declared a state of lockdown throughout the country which led to the stagnation of the Indian economy to a large extent as well as the world economy. There was a total of 45,035,393 active cases and 533,570 casualties nationwide due to the pandemic. Till August 2024 in West Bengal, there were 20, 27, 901 active cases and 21,218 deaths. It disrupted the education, medical, agricultural, and economic sectors worldwide. This study was performed in the District of Cooch Behar in West Bengal and a total of 120 rural people were selected for the study covering 38 villages from 8 different administrative blocks by adopting Convenience Sampling. This study used the Likert scale for survey data. From this study, it has been found that Government income security schemes like the Krishak Bandhu scheme (Likert scale score 3.91) and PM-Kisan scheme (Likert scale score 4.375) functioned well during COVID-19, which helped soothe the impact of COVID-19 a little for the rural people.

**Keywords:** Krishak Bandhu, PM-Kisan, COVID-19, pandemic, convenience sampling, likert scale, income security schemes.

### **1. Introduction**

COVID-19, a nosogenic disease caused by the SARS-CoV-2 virus, emerged in late 2019 and rapidly spread worldwide, triggering a global pandemic. This unusual health crisis has had far-reaching impacts on societies, economies, and healthcare systems. COVID-19 signs can vary widely from person to person, and some people may experience no symptoms at all. However, common symptoms include Fever or chills, Cough, Shortness of breath, Fatigue, Muscle or body aches, Headache, and Loss of taste or smell. Some serious symptoms are breathing difficulties or shortness of breath, Chest pain or pressure, Confusion, Inability to wake up, and blue lips or face.

According to WHO estimates for 2024, there were 775,830,200 cases of this disease globally. There was a total of 53,883 new cases (WHO, 2024) <sup>[21]</sup> reported last week worldwide of those, 7,056,108 people died globally as a result of the pandemic, accounting for 0.91% of the total. Additionally, 789 more fatalities worldwide (WHO, 2024) <sup>[21]</sup> were reported last week. When it came to the highest number of COVID-19-positive patients, the United States of America came in the first. As of right now, the official count of infected people in the United States is 103, 436, 829, representing 13.33% of all infected individuals globally. China comes in second place on this compilation with

99,371,732 cases overall. (12.8% of all sick individuals globally).

The nation with the third-highest number of instances of infection is India. With 45,041,435 confirmed cases as of now, India accounts for 5.8% of the world's total number of infected persons. There were 533,623 deaths accounted for (WHO, 2024) <sup>[21]</sup>, which is 0.68% of the total infected people in India. In West Bengal, the total number of cases as of now is 2,027,901 (PRS India, 2024) <sup>[20]</sup>, which is the nation's 4.50% of the disease in the entire country. There were 21218 deaths accounted for (PRS India, 2024) <sup>[20]</sup>, which is 1.04% of the total infected people in West Bengal. It is evident that the fatality rate for West Bengal was a little higher than the overall fatality rate of India. Currently, West Bengal has a total of 5885 active cases.

India's economy is primarily based on agriculture, as it is an agrarian nation. Both the farmers' life and their income have suffered as a result of COVID-19 pandemic. In the rural areas of India poverty, starvation, debt, and farm bankruptcy are still widespread issues. There are 100-150 million farmers in India who have approximately 263 million employees, of whom 45% work as cultivators and 55% are employed as laborers in agriculture. Supply chain disruptions, Labour shortages, market volatility, and Increased input costs were the major impacts of COVID-19

in the agricultural sector. Before the pandemic, the GDP growth rate for the agricultural sector was about 4.3% but during the pandemic, India has experienced a decline in GDP of about 3.6%, but it was positive.

The COVID-19 pandemic has had a significant impact on rural people in India, affecting their livelihoods, healthcare, and food security. The rural unemployment rate in India increased from 6.24% in November 2019 to 9.15% in December 2020 due to COVID-19. This was largely due to the lockdown restrictions, which caused many businesses to close or reduce their workforce. Farmers faced significant losses due to transport restrictions imposed during the lockdown. These restrictions made it difficult for farmers to get their perishable goods to market, leading to spoilage and a decrease in income. In some cases, farmers reported losses of up to 50% for their crops. The COVID-19 lockdown led to a mass exodus of migrant workers from cities back to their rural homes. Over 10 million migrant workers returned to rural areas, placing a strain on local resources and infrastructure.

**2. Materials and Methods**

**2.1 Selection of the Study Area**

This study was performed in the District of Cooch Behar of West Bengal to get to know about the impacts of the COVID-19 pandemic on rural people. Rural people were chosen for the study covering 38 villages from 8 administrative blocks of the district. Cooch Behar-I, Cooch Behar-II, Dinhata-I, Mathabhanga-II, Mekhliganj, Sitalkuchi, Tufanganj-I, Tufanganj-II are the eight administrative blocks. The villages are Rajarhat, Madhupur, Sukdhaner Kuthi, Giriar Kuthi, Falimari, Chilakhana, Gachtala, Jambari, Dudher Kuthi Dewan Bosh, Kachamari, Paschim Haribhanga, Rashidanga, Guriahati, Silkhuri bas, Chilkirhat, Ghargharia, Jamaladaha, Chamta, Ruier kuthi, Ghughumari, Ekmukha, Hardeb Chedarjhar, Kasaldanga, Sonakhuli, Andaranfulbari, Bhogdabari Keshribari, Maynaguri Digalhati, Dewanhat moyamari, Petlanepra, Ghogerkuthi-2, G. Atiabari, Fulbari, Krishnapur, Pundibari, Dwarikamari, Digalhati Moinaguri, Jaigir Chilakhana, and Kamat fulbari. The study was conducted during the year 2023-24.



**Fig 1:** Map of West Bengal with District Demarcation

### 2.2 Description of the Study Area

The District Cooch Behar is located between 25°57'47" & 26°36'20" North Latitude; between 88°47'44" & 89°54'35" East Longitude in the State of West Bengal. The district area is 3387 square kilometres, which contributes 3.82% of the land mass of the State of West Bengal. The total population of the district is 28, 19, 086 (Census, 2011), while there are 6, 65, 720 households in the district. A total of 1,451,544

(51.5%) males and 1, 367, 544 (48.5%) females live in the district. A total of 25, 29, 652 people live in rural areas, which is 89.7% of the district's population. Among that rural population 13, 04, 916 males and 12, 24, 736 females. The literacy rate of the district is 65.64%. (Data source: [coochbehar.gov.in](http://coochbehar.gov.in)). This study was mainly focussed on the Krishak Bandhu scheme and the PM Kisan scheme.

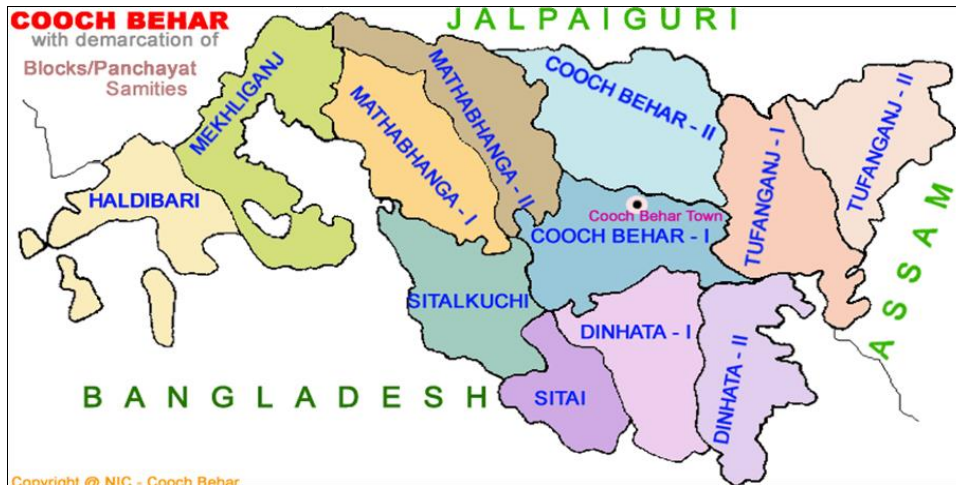


Fig 2: Map of Cooch Behar District with Block Demarcation

### 2.3 Statistical tools and techniques used in this study

To get the required data for this study Convenience Sampling method has been used. By using this sampling method 120 sampling units i.e. rural households (sample size) were surveyed. In this investigation, at first, we visited Satmile Satish Club "O" Pathagar, a very famous NGO in West Bengal located in the village Sat mile of Cooch Behar-I Block. The Secretary of this NGO provided a list of sixty FPCs functioning in the District of Cooch Behar which are registered under the Central Registration Centre, Ministry of Corporate Affairs, and Government of India. Then we contacted the CEOs of these FPCs personally as well as by telephonic interview to get the desired sample of our study. A detailed questionnaire was developed in consultation with experts and with the help of the literature. The questionnaire included various aspects of the socio-demographic profile of the subject and details concerned with the impact of

COVID-19 (Personal Interview Schedule). The farmers were classified into four groups based on land holdings and wage earnings. Those categories are tenant, marginal farmer, small farmer, and medium farmer. There was no large farmer in our collected sample. Marginal farmers are those who have land holdings of up to 1 hectare (< 7.5 Bigha). Small farmers are those who possess land holdings of between one to two hectares (7.5 to 15 Bigha). Medium farmers are those who possess land holdings of between 2 to 10 hectares (15 to 75 Bigha), (Source: Press Information Bureau, Govt. of India). Tenants are a type of marginal farmers, who also do farming in leased land for livelihoods. A Likert scale was used to determine the effectiveness of government income support schemes. Cronbach's Alpha test was performed to know the reliability statistics of the Likert scale.

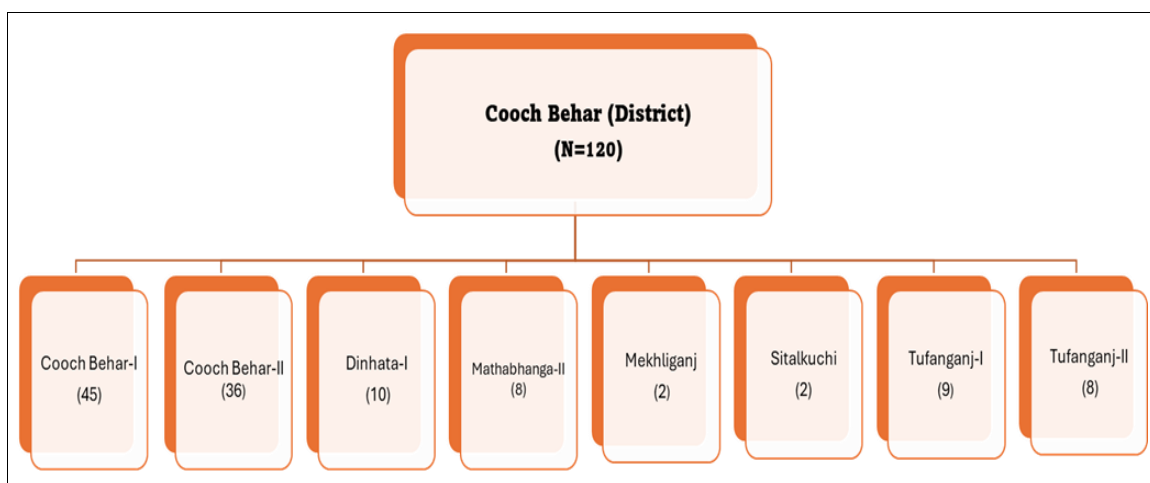


Fig 3: Sampling Frame

### 3. Results and Discussion

The primary data of 120 rural respondents was gathered and divided into three age-based groups. Young (less than 30 years old), middle-aged (31–56 years old), and old (more than 56 years old) (Rajasri, S. 2022) [15]. The data depicts the distribution of the respondents according to their age. The results show that most of the respondents (70%) are under the age group of 31-50 years followed by the <30 years age group (22%) and the >56 years age group (8%), respectively. This distribution has a mean value of 40 years with a range of 19 to 69 years. In this study income support schemes, namely the Krishak Bandhu scheme and the PM-Kisan are studied based on collected data from the respondents.

#### 3.1 Study the effectiveness of the Government Income support schemes by Likert score

Table 1 presents a simplified Likert scale with two response options: Yes and No. Yes, is assigned a score of 1, and No is assigned a score of 0. It categorizes responses into three levels. ‘Not at all’ for a Likert score between 0 and 1.6, ‘Moderately’ for a Likert score between 1.7 and 3.3, and ‘Extremely’ for a Likert score between 3.4 and 5.

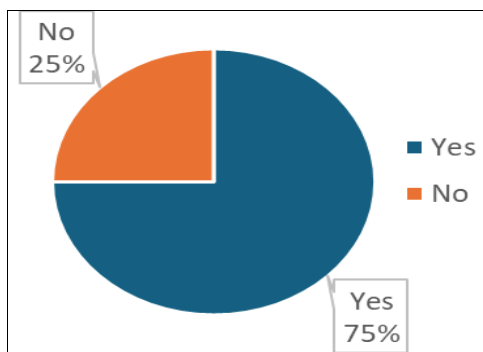
A series of closed-ended questions related to income support schemes were asked. These questions are designed to gather information about membership, Benefit Receipt, Benefit Receipt during COVID-19, Benefit Sufficiency, and Timeliness of Benefits.

**Table 1:** Likert scale for income support schemes

Response	Yes	No
Score	1	0

#### 3.2 Effectiveness of the Krishak Bandhu Scheme

The Krishak Bandhu scheme is an income support cum social security scheme of the government of West Bengal. Farmers receive financial assistance in two equal instalments during the Kharif and Rabi seasons. In case of a farmer's untimely death (between 18 and 60 years), the family receives a one-time lump sum grant of ₹ 2 lakh. All farmers with cultivable land holding a valid Record of Rights (RoR) are eligible.



**Fig 4:** Diagrammatic representation of the Krishak Bandhu scheme status

**Table 2:** Krishak Bandhu scheme status

Krishak Bandhu Scheme	Frequency	Percentage (%)
Yes	90	75
No	30	25

According to Figure 4 and Table 2, 74% of the respondents have the Krishak Bandhu scheme, while only 26% of respondents did not.

**Table 3:** Likert Score for the effectiveness of the Krishak Bandhu Scheme during the pandemic

Score	Not at all (0-1.6)	Moderately (1.7-3.3)	Extremely (3.4-5)
Respondents	2	18	70
Percentage (%)	2	20	78

Table 3 shows that the largest proportion of respondents (78%) falls into the "Extremely" category, indicating the high effectiveness of the Krishak Bandhu scheme during the pandemic. The remaining respondents are distributed between the "Moderately" (20%) and "Not at all" (2%) categories. The overall mean score for the Likert scale is 3.91, which implies that the Krishak Bandhu scheme was extremely effective during the pandemic.

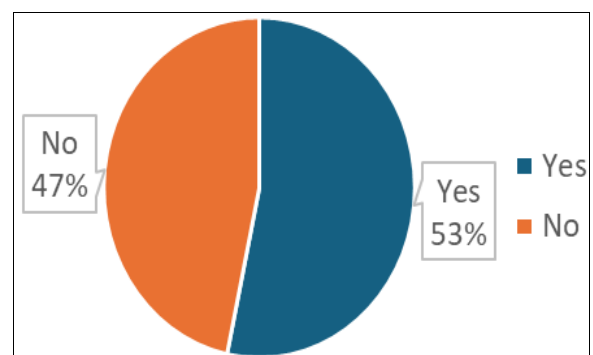
**Table 4:** Relatability statistics of the Krishak Bandhu scheme scale

Cronbach's Alpha	N of Items
0.833	5

Table 4 shows the relatability statistics of the Krishak Bandhu scheme scale. Cronbach's Alpha value of 0.833 (more than 0.7) indicates a very high level of internal consistency reliability for the Krishak Bandhu scheme scale. The reliability statistics for the Krishak Bandhu scheme are excellent, indicating that the scale is a robust and reliable measure.

#### 3.3 Effectiveness of the PM-Kisan Scheme

The PM-Kisan scheme is an income support cum social security scheme of the central government of India. Farmers receive financial assistance of 6000 rupees per year in three equal instalments. This money is directly transferred to the farmers' bank account.



**Fig 5:** Diagrammatic representation of PM-Kisan scheme status

**Table 5:** PM-Kisan scheme status

PM-Kisan Scheme	Frequency	Percentage (%)
Yes	64	53
No	56	47

According to Figure 5 and Table 5, 53% of the respondents have the PM-Kisan scheme, while only 47% of respondents did not.

**Table 6:** Likert Score for the effectiveness of the PM-Kisan Scheme during the pandemic

Score	Not at all (0-1.6)	Moderately (1.7-3.3)	Extremely (3.4-5)
Respondents	0	8	56
Percentage (%)	0	12.5	87.5

Table 6 shows that the largest proportion of respondents (87.5%) falls into the "Extremely" category, indicating the very high effectiveness of the PM-Kisan scheme during the pandemic. The remaining respondents fall into the "Moderately" (20%) category. The overall mean score for the Likert scale is 4.375, which implies that the PM-Kisan scheme was extremely effective during the pandemic.

**Table 7:** Reliability statistics of the PM-Kisan scheme scale

Cronbach's Alpha	N of Items
0.944	5

Table 7 shows the reliability statistics of the PM-Kisan scheme scale. Cronbach's Alpha value of 0.833 (more than 0.7) indicates a very high level of internal consistency reliability for the PM-Kisan scheme scale. The reliability statistics for the PM-Kisan scheme are excellent, indicating that the scale is a robust and reliable measure.

**3.4 Comparison between the effectiveness of these two income support schemes during the pandemic**

If we look at the results in the above table, we can see that the Krishak Bandhu scheme was available to more respondents than the PM-Kisan scheme. But it may seem overall that the PM-Kisan scheme was doing better than the Krishak Bandhu. For that, a Likert scale score mean was used to compare the exact effectiveness of these schemes during COVID-19. The Krishak Bandhu scheme has a Likert scale mean score of 3.91, while the PM-KISAN scheme has a Likert scale mean score of 4.375. So, we can say that the PM-KISAN scheme was more effective than the Krishak Bandhu scheme during the pandemic.

**4. Conclusion**

Based on the data collected through personal interviews, it can be concluded that while the Krishak Bandhu scheme reached a larger number of respondents, the PM-Kisan scheme demonstrated greater effectiveness in mitigating the impact of the COVID-19 pandemic on the rural people of the Cooch Behar District of West Bengal. This assessment is supported by the higher Likert scale mean score of the PM-Kisan scheme, indicating a more positive perception of its impact among beneficiaries.

Therefore, while both schemes played a crucial role in providing financial support to farmers during the pandemic, the PM-Kisan scheme appears to have been more impactful in terms of perceived effectiveness in the specific context of the Cooch Behar District of West Bengal.

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