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**Food Security - Status and Determinants - During the Covid-19  
Lockdown: Evidence from Primary Survey in Eastern India**

by Anjani Kumar, Vinay K. Sonkar, and Aditya K.S.

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# **Food Security – Status and Determinants – During the Covid-19 Lockdown: Evidence from Primary Survey in Eastern India**

Anjani Kumar<sup>\*</sup>, Vinay K Sonkar<sup>†</sup> and Aditya K S<sup>‡</sup>

## **Abstract**

Lockdowns induced by COVID-19 have threatened food security in most developing countries. Four weeks after the country went into lockdown, we carried out a telephone survey of roughly 2,600 rural households in eastern India, one of the poorest regions of the world. The aim was to provide rapid evidence on the status and determinants of food insecurity and to understand the coping strategies adopted by rural households during the pandemic. Using comprehensive telephone survey data from 2,599 households, we estimated the status of food insecurity using the Food Insecurity Experience Scale. We found that roughly 98 percent of rural households reported a negative income shock after countrywide lockdown was imposed. We further observed that about 46 percent of the sampled households were moderately food insecure and 25 percent were severely food insecure. We also observed regional differences in the extent of food insecurity. The results of the Poisson regression indicate that households that belong to lower social strata and have less land and fewer years of education are more likely to suffer from food insecurity. The results also indicate that households which are receiving government assistance are more likely to be food secure.

**Keywords: Covid-19, Food Insecurity, Government Assistance, Eastern India**

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## **INTRODUCTION**

India has imposed one of the strictest and longest lockdowns of the COVID-19 pandemic; this has affected the livelihoods of millions of people. Movement restrictions and closure of nonessential businesses have adversely affected income. In rural areas, where the economy is largely informal and cash dependent, the lockdown has also resulted in liquidity constraints (Varshney et al. 2021). There has been wide reporting of unemployment-induced income shock, increased expenditure on hygiene products and on other health-related services because of the pandemic, and increased prices of essentials due to supply-side disruptions (Narayanan and Saha 2020; Jhajhria et al. 2020; Cariappa et al. 2021; Mishra, Bruno, Zilberman 2021; Varshney et al. 2020, 2021). All the sectors, with the exception of agriculture, recorded negative growth in the first quarter of 2020. Even though the agriculture sector has performed well and there has been no shortfall in either production or availability, food security at the household level may be negatively affected by reduced incomes, temporary unavailability of food items due to supply chain issues, and increased food prices (Gundersen et al. 2020; Ahn and Norwood 2020; Ziliak 2020; Hirvonen, Brauw, Abate 2021; Unglesbee, Howland, Vembar 2020). The literature suggests that such effects could be disproportionately large for the weaker sections of society (Ziliak 2020b) and that food insecurity due to such shocks can persist for many years and can be difficult to reverse. The literature indicates, for example, that the food insecurity that began during the 2008 recession persisted for 10 years after the shock (Gundersen et al. 2020; Ziliak 2020; Maziya, Mudhara, Chitja 2017). Estimating the extent of food insecurity is important for both government and donor organizations if they are to effectively target relief measures; however, evidence on the extent of food insecurity in India during COVID-19 has been either scarce or anecdotal.

Since the World Food Summit in 1996, the concept of food security has become a central theme of human welfare. Following the United Nations Millennium Summit in 2000, eight

Millennium Development Goals were established with a target year of 2015; these were then succeeded by 17 Sustainable Development Goals (Abegaz 2017), which were put in place by the United Nations General Assembly. Food security, according to the Food and Agriculture Organization (FAO), “is when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preference for an active and healthy life” (FAO 2008). Food security consists of four broad interrelated components: physical availability of food, physical and economic access to food, effective food utilization, and stability of the other three dimensions over time.

The quantification of food security requires the integration of several causes and measurements. Various approaches have been used to measure household food security status including, most popularly, per-capita calorie intake (Mebratu 2018; Kumar et al. 2012). Food consumption recall data is commonly used to estimate daily calorie consumption, which is then compared to recommended daily consumption. Another approach, called “experiential measure of food security”, involves respondents being asked a series of questions regarding their perceptions of various aspects of their household’s food security; based on their answers, households are classified into different categories of food security (Smith, Rabbitt, Coleman-Jensen 2017). Examples of this approach include the Food Insecurity Experience Scale (FIES) and the Household Food Insecurity Access Scale (HFIAS) which was developed by USAID as part its Household Food Security Survey Module. These experiential measures aim to account for reported reductions in food consumption and to document the effects of this reduced consumption. They also record perceived insufficiencies and/or insecurities in either the quality or quantity of food consumed. The experiential food security scales are more comprehensive than calorie- or model-based estimates and have been tested in a range of country settings (Coates et al 2006; Frongillo and Nanama 2006; Pérez-Escamilla et al. 2004; Pérez-Escamilla 2012).

The states of eastern India have one of the highest densities of poverty in the world and experience extremes of hunger (Kumar et al. 2020). The COVID-19 pandemic and the subsequent economic downturn may well exacerbate food insecurity and poverty in the region. Government relief measures in the form of the Prime Minister's Garib Kalyan Yojana (Poor Welfare Scheme, or PMGKY), launched in 2016, provided several types of assistance to the poor; many reports, however, have indicated widespread distress due to income loss (Varshney et al. 2021, 2020). The distress of the poor was mirrored in photos and news reports of thousands of jobless migrant workers walking hundreds of kilometers to reach their villages, with little food and water along the way. The poor are more severely affected by the pandemic as they have fewer financial or human resources to cushion themselves against income shocks due to job loss; their misery is further compounded by additional expenditures on pandemic-related hygiene products and health services, and by rising food costs. Insufficient food can lead to malnutrition, which can cause reduced productive capacity; this in turn affects future earnings, which then can lead to a vicious circle of poverty and food insecurity (Kuriachen, Aiswarya, Aditya 2021; Gill et al. 2019). Household-level interventions to tackle food insecurities need to be an integral part of any development strategy. Estimating the extent of food insecurity and its correlates can help both donors and governments to better target interventions.

In this paper, we use the Food Insecurity Experience Scale to examine food insecurity and its correlating factors during the COVID-19 pandemic; we focus specifically on eastern India, the country's poorest region. Estimates of food insecurity in that region will have implications for India's efforts to achieve the Sustainable Development Goals. The paper makes several important contributions to the literature. First, it uses the established FIES scale to estimate the extent of food insecurity caused by COVID-19, the results of which can be of use to both policy makers and donor organizations in planning assistance programs. Second, the paper documents

the correlating factors of food insecurity, in this way highlighting the factors that make households vulnerable to food insecurities; this can also be helpful in better targeting relief measures to reach the needy.

The paper is organized as follows. The next section presents a brief discussion on data and survey methodology, followed by descriptive statistics. The subsequent section outlines a conceptual and empirical framework for determining the factors that affect the food insecurity and incomes of rural households in general; it then specifically examines the status of food insecurity in eastern India during the lockdown. The next section discusses the results from the econometric methodology, and the paper concludes with a summary and with policy implications that are suggested by the results.

## **DATA, SURVEY METHODOLOGY, AND DESCRIPTIVE STATISTICS**

### **Data and Survey Methodology**

Our study area comprises Bihar, eastern Uttar Pradesh, Jharkhand, Odisha, and West Bengal. Together, these states constitute approximately 39 percent of India's total population and are home to about 140 million poor households (Census 2011). The region accounts for 33 percent of the country's gross cropped area (India, Ministry of Agriculture and Farmers Welfare, 2019). This analysis is based on a unique telephone survey conducted in these states by the International Food Policy Research Institute (IFPRI) in April and May 2020. We also took advantage of data produced by a survey of these same states that was conducted by IFPRI in 2018/2019. The earlier survey had a sample size of 4,082 and data was collected through a stratified random sampling framework. The number of sample households in a state was proportionate to the rural population of that state, with Bihar having the highest rural population among the five surveyed states. We randomly selected ten districts from Bihar, four each from Jharkhand and Odisha, and eight each from eastern Uttar Pradesh and West Bengal. We then randomly selected two blocks from each district, two villages from each block, and 30

households from each village, based on household listings. Due to the unavailability of some household members at the time of the interview, the size of the sample was reduced to 2,599; of these, 789 households were from Bihar (30.36 percent), 563 were from eastern Uttar Pradesh (21.66 percent), 258 were from Jharkhand (9.93 percent), 382 were from Odisha (14.70 percent), and 607 were from West Bengal (23.36 percent).

The telephone survey assessed the situation of rural/farming households during the initial phases of the COVID-19 pandemic in terms of food security, farming operations, and access to inputs and to output markets; we also wanted to assess the effectiveness of assistance provided to the poor during the lockdown under the PMGKY program and other government relief packages. The survey also included questions on income/wages during the lockdown and on health and hygiene practices that had been undertaken in order to limit the spread of COVID-19. Our analysis involved combining the information from the telephone survey with the household data collected during our earlier field survey.

### **Descriptive Statistics**

Table 1 presents the descriptive statistics of key variables used in this study. The average age of the household head was about 49, the average household had about 6 members, and about 96 percent of the surveyed rural households were headed by a male. Approximately 69 percent of the sampled household heads were literate, which is close to the overall literacy rate in rural India of 67 percent (Census 2011). In our sample, about 5 percent of household heads had a college degree; about one-fourth of household heads in the overall sample belonged to the General Category caste, 44 percent belonged to Other Backward Classes (OBC), and the remaining 31 percent belonged to Scheduled Castes (SC) or Scheduled Tribes (ST).

**Table 1. Summary statistics of the socio-economic characteristics of the respondents**

Variable	Mean	Std. Dev.
Age (years)	49.46	12.54
Male-headed households	96.38	18.69



Household size (number of members)	5.81	3.04
Education of household head (percent)		
Illiterate	30.88	46.21
Primary school	31.77	46.57
High school	17.44	37.96
Intermediate	14.71	35.43
Graduation and above	5.20	22.20
Social group of the household head (percent)		
Scheduled Castes (SC)	23.79	42.59
Scheduled Tribes (ST)	7.27	25.98
Other Backward Classes (OBC)	44.42	49.70
General Category (GC)	24.52	43.03
Land category (percent)		
Landless	26.78	44.29
Marginal	54.02	49.85
Small	12.70	33.30
Medium and large	6.50	24.66
Operational land holding (hectares)	0.87	1.04
Share of income from non-farm (percent)	44.73	27.80
Beneficiary of PMGKY (Yes = 1)	70.30	45.70
Received instalment of PM Kisan scheme during lockdown (percent)	46.84	50.00
Reduced income/wages during lockdown (percent)		
Significantly reduced	73.72	44.02
Somewhat reduced	24.24	42.86
Not reduced at all	2.04	14.14
Observations		2,599

**Source:** IFPRI–ICAR telephone survey in eastern India, 2020.

**Note:** PMGKY = Prime Minister’s Garib Kalyan Yojana.

Table 1 further shows that at the time of the survey approximately 73 percent of rural households were engaged in farming, with an average operational landholding of 0.87 hectares (Ha). About 54 percent of the farmers in our sample were marginal, while just under 7 percent were medium and large farmers. Almost 45 percent of overall household income was from non-farm activities. Approximately 70 percent of the rural households in our sample were beneficiaries of the PMGKY program, while about 47 percent of eligible farmers had received an instalment under the PM Kisan scheme during lockdown. Among the rural households surveyed, 74 percent reported that their income/wages had significantly declined during lockdown and only 2 percent of households reported that they had experienced no reduction in income/wages.

## **CONCEPTUAL AND EMPIRICAL FRAMEWORK**

### **Conceptual Framework: COVID-19 Lockdown and Food Insecurity**

As highlighted earlier, food security is about more than just having enough to eat; it includes the quality of the food consumed and security with regard to its future availability. The COVID-19 virus and the lockdowns that continue to be imposed in order to break the chain of transmission are expected to worsen food insecurity through their respective pathways (Hirvonen, Brauw, Abate 2021). During the early phases of the COVID-19 lockdown, movement restrictions brought the economy to a standstill. This resulted in reductions in most people's incomes as most of India's workforce is employed in the informal sector (Nandi et al. 2021); disruptions in economic activity also caused a drop in wages. These income shocks are expected to increase food insecurity among households that lack resources to fall back on (Meinzen-Dick et al. 2011). The eastern part of India—the locale of the study is the poorest region of the country; the lockdown, and the resulting income shock, are expected to exacerbate food insecurity in the region.

Increased food prices are another pathway through which COVID-19 has accentuated food insecurity. Supply chain disruptions followed from travel restrictions, which in turn caused an increase in the price of many commodities (Nandi et al. 2021; Narayanan and Saha 2020; Cariappa et al. 2021) The link between increased food prices and food insecurity is well established in the literature (Gregory and Coleman-Jensen 2013). Food insecurity has been further accentuated by increased expenditure on the hygiene products necessary to prevent the spread of COVID-19, expenditures on other pandemic-related health costs, increased prices of essentials, and uncertainty about the future. In the subsequent sections of the paper, we report on the estimated extent of food insecurity and on the factors that increase households' vulnerability to it.

We have used the FAO’s Food Insecurity Experience Scale, which has a set of eight standard questions relating to different aspects of experiential food security (Appendix Table A1). We recoded the answers as binaries by assigning a value of 1 to “Yes” answers and 0 to no responses. Table 2 reports the food insecurity status of sample households based on responses to the eight questions. From Table 2, we can see that about 52 percent of households in eastern India were worried about not having enough food to eat, while nearly 65 percent of households reported that they were unable to eat healthy and nutritious food during the lockdown. Among the surveyed states, Odisha reported the highest percentage of households whose members were worried about not having enough food to eat (about 91 percent) and who were unable to eat healthy and nutritious food (about 93 percent), while Jharkhand reported the lowest percentage of households to express these concerns. Alarmingly, approximately 2 percent of the surveyed households in eastern India had gone without eating for a whole day, and about 7 percent of households reported that they had skipped meals during lockdown due to lack of money or resources.

**Table 2. Food insecurity: The situation in eastern India**

Food Insecurity Experiential Scale	Bihar	Eastern Uttar Pradesh	Jharkhand	Odisha	West Bengal	Total
Worried about food	39.8	37.7	34.5	90.6	62.6	51.6
Healthy	58.1	62.3	50.0	92.7	66.7	65.3
Eating few types of food	44.6	42.5	40.7	85.3	26.5	45.5
Have skipped meals	7.6	7.5	7.0	2.4	9.4	7.2
Eating less	12.4	10.1	9.7	74.1	24.7	23.6
Have run out of food	9.0	3.0	11.6	1.1	8.6	6.7
Remained hungry	3.3	2.3	1.9	2.9	9.6	4.4
Have gone whole day without eating	2.7	2.1	1.6	0.5	3.3	2.3

**Source:** IFPRI–ICAR telephone survey in eastern India, 2020.

Households were further classified as food secure, moderately food insecure, and severely food insecure based on the total number of “Yes” responses to the eight questions. A household which had not answered “Yes” to any of the eight questions was considered food secure; if the number of Yes responses ranged between one and three, it was designated moderately food insecure; households which had more than four Yes responses were categorized as severely food insecure. Table 3 presents the status of food insecurity based on the above categorizations. Strikingly, just 3 percent of rural households in Odisha were food secure, about 72 percent were severely food insecure, and the remaining 25 percent was moderately food insecure. In Jharkhand, on the other hand, approximately 42 percent of rural households were food secure and about 16 percent were severely food insecure. In eastern India overall, about 29 percent of rural households were food secure and nearly one-fourth were severely food insecure; and the remaining approximately 46 percent fell under the moderately food-insecure category (Table 3). The extent of poverty in these states, combined with the lack of resources to cushion the income shock, seems to have exacerbated food insecurity during the COVID-19 lockdown.

**Table 3. The food insecurity situation in eastern India, based on three categorizations**

Food Insecurity Experiential Scale	Bihar	Eastern Uttar Pradesh	Jharkhand	Odisha	West Bengal	Total
Food secure	291 (36.9)	173 (30.7)	109 (42.3)	13 (3.4)	162 (26.7)	748 (28.8)
Moderately food insecure	375 (47.5)	321 (57.0)	107 (41.5)	97 (25.4)	293 (48.3)	1,193 (45.9)
Severely food insecure	123 (15.6)	69 (12.3)	42 (16.3)	272 (71.2)	152 (25.0)	658 (25.3)
Total	789 (100.0)	563 (100.0)	258 (100.0)	382 (100.0)	607 (100.0)	2,599 (100.0)

**Source:** IFPRI–ICAR telephone survey in eastern India, 2020.

**Note:** Pearson Chi<sup>2</sup>: 567.3\*\*\*; numbers in parenthesis are percentages.

## Empirical Framework

### *Poisson Regression Model*

The objective of this paper is to determine what factors drive food insecurity among rural/farming households in eastern India. To that end, we have created the Food Insecurity Experience Scale (FIES) by simply totaling the number of “Yes” answers to the eight FIES binary questions. If, for example, a rural/farming household says “Yes” to four of the eight standard FIES questions, then the FIES value for that household will be 4; the FIES values can thus vary from 0 to 8. An FIES value of 0 will be assigned to a household if it answers “No” to all eight FIES questions, with the implication that it is food secure; a value of 8, on the other hand, suggests that a household is severely food insecure (Appendix Table A2).

Poisson regression modeling is well suited here since the dependent variable (that is the FIES answer score) is in count. One of most important assumptions of this model is that the dependent variable can take only non-negative integer values. The dependent variable  $y_i$  represents the incidence of food insecurity of rural/farming household  $i$ . The expectation of  $y_i$  is assumed to be  $\lambda_i$  and the count data distribution is as follows:

$$\ln(\lambda_i) = x_i\beta + \varepsilon_i,$$

where  $x_i$  is a vector of independent variables indicating the characteristics of rural/farming households;  $\beta$  is a vector of coefficients associated with  $x_i$ ;  $\varepsilon_i$  is a random variable representing heterogeneity that accounts for unobserved factors and other random disturbances. Since  $y_i$  consists of count data, the probability of  $y_i$  conditional on  $\varepsilon_i$  is given as:

$$Pr(y_i/\varepsilon_i) = \frac{\exp(-\lambda_i)\lambda_i^{y_i}}{y_i!},$$

where  $y_i!$  express “y factorial”. Substituting the appropriate functional form for  $\lambda_i$  produces expressions for the probabilities that can be used to construct the log Likelihood function for this model, referred to as the Poisson regression model (Ye et al. 2017; Cupal, Deev, Linnertova 2015).

## RESULTS AND DISCUSSION

Table 4 presents the parameter estimates of the factors affecting the food insecurity of rural households in eastern India. A Poisson fixed-effects model was used to estimate the empirical model. We employed block fixed effects to account for unobserved characteristics that influence food security at the block level. The association between food insecurity and being a beneficiary of the PMGKY program is negative and significant; this shows that rural households who were beneficiaries of PMGKY were more food secure than those who were not. (We did not look here at the impact of PMGKY on food insecurity; rather, we investigated the ways in which these beneficiary households were vulnerable to being food insecure).

**Table 4. Determinants of food insecurity using the Poisson regression model, with the dependent variable being the Food Insecurity Experience Scale count**

Variables	OLS	Poisson	Marginal effect
	Coefficient	Coefficient	$dy/dx$
Beneficiary of PMGKY (Yes = 1)	-0.182** (0.075)	-0.060* (0.034)	-0.174* (0.099)
Age (years) (log)	-0.226* (0.127)	-0.071 (0.057)	-0.207 (0.166)
Household size (number) (log)	-0.055 (0.084)	-0.018 (0.038)	-0.051 (0.111)
Education of household head (years) (log)	-0.482*** (0.111)	-0.163*** (0.051)	-0.473*** (0.147)
Operational land (hectare) (log)	-2.253*** (0.516)	-0.973*** (0.266)	-2.821*** (0.773)
Social group: Base: Scheduled Castes, Scheduled Tribes, Other Backward Classes	0.008 (0.082)	0.005 (0.037)	0.013 (0.106)
General Category	-0.400*** (0.103)	-0.150*** (0.049)	-0.436*** (0.141)
Works as a migrant (Yes = 1)	0.131* (0.078)	0.046 (0.036)	0.134 (0.103)
Has Kisan Credit Card (Yes = 1)	-0.031 (0.095)	-0.014 (0.045)	-0.041 (0.130)
Heard about DCT scheme (Yes = 1)	-0.097 (0.073)	-0.031 (0.033)	-0.091 (0.095)
Worked under MGNREGA (Yes = 1)	0.061 (0.078)	0.022 (0.035)	0.065 (0.101)
Member of a political party (Yes = 1)	-0.073 (0.103)	-0.022 (0.045)	-0.064 (0.131)
Have Pradhan Mantri Jan Dhan Yojana account (Yes = 1)	0.011 (0.069)	0.007 (0.031)	0.019 (0.089)
Share of non-farm income (log)	0.001	0.000	0.001

Constant	(0.001) 10.524*** (1.269)	(0.001) 4.104*** (0.639)	(0.002)
Block fixed effects	Yes	Yes	Yes
Observations	1,847	1,847	1,847
R-squared	0.310		

**Source: Authors' estimation**

**Note:** \*, \*\*, and \*\*\* indicate statistical significance at the  $p < 0.1$ ,  $p < 0.05$ , and  $p < 0.01$  levels; robust standard errors are in parentheses; OLS = ordinary least squares; PMGKY = Prime Minister's Garib Kalyan Yojana; DCT = direct cash transfer; MGNREGA = Mahatma Gandhi National Rural Employment Guarantee Act.

The Poisson regression estimate in Table 4 shows that among sample rural households, those who had fewer years of education were more likely to be food insecure. More years of education can be counted as a human resource which increases the likelihood of better earnings; such households thus have more money to buy food, better access to nutritious foods, and more options for coping with price shocks and food shortages during events such as COVID-19. Our result here is consistent with Mebratu (2018), Ziliak (2020), and Smith, Rabbitt, Coleman-Jensen (2017), who reported that fewer years of education within a household leads to greater food insecurity. The association between size of operational landholding and food insecurity is also negative and significant at the 1 percent level of significance. Rural households with smaller operational landholdings were more likely to be food insecure because they did not have the resources to cope with such shocks; this result is in line with Agidew and Singh (2018), who reported that farmers with landholdings of less than one hectare are more food insecure. Households in our sample who belonged to General Caste category were less likely to be food insecure than SC and ST households. Our results are consistent with Ziliak (2020), who reported that those who belong to lower social strata experience greater food insecurity.

## CONCLUSION

In this paper we examined the extent of food insecurity in eastern India during the COVID-19 lockdown. We used the Food Insecurity Experience Scale as the instrument, based on a telephone survey of 2,599 households spread across five states. The results indicate that only 28.8 percent of households are food secure, with 72.2 percent of households either moderately

or severely food insecure. The extent of food insecurity also varies across regions, with the state of Odisha recording the highest incidence of food insecurity. We found that the likelihood of a household being food insecure is higher for households with fewer resources such as land and education. Households that received government assistance were found to be less likely to be food insecure.

Based on the experience of the 2008 recession, even after the removal of a sudden economic shock or stressor, there can often be an extended period of recovery from the food insecurity it causes. The negative effects of the food insecurity are also well known to extend beyond adverse health and malnutrition. Eastern India, which is home to around 140 million poor people, is being badly affected by the COVID-19–induced lockdown. The lockdown is causing an alarming increase in the number of food insecure households and there is an urgent requirement for active intervention by the government and support from other civil organizations.



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## APPENDIX

**Table A1. Global Food Insecurity Experience Scale (FIES)**

Question No.	Question	Response
1.	Have you or others in your household worried about not having enough food to eat because of a lack of money or other resources?	Yes = 1; No = 2; Don't know = 98.
2.	Was there a time when you or others in your household were unable to eat healthy and nutritious food because of a lack of money or other resources?	Yes = 1; No = 2; Don't know = 98
3.	Was there a time when you or others in your household ate only a few kinds of foods because of a lack of money or other resources?	Yes = 1; No = 2; Don't know = 98
4.	Was there a time when you or others in your household had to skip a meal because there was not enough money or other resources to get food?	Yes = 1; No = 2; Don't know = 98
5.	Still thinking about the past 30 days, was there a time when you or others in your household ate less than you thought you should because of a lack of money or other resources?	Yes = 1; No = 2; Don't know = 98
6.	Was there a time when your household ran out of food because of a lack of money or other resources?	Yes = 1; No = 2; Don't know = 98
7.	Was there a time when you or others in your household were hungry but did not eat because there was not enough money or other resources for food?	Yes = 1; No = 2; Don't know = 98
8.	Was there a time when you or others in your household went without eating for a whole day because of a lack of money or other resources?	Yes = 1; No = 2; Don't know = 98

Source: IFPRI–ICAR telephone survey in eastern India, 2020.

**Table A2. Food insecurity situation in eastern India, using the Food Insecurity Experience Scale (FIES) count scale**

FIES count value	Bihar	Eastern Uttar Pradesh	Jharkhand	Odisha	West Bengal	Total
0	36.9	30.7	42.3	3.4	26.7	28.8
1	9.5	21.1	14.3	2.4	15.3	12.8
2	23.5	21.3	17.1	10.5	30.0	22.0
3	14.6	14.6	10.1	12.6	3.0	11.1
4	6.7	7.3	8.5	68.1	13.8	17.7
5	5.8	1.1	5.4	2.9	3.3	3.7
6	0.8	1.8	0.8	0.0	2.8	1.4
7	1.5	2.1	0.0	0.3	2.3	1.5
8	0.8	0.0	1.6	0.0	2.8	1.0

Source: IFPRI–ICAR telephone survey in eastern India, 2020.