AN ANALYSIS OF FOOD SECURITY DURING COVID 19

- **With special reference to Chennai, TamilNadu**

[1]VARSHA AMUTHAKUMAR

ABSTRACT

The covid 19 pandemic alerts the need to transform the world food system. Food security has declined in various places in India. There was also a significant income crunch for both rural and urban sectors in the year prior to the lockdown. As an extension the during the period of covid every individual fighting against hunger, food insecurity unemployment. The researcher has made an attempt to study the food security in the period of covid. The paper mainly focuses (i)To analyse the prevalence of food insecurity among respondents (ii)To analyse the socio-economic status of the respondent during the period of covid (iii) To examine the economic factors affected the respondents during the period of Covid 19. The study involves both primary and secondary data. The collected data is presented in the form of tables. Statistical tools like t test, ANOVA and Multiple Regression were used to test the Hypotheses of the study.

Key words: Food Security, Pandemic Covid, Dimensions of Food Security

1.1 INTRODUCTION

Food security is vital necessity of every individual. Social economical and physical factors give access to nutritious food that meets their food preferences and dietary needs for active and healthy life. Availability of the food, accessibility of the food, utilisation of the food, malnutrition and stability are the components of food security. Various dimensions of food. Food Security can be measure by calorie to intake per person per day, available on a household budget. The covid 19 pandemic alerts the need to transform the world food system. The components of food security are Availability of Food, Access to Food, Utilisation of Food, Stability, Malnutrition. In 1996, world summit on food security held in Rome focused to renew a global commitment to fight against Starvation. The food and Agriculture Organization of the United Nation called the summit in response to widespread under nutrition and growing concern about the capacity of agriculture to meet future needs. The economic impact of 2020 covid pandemic in India has been largely troublesome. In the fiscal year 2020 India's growth gone down to 3.1 percent. This drop was mainly due to the covid pandemic effect on the Indian Economy.

[1] *Research Scholar, Department of Economics, Stella Maris College, Affiliated to University of Madras, Chennai, TamilNadu 600086.*

1.2 STATEMENT OF THE PROBLEM

There is a need to consider rapidly how to produce, process, market, consume our food. This crisis can serve as a turning point to rebalance and transform our food systems, making them more sustainable buoyant and comprehensive. During the period of pandemic, the struggle of people to access their food is being the biggest problem due to unemployment and their daily activity is been affected to the core where they face the problem of food insecurity. The study focuses on analysing the dimensions of food security and the economic factors that affects the respondents during the period of Covid 19.

1.3 OBJECTIVES OF THE STUDY

(i)To study the prevalence of food insecurity among respondents.

(ii)To analyse the socio-economic status of the respondents.

(iii) To examine the economic factors affected the respondents during the period of Covid 19.

1.4 HYPOTHESES OF THE STUDY

Opinion regarding Statements on Economic Factors affected during the covid among respondents are not equal to Average Level.

There is no significant difference among income status with respect to the dimensions of food security.

There is no Strong influence of Independent Variable (Difficulty in meeting the expense, Reduction in Income Status, Material status, Size of Family) on Dependent Variable (Capacity to buy food to all the members in the family).

1.5 RESEARCH METHODOLOGY

Research Design: The study was based on descriptive and analytical type of methodology. The study involves both primary and secondary data

Sampling and Size of Sampling: The study was conducted using random sampling method among the individuals in and around Chennai city. The sample size was 200.

Data Collection and Analysis: Well-structured Questionnaire was used to collect the data from the sample respondents in the study area. Likert scale is used to access the opinion of the respondents. Both Descriptive and Inferential Analysis were used for analysis. Statistical tools like Multiple regression and t test were used to test the hypotheses and to fulfil the objectives.

1.6 LIMITATIONS OF THE STUDY

The study is confined to Chennai city.

The sample size is limited to 200.

2.REVIEW OF LITERATURE

R.T Gahukar (2011) studied that food security adversely affects the abiotic, biotic and socio-political situations and the current position worsen would get worsen in the future if timely and appropriate actions are not planned and executed. The pressure of human population marketing food grains and a lack of participatory approach contribute to slow down the availability of foods. This research paper summarizes several strategies for crop production and food distribution and emphasizes the need for a second Green revolution.

Anil Chandy Ittyerah (2013) found that in NSS data there has a reduction in the level of hunger at the household. The data show that the proportion of household that go hungry declined from 17.3 percent to 2.5 percent in 2004-2005. In spite of the problems of overestimation with this data as it is based on self-perception by the head of the households there has been a perceptible decline in hunger to different degrees in various states. Poverty levels are still high in the country due to the lack of economic access to food at the household level are still high in the country due to the lack of economic access to food at the household level.

Smith (2017) studied the efforts around developing a common measure has put emphasis on the food access dimension. Ongoing research has seen a shift away from defining and measuring food security based on the availability dimensions and towards access which is related to the distribution of food. Clearly, consequences of food insecurity are on the increase, both among those who are undernourished and those who are obese and overweight. Unless some of the contestation related to the concept of food insecurity is resolved, solutions will remain constrained by differences in terminology, theoretical constructs, direction of causality and disciplinary boundaries.

Hendriks (2018) examined the food insecurity changes in all experiences over time because of the lack of money or other resources. Additionally, ongoing research has revealed an integrated theoretical construct that includes the food security continuum and the managed process of food security with key cross – disciplinary concepts such as nutritional inadequacy, the triple burden of hunger, nutrient deficiencies and obesity.

3.ANALYSIS AND DATA INTERPRETATION

3.1 TABULATION OF SOCIO-ECONOMIC STATUS OF THE RESPONDENTS

VARIABLES	PARTICULARS	N0. OF. RESPONDENTS	%
Gender	Male	125	62.5
	Female	75	37.5
Age	<25	50	25
	25 -35	70	35
	35-45	50	25
	>45	30	15
Educational Status	Primary	20	10
	UG	10	5
	Professional	15	7.5
	Illiterate	155	77.5
Marital Status	Single	15	7.5
	Married	175	87.5
	Divorced	10	5
Occupation	Private Employee	30	15
	Government Employee	25	12.5
	Small Vendors	120	60
	Daily Wager	25	12.5
Income	>10000	145	72.5
	10-20000	25	12.5
	20-30000	15	7.5
	>30000	15	7.5
Size of The Family	<3	60	30
	3-4	70	35
	4-5	45	22.5
	>5	25	12.5

Source: Primary Data

(N = 200)

From the above table 4.1 represents the socio-economic status of the respondents. Out of 200 total sample surveyed majority of them were male which comprised 62.5 percent. Majority of

the respondent fall under the age group between 25-35 which made 35% to the total sample surveyed. Majority of the respondents were illiterate in the study area which comprised 77.5 percent. Majority of the respondents were married which made 87.5 percent to the total sample surveyed. Majority of the respondents were Small vendor which comprised 60 percent in the study area. Majority of the respondent's income were below 10,000 which made 72.5 percent in the study area. Majority of the respondent's family, the total number was in between 3-4 which made 35 percent to the total sample surveyed. The socio-economic status of the respondents differs according to their background, Income status and Occupation Status. It is noted that the respondents are experiencing reduction in their monthly income due to covid 19.

3.2 CLASSIFICATION OF DIMENSIONS OF FOOD SECURITY DURING COVID 19 AMONG RESPONDENTS

DIMENSIONS OF FOOD SECUIRTY	PARTICULARS					Total
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Presence of enough food for all the members in the family	30	20	5	45	100	200
Absence of barrier on access to food	30	10	2	30	128	200
Capable to buy food to all the members in the family	30	15	5	60	100	200

Source: Primary Data

The above table 4.2 depicts the dimensions of food security during the period of covid 19 among respondents. Majority of the respondents were giving a tough fight against covid 19 to buy food, to overcome the obstacle and to ensure presence of enough food to all the family members. The capability to afford for food depends on the Income status of the respondents. The income status of the respondents is drastically affected during the period of covid 19. The impact of dimensions of food security depends on the Income Status of the respondents and the size of the family. Government should take necessary steps to figure out the needy people and fulfil their daily requirements in the period of lockdown as the dimension of food security is predominantly affects the daily activity of the respondents.

3.3 TABULATION OF ECONOMICAL FACTORS AFFECTED DURING THE PERIOD OF COVID 19

ECONOMICAL FACTORS	PARTICULARS					Total
	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	
Saving has decreased	160	30	2	4	4	200
Difficulty in meeting the expenses	165	25	3	5	2	200
Reduction in the Income Status	145	45	0	5	5	200
In capable to afford for nutritional food	160	30	5	3	2	200
Facing difficulties in repayment of debt/Loan	175	20	1	2	2	200

Source: Primary Data

The above table 4.3 depicts the economic factors affected during the period of covid 19. All factors have affected most of the respondents in the study area. The responses are similar irrespective of the Income Status, it is clear that all the respondents who earn below 10000 and above 30000 were pretentious to the pandemic period.

4. TESTING OF HYPOTHESES

4.1. HYPOTHESIS 1

Null Hypothesis: Opinion regarding Statements on Economic Factors affected during the covid among respondents are equal to Average Level

4.1.1. t test for Specified Value (Average =3) of Statements on Economic Factors affected during the covid among respondents

Statement on Economic Factors	Mean	SD	t Value	P Value
Saving has decreased	4.50	.654	10.870	0.001**
Difficulty in meeting the expenses	4.18	.723	14.437	0.001**
Reduction in the Income Status	2.31	.433	47.678	0.001**
In capable to afford for nutritional food	2.33	.476	46.598	0.001**
Facing difficulties in repayment of debt/Loan	4.31	.866	9.908	0.001**

Source: Computed Data   **NOTE: ** denotes significant at 1 % Level**

Since P Value is less than 0.01, the null hypothesis is rejected at 1% level of significance with regard to all the statements on Economic Factors affected during the covid among respondents. Hence the opinion regard to all the statements on Economic Factors affected during the covid among respondents is not equal to average level. Based on mean score, opinion regard to all the statements Economic Factors affected during the covid among respondents of respondents is above average level.

4.2 HYPOTHESIS II

Null Hypothesis: There is no significant difference among income status with respect to the dimensions of food security

4.2.1 ANOVA for significant difference among income status with respect to the dimensions of food security

Impact of Health Expenditure	Income Status				F Value	P Value
	<10k	**10k -20k**	**20k -30k**	**>30k**		
Presence of enough food for all the members in the family	4.68 (.467)	2.20 (.408)	1.67 (.488)	1.23 (.434)	610.291	.001**
Absence of barrier on access to food	4.79 (.406)	2.36 (1.469)	1.32 (.432)	1.12 (.041)	369.386	.001**
Capable to buy food to all the members in the family	4.69 (.464)	3.40 (.816)	1.73 (.458)	1.01 (.003)	378.984	.001**

Source: Computed Data

NOTE: The value within bracket refers to SD

** denotes significant at 1% level

Since P Value is less than 0,01, null hypothesis is rejected at 1% level with regard dimensions of food security among respondents. Hence there is significance difference among income status of respondents with regard to the dimensions of food security

4.3 HYPOTHESIS 3

Null Hypothesis: There is no Strong influence of Independent Variable on Dependent Variable.

Table 4.3.1 The Results of the regression model between independent variables and Independent variable

Source	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	β		
(Constant)	24.12	.223		32.35	0.001**
Difficulty in meeting the expense	0.012	.221	.300	4.321	0.001**
Reduction in the Income status	0.010	.031	.187	3.56	0.001**
Marital Status	0.54	.043	.012	.265	0.001**
Size of the family	0.032	.154	.121	2.876	0.001**

Source: Computed Data
F=14.35 (p<); R^2=0.812

R^2 and adjusted R^2 of the model are greater than 0.5, in model summary, the value is 0.812 given under the column R is Multiple Correlation coefficient. These eight variables are correlated significantly. It predicts that the dependence of independent variable is more on the expenditure pattern of the respondents. Since F test is significant at 5 per cent significance level, it is understood Difficulty in meeting the expense, reduction in the income status, marital status and size of the family strongly influence the capability of an individual to buy food for his family.

The test results indicate the positive impact of independent variable on dependent variable. All the predictors are significant at ∝ =5 per cent levels, P- Value is greater than the table values, Hence model is significant at 5% , the β value of Reduction in Income status (0.010), Difficulty in meeting expenses (0.012), size of the family (0.032), Marital Status (0.54) were greater than the table value since the calculated value is greater than the table value the so null hypothesis is rejected alternative hypothesis accepted. The first factor which influences the capacity to buy food for all the members in the family is Reduction in the monthly Income. As the income decreases the expenses also decreases. The results indicated that all the independent variables have strong influence on dependent variables at 5 per cent significance.

5.1 SUGGESTIONS TO THE STUDY

Government should take initiatives regarding the dimensions of food and to locate the people who are in need and ensure that the subsidies reach the right people at the right time. In the period of lock down the daily wagers should get their provisions at free of cost. Loans can be provided to the needy people as they can generate their source of Income.

5.2 CONCLUSION OF THE STUDY

Covid 19 is a challenge for our nation. The central and state government recognized the challenge and responding aggressively to the current situation. Unemployment and reduction in the salary is big tragedy in the society. The greatest strength of Indian Food security has been in achieving self sufficiency in the production of food grains and in setting up PDS. As a conclusion food security is providing access to food to all the citizen in the nation to meet their daily requirements. The conclusion of the study is that pandemic covid 19 has put respondents in trouble irrespective of their income status. There is a drastic change in the life style of the respondents because of COVID 19.

REFERNCES:

R.T Gahukar (2011) Department of Natural Resource Sciences, McGill University, Montreal, QC, Canada, Food security and the Food Insecurity Experience Scale (FIES): ensuring progress by 2030

Anil Chandy Ittyerah (2013) Food Security in India, Indian Institute of Public Administration, New Delhi.

Bhramanad (2013) "Challenges to Food Security in India". Current Science, Draft report.

Smith M.D (2017), Who are the worlds foo insecure? New evidence from the food and agriculture organisations food insecurity experience scale, World Development Report, 93, 402-412.

Hendriks. S(2018), The food security continuum: a novel tool for understanding food insecurity as a range of experience, Food Security 7(3) 609-619