



## FAMILY FOOD BEHAVIORS AND FOOD SECURITY FACTORS

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### ABSTRACT

*The ability of a household to get sufficient food to meet the dietary requirements of every individual in the household is referred to as family food security. This indicates that food is safe in terms of quantity, quality, and safety, as well as acceptable in terms of culture and aspirations for the future. The objectives of the study are to analyse the factors that influence food security, as well as the security of food and nutrition at the household level, using a representative sample of families as the research subjects. Begusarai, which is located in the state of Bihar, was that of the participants. Questioning was conducted with the heads of households that included men and women who were above the age of 35. The population consisted of 350 families per Begusarai during the survey. The information was acquired by following the established timetables. There were measurements obtained of the individual's weight, height, waist and hip circumferences, MUAC, and demographic profile, which included education and occupation. These measurements were done using approved procedures and equipment. Five-fifths of families with lower economic status did not have the same level of security as ninety-seven percent of families with better economic status. There was protection for families that included both vegetarians and non-vegetarians (72–76%). Those who are employed enjoy varying degrees of food security: 42 percent for males and 62 percent for women. Additionally, retirement was properly secured. More over half of the women who had formal education were employed. Our findings make it abundantly evident that monitoring food security may be of assistance in determining and appreciating the essential features of population well-being, as well as in determining population subgroups or regions that are experiencing distinctive circumstances. It is vital to measure food security in order to estimate the need for intervention programmes to be implemented and monitored at the national and agency levels.*

**Keywords:** Family food security, family food behaviors

### INTRODUCTION

According to the United Nations Food and Agriculture Organisation, "food security is the condition in which people have physical, social, and economic access to enough food that is safe, nutritious, and meets their dietary needs and food preferences for an active and healthy life." By the year 2030, it is anticipated that India will have a population of 1.6 billion people, making it the second most populous country on the planet. Thus, India has challenges in guaranteeing food and nutrition security; the Food and Agriculture Organisation of the United Nations (2012) estimates that over 2 billion people do not have access to sufficient food. An estimate from 2007 said that 17,000 children suffer from famine every single day, which is equivalent to six million children every single year. Recently, there have been instances of food riots in a variety of countries throughout the world. The fast growth of India has had a negligible impact on the nutrition and food security

of the country's inhabitants.

The ability of a household to get sufficient food to meet the dietary requirements of every individual in the household is referred to as family food security. Because both domestic and national food security imply that there should be sufficient food available to fulfil the needs of all individuals in order to lead a life that is both healthy and active, the link between the two must be considered very important. In light of this, it seems that food is secure in terms of quantity, quality, safety, cultural acceptability, and future goals. It is for this reason that it is essential to develop a foundation for national food security. In the end, the most essential thing is to ensure that every single house and every single person living inside of it has access to sufficient food supplies. The degree of nutritional security that an individual possesses has a significant impact on their ability to reach their full potential, both in terms of their personal and financial life. A range of household criteria, such as income, consumption patterns, living circumstances, social graces, tastes, and preferences, all have a role in determining the degree to which individuals are able to ensure their own food security within the context of their families. In order to attain the desired degree of food security, it is necessary for every member of a family to make a contribution to the production of certain commodities that are often used.

The development of instruments to assess the level of food security or insecurity in a number of nations is now underway. However, research is now being carried out to determine whether or not it would be feasible to tweak comparable methods so that they might be used in other countries. Compared to the information that can be derived just from income statistics, the food security measure offers information that is both more accurate and objective about the several dimensions of well-being for individuals. Additionally, as part of the measures for ensuring food security, the collection of information on the many elements that influence food consumption across the food chain is taken into consideration. It is necessary for governmental and development agencies to measure food security in order to monitor and evaluate the outcomes of their activities that are implemented at the local family level. The instrument, on the other hand, has to be validated in order to be able to produce a home food security survey that is relevant to a broad variety of demographics and is necessary for food assistance programmes. The food security scale was designed not just for use in national surveys but also for local organisations who seek to measure the extent of food insecurity and hunger in their own areas. This was accomplished by using a technique that is both technically sound and tried and true. The estimates of the local prevalence of food security are equivalent to the conventional benchmark values that are used at the national and state levels.

The availability of food in the home, activities that take place inside the family (such as buying and distributing food throughout the household), and the individual's health and nutritional status are the key factors that determine a person's level of food security. The family's income and the cost of food, as well as the availability of home production (urban agriculture) and official and informal transfers, are the key elements that influence the availability of food at the household level in urban contexts.

In the present study, the objective is to assess the level of safety in residential areas located in the Begusarai district of Bihar. Based on the findings of sociological research on health and food security, it has been shown that there exists a complex relationship between socioeconomic status, nutrition, and general well-being. The link between having access to food, money, and education is brought to light in this study, which contributes to the connection between numerous research fields. The following are the objectives of the study:

## **MEASUREMENT OF FOOD SECURITY**

An effort was made to provide a list of the many tools that are used by various organisations to evaluate food security. The definitions of food security make it abundantly clear that it is evaluated on several levels, and that each level of evaluation requires a different set of criteria. This is correct when considering the manner in which data is used and understood. Accurately measured data may offer a wide range of uses and advantages for development projects on both the national and international levels. Throughout the course of the history of tool development, the concepts around food security have undergone a process of modification and standardisation.

It has been concluded that the capacity of a nation to offer food security is an essential component that has the potential to favourably influence the health and well-being of its population is a critical feature. For a considerable amount of time, the debate over food security and the influence it has on the global society has continued. There have been several efforts made to define food security from a variety of perspectives; definitions have been supplied by national and international groups that are employed in the field of health concerns. In order to have a complete understanding of the concept of "food security," it is necessary to first understand what the word really means.

## **OBJECTIVES**

1. To study the food security at Household level in selected families in Bihar.
2. To study the factors influencing the family food security

## **METHODOLOGY**

Due to the fact that it is essential to both the health and well-being of individuals as well as the development of the nation, food security, family security, and national security are the themes that are often the subject of heated debate. As a direct consequence of this, the concept of "food security" has undergone significant transformations. According to Gillespie and Haddad (2019), households that are considered to be food-secure are those that routinely have access to sufficient quantities of food to support an active and healthy lifestyle throughout the whole year.

Even though there is a significant amount of information available in the literature about food security on a variety of levels, it seems that there is a significant gap in the data. In point of fact, the most comprehensive field of nutritional research that is pertinent on a global, national, and individual level is the study of food security. The population of India is very diverse, and the country's culinary traditions span a broad spectrum of cuisines. Even though there is a substantial body of literature that has been published on food and culture, there is not much that has been written about the food security of families in the coastal parts of Karnataka. Therefore, the study was carried out with the purpose of assessing the level of food security within households and investigating the gender-based differences that exist in food security. The details of the approach that was used in this inquiry are provided under the topics that are listed below.

1. Selection of the area
2. Selection of the population
3. Description of tools used in the study

#### 4. Statistical analysis

##### **Selection of the study area**

The city of Begusarai, which was selected for the study, is located inside the district of Bihar. These are the metropolitan regions that are well-known for having educational institutions that are of the highest quality.

##### **Sampling procedures**

This method of sampling was known as cluster sampling. For the purpose of determining the key clusters, two metropolitan areas, namely Begusarai, were chosen. The north, south, east, west, and centre of each Begusarai are the five clusters that comprise the structure of each Begusarai. A total of three hundred and fifty homes comprised the population under investigation. There were seventy residences chosen from each cluster for the purpose of the investigation.

Through house-to-house encounters, families were selected for participation in the study, and only those families who were willing to completely collaborate and supply all of the required information were included. The study was conducted on a total population of seven hundred households, all of whom were from the two regions.

##### **Description of the tools**

The questionnaire was designed to collect general information on families as its primary objective. In addition to the educational backgrounds and professions of the family members, the demographic information also included their academic histories.

The food security module includes: This survey was gathered from the United States Department of Agriculture in the year 2002. It is possible for adults all around the world to utilise this paradigm. The five aspects of food security that are addressed in this uncomplicated questionnaire are as follows:

The occurrence of this triggered inquiries about the food that was accessible at home and whether or not there had been any instances of food scarcity in the preceding year.

Because of the schedule, it was much simpler to identify which communities had three various degrees of food security, one of which was a severe food insecure state.

- Food secured
- Food insecure without hunger
- Food insecure with hunger

For each question in the questionnaire, there are four possible responses: "Often true," "Sometimes true," "Never true," and "Don't know." These responses are used to determine the level of food security. Every one of these responses received a score that ranged from 0 for "Don't know" to 1 for "Often true" and 3 for "Never true." The final score was decided to be between 8 and 20, with "food security" obtaining the highest score and "food insecurity" receiving the lowest score. Because of this, the ultimate score was determined. In light

of this, the population that was the subject of the study was divided into the following groups based on the following criteria:

- Food secured (16-20)
- Food insecure without hunger (12-15) and
- Food insecure with hunger (8-11)

#### Data Management and Statistical analysis:

The individual data that were obtained were arranged into data sheets with the purpose of making information more easily accessible. The data were tabulated using Excel 2007, which was utilised. For the purpose of determining the significance of the correlation and relevance between the study variables, Chi Square was used.

#### DATA ANALYSIS

Food security may be defined as the availability of food in the quantities that are required to provide for the maintenance of health. For the purpose of knowing and identifying the population that is at risk for poor health, food security measurement is helpful. According to the data shown in Table 1, 67 and 69% of the homes were considered to be food secure, whereas 31-33% of the households were considered to be food insecure. There was a preponderance of "Insecurity without hunger" among these categories. Seventy-one to seventy-four percent of people reported feeling unpleasant when they were not hungry, whereas twenty-six to twenty-nine percent.

**Table 1: Family food security**

Family food security					
	N	Food secured	Food insecure% (No.)	Food insecure	
		% (No.)		With hunger	Without hunger
	700	68.0 (470)	32.0 (230)	28.0 (64)	72.0 (166)

Table 2 illustrates the myriad of factors that have an effect on the availability of food. When it comes to socioeconomic classifications, the group with the greatest socioeconomic status (SES) had the highest percentage of food security (97%), followed by the group with the medium SES (80%), and then the group with the low SES (55%). Food insecurity was more likely to be experienced by those who were socioeconomically disadvantaged or who lacked the means necessary to fulfil their fundamental needs; these disparities in the distribution of the percentages were statistically significant. Only 69 and 87% of households belonging to the low- and middle-class classes, respectively, reported experiencing food insecurity without hunger. On the other hand, 31 and 13% of these families reported experiencing food insecurity with hunger,

which is considered to be severe insecurity. As a result, it is evident that there is a very significant connection between one's income and their level of food security. There is a correlation between our results and the findings of studies conducted in other developing countries.

There is a correlation between socioeconomic position and the food security of families; fifty percent of families that are food secure earn more than the federal poverty line. As a consequence of this, the idea of food insecurity incorporates socioeconomic aspects such as the number of members in a family, the state of employment, and the income of the household. On the other hand, a few other studies have shown that a bigger number of persons with low socioeconomic status seem to have access to food when compared to those from middle-class and high-class backgrounds.

In addition, a strong link was seen between the type of diet and the degree of food security. It was discovered that 76% of vegetarians and 72% of non-vegetarians were secure in their food, whilst 27% and 24% of them, respectively, were found to be insecure in their food. Among the homes that were suffering food poverty, 83 percent of families who were not vegetarians and 76 percent of families that were vegetarians claimed that they did not go hungry. The fact that just a small percentage of the families experienced severe food insecurity, which is another way of saying hunger, makes it abundantly clear that the high prevalence of food insecurity and hunger among vegetarians may simply be a coincidence. Even though it was shown that only a very small percentage of the homes in the population under investigation were suffering food insecurity and hunger, this still constitutes a sizeable segment of the population that may be at risk for severe malnutrition. It is thus a major cause for worry in terms of public health.

The degree of food security was significantly higher among all participants, ranging from 83 to 87% across all occupational categories, with the exception of being significantly higher among those in the labour class. Eighty-one percent of the workers who fell into the category of food insecurity had access to food and did not experience hunger. There was the least amount of food security (62%) in families where women worked as labourers, and the largest amount of food security (73%), was among homemakers. It was found that a bigger number of families who were experiencing food insecurity claimed that they were not hungry, which indicates that their degree of food insecurity was moderate. It is a well-established fact that the percentage of families in which women were employed was far higher than the percentage of households in which men were the only wage earners by a significant margin. It is important to note that the degree of food security within the family is significantly impacted by the income of the homes in which the women are employed. Food insecurity affected more than fifty percent of households who had male workers in the household. It has been observed that there was a more robust and statistically significant association between women who were employed and their level of food security.

**Table 2: The overall trend of household food security and the variables affecting**

Variables	Characteristics	N	Food Secured	Food Insecure	Severity of insecurity	
					With hunger	Without hunger
% (No.)						
Family Income	Low	367	55.0 (200)	45.0 (167)	33.0 (52)	67.0 (115)
	Middle	271	80.0 (210)	22.0 (61)	13.0 (8)	87.0 (53)

		High	62	97.0 (60)	3.0 (02)	50.0 (01)	50.0 (1)
		Chi Square		64.437***			
<b>Diet type</b>		Vegetarian	212	76.0 (162)	24.0 (114)	26.0 (27)	74.0 (87)
		Non-vegetarian	488	72.0 (308)	27.0 (116)	17.0 (37)	83.0 (79)
<b>Occupation</b>	M	Labourers/ agriculturist/ others	238	42.0 (99)	58.0 (139)	19.0 (42)	81.0 (97)
		Professionals/teacher/ Dr/lawyer	112	83.0 (109)	17.0 (19)	0	100.0 (19)
		Business/govt. officials/office work	270	84.0 (192)	17.0 (31)	13.0 (6)	87.0 (25)
		Retired	80	87.0 (70)	12.00 (41)	10.0 (16)	90.0 (25)
	F	Home makers	343	73.0 (251)	27.0 (92)	18.0 (32)	82.0 (60)
		Labourers /agriculturist/others	160	62.0 (99)	38.0 (91)	34.0 (32)	66.0 (59)
		Professionals/teacher/ Dr/lawyer	130	91.0 (119)	9.0 (11)	0	100.0 (11)
		Business/ govt. officials/office work	46	93.0 (86)	6.0 (3)	0	100.0 (03)
		Retired	21	100(41)	33	0	33
		Chi Square		193.043***			
<b>Education</b>	M	Attended schools	396	35.0 (196)	65.0 (200)	20.0 (53)	80.0 (147)
		Graduates	209	80.0 (179)	20.0 (30)	18.0 (11)	82.0 (19)
		Professionals	95	97.0 (95)	0	0)	0
	F	Attended schools	462	54.0 (250)	46.0 (205)	26.0 (59)	74.0 (146)
		Graduates	193	78.0 (176)	22.0 (25)	12.0 (5)	88.0 (20)
		Professionals	45	98.0 (44)	0	0	0
	Chi Square		225.032***				

\*\*\*P<0.0001; NS=Non significant

The information shown in Table 2 illustrates the amount of awareness that both men and women have on the food security of their families. It is generally acknowledged that education is beneficial to individuals and stimulates them to eat. With a higher level of education, both men and women are able to increase their salaries in the future, have more alternatives available to them in the future, and have more control over the foods that they consume. Nevertheless, women who have completed their education are able to produce a number of additional socio-economic benefits that are beneficial to homemakers. In addition to improved health and nutritional status, some of these benefits include increased food security, higher family incomes, increased economic production, and increased economic output. Higher levels of education are associated with

increased levels of security, whereas lower levels of education are associated with decreased levels of security. In addition, women who have completed higher levels of study are better able to practically use their scientific expertise.

It should come as no surprise that there is a direct correlation between the level of educational achievement and the level of food security in a household.

Education has been found to have an effect on a wide variety of aspects of human development, as shown by the body of published research. More specifically, there have been several instances in which women's education has been connected to improved family status as well as greater availability of food. As a result, it functions as a standard against which the food security of households may be measured according to.

Despite the fact that a number of aspects of family food security have previously been discussed in earlier sections, it is essential to highlight the prominent trait of families that has an effect on food security. An application of Pearson's correlation was carried out as a consequence, and the characteristics that were shown to have an effect on the food security of families were identified. This information is shown in Table 3. Based on the multiple characteristics that were examined, it was discovered that there was a significant connection between male and female adults and the variables that were associated to them. In the case of males, a significant association was shown between education, income, and the number of children in the household; however, the same elements were found to be associated with adulthood in females. The results indicate that there is a significant connection between the level of food security in a family and the income of the family, taking into consideration both adult males and adult females.

**Table 3: Important influencing factor correlation with family food security (n = 700)**

Major factors	Variables	"r"	F
Males	Income	-0.145	5%
	Education	-0.157	
	Family size	0.132	
Females	Income	-0.145	5%
	Family size	0.132	

## CONCLUSION

As a result of my study, I have gained substantial and useful insights on the characteristics of food insecurity, the security of families, and the factors that contribute to it. It was observed that 67 percent of the homes in the research group, including both vegetarian and non-vegetarian households, felt comfortable with their diet. In terms of food security, education and income were the two most important factors to consider. A considerable contribution to the safety of food supplies was made by the education of women. 33% of the families who were experiencing food insecurity did not suffer hunger. This represents 73% of the total households. The most significant effects were seen by families that were led by labourers. Adult male and female education has a role in determining the level of food security within the family.

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