



## FOOD INSECURITY IN RAJASTHAN: CAUSES AND PROPORTIONS

**Dr. Arun Kumar Raghuvanshi<sup>1</sup> & Smita Gupta<sup>2</sup>**

*<sup>1</sup>Lecturer, College Education, Jaipur, Rajasthan, India.*

*<sup>2</sup>Research Scholar, Rajasthan University, Jaipur, Rajasthan, India.*



### ABSTRACT

In this study we investigate causes of the prevalent food insecurity that prevails in Rajasthan. The purpose of the study is to identify regions and districts within the state that require priority attention in order to improve their food security. Thus is followed classification of the characteristics that differentiate the better off from the inferior off districts. These characteristics of food insecure region and districts are used to put forwarded a set of suggested interventions that could be expected to improve food security. Food insecurity is high due to natural hazards such as drought are frequent a larger percentage of the population is excluded from full contribution in the society through tribe and caste status, poor infrastructure, unacceptable economic condition of women and children. The study focus on the three individual aspects of food security namely, food availability, food access, and food absorption. This study will motivate further analysis action and support for reducing the incidence of hunger. The study uses existing scholarly work in the area as well as conventional data sources in order to show the scope of food insecurity in Rajasthan today and the logic of the different patterns of its causality.

**KEYWORDS :** Food availability, Food access, Food absorption, Poverty, Economic condition, Infrastructure

## 1. INTRODUCTION

Food insecurity exists when all people, at all times, do not have physical and economic access to sufficient safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. Food is the most important need of a person along with shelter and clothing. Non availability of food leads to hunger that exists in different forms. Hunger is one aspect of food insecurity. Food insecurity is a broad concept and it several dimensions. All the factors that lead to hunger are a matter of concern when we deal with food insecurity. With the efforts taken so far to remove hunger from the world. It is clearly understood that it is not an easily achievable goal. This paper is an attempt to look at the relative positions of all the 33 districts of Rajasthan with observe to food insecurity.

The importance of entitlements in food security is further underlined by the supremecourt's judgments validating the right to food. As a signatory to the UN'S millennium development goals (MDGs) the govt. of India and all state govt. have an obligation to reduce by half the proportion of people suffering from hunger by 2015. Recognizing that reduction of

sensitive poverty is the key to reducing hunger, the analysis began by choosing likely variables that affect food security along the three axes of availability, access and absorption. A complete index is derived based on twelve identified indicators reflecting these three dimensions-  
**Food Availability:-** The availability related variables considered here are agriculture production in per capita value terms, proportion of forest area, extent of irrigation and rural connectivity terms of villages with access to covered roads.

**Food Access :-** the six variable considered for access to food dimension include proportion of agriculture labors, ratio of working age population, monthly per capital consumption expenditure, casual wage rate of rural persons and female literacy rate.

**Food Absorption: -** access to safe drinking water and primary health services are the two variables considered for absorption index.

The value of these districts on each of these twelve variables were combined to develop a food security index(FSI) on the basis of which include under five mortality and proportion of under weight children.

**Table 1- Priority Districts For Food Security Intervention**

North Eastern	South Eastern	Southern	Western
Ajmer, Bwara, Tonk Karauli, Dholpur Sawaimadhopur	Baran, Jhalawar, Chittaurgarh, Bundi	Banswara, Dungarpur , Rajsamand, Udaipur	Barmer, Pali, Jaisalmer, Jalore, Sirohi, Nagaur, Bikaner, Jodhpur

## 2. OBJECTIVE

- ◆ To generate district wise food security index by its components. The index would be able to estimate which state is more food insecure and what is cause behind its insecurity.
- ◆ To determines the relationship between overall food security index and its

components. This estimate will point out which component of food security is most important for economy.

- ◆ Suggest policy interventions for improving food security among food insecure districts.

### 3. POVERTY STATUS

In Rajasthan, there is reduction in the incidence of poverty, compared to the country as a whole. There is wide variation in the poverty status across different regions of the state. The

table shows that the poverty rate of the schedule tribe population is highest in southern Rajasthan, both SC and ST show a high incidence of poverty.

**Table 2:- Region wise percentage share of poor households by social group for Rural Rajasthan**

Region	Schedule caste	Schedule tribe	Other Backward Caste	Other
Western	40	30	15	15
North Eastern	40	20	25	15
Southern	10	70	10	10
South Eastern	25	40	30	5
Rajasthan	35	40	15	10
All India	30	35	20	15

Source: Calculated from NSS 61<sup>st</sup> round

### 4. URBANIZATION

According to the 2011 census, approximately 30 percent of the population lives in urban areas, however in absolute term this population of population does not uniformly share the benefits of urbanization that the top decline of the population enjoys. The level of urbanization has strong implications for migration from the rural areas. Urbanization increases opportunities for a variety of livelihood options. But the livelihoods in which one can enter depend very much on the person's education and skills. Unskilled, illiterate persons can only take up low income options which may not do much more than reduce the burden on feeding in the village households.

### 5. MEASURE OF FOOD SECURITY STATUS

Food security is a combination of access to food and its absorption by the body, which depends on a number of non food factors such as sanitation, access to clean drinking water. The outcome of food security can be taken to the nutritional status of the individual with the understanding that food intake is the basic; through not only factor that affects nutritional status.

In Rajasthan, the rural population particularly children are vulnerable to malnutrition because of low dietary intake, poor quality of diet, lack of appropriate care and inequitable distribution of food within the household. The measurement of the nutrition status of children is done through anthropometric methods (NFHS,2007).

**Table 3 Correlation Between Micronutrient Intake And Under- Nutrition and Mortality Status**

	Under5 Mortality	Under Weight Children	Vitamin Intake	Iron Intake
under 5 mortality	1.00	0.714	-.501	-.523
underweight children		1.00	-.227	-.450
vitamin intake			1.00	.555
Iron Intake				1.00

**Table 4 Ranks of Districts on Composite Food Security Index, Food Security Outcome Index and Components**

District	Availability index		Access Index		Absorption index		FSI		FIOS	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Ajmer	.317	26	0.476	12	0.443	15	0.4458	13	0.469	23
Alwar	0.640	3	0.507	7	0.403	20	0.5033	7	0.605	9
Banswara	.317	25	0.333	32	0.564	5	0.3689	31	0.493	19
Baran	0.587	5	0.394	29	.474	9	0.4404	16	0.453	25
Barmer	0.198	32	0.523	5	0.226	32	0.4025	28	0.446	26
Bharatpur	0.599	4	0.487	9	0.238	30	0.4794	8	0.656	6
Bhilwara	0.265	28	0.475	13	0.464	11	0.4453	14	0.489	20
Bikaner	0.358	18	0.473	14	0.242	29	0.4378	18	0.620	7
Bundi	0.517	8	0.456	23	0.517	7	0.4694	10	0.497	18
Chittaur	0.336	22	0.461	18	0.585	1	0.4393	17	0.383	31
Churu	0.297	27	0.539	3	0.325	27	0.4567	11	0.588	11
Dausa	0.505	10	0.458	21	0.376	21	0.4562	12	0.579	12
Dholpur	0.527	6	0.506	8	0.404	19	0.4748	9	0.479	22
Dungarpur	0.319	24	0.343	31	0.578	2	0.3829	30	0.374	32
G.Nagar	0.686	1	0.456	22	0.431	16	0.5157	3	0.726	3
Hanumangar	0.526	7	0.518	6	0.407	18	0.5095	4	0.745	2
Jaipur	0.454	12	0.527	4	0.445	14	0.5073	5	0.615	8
Jaisalmer	0.259	29	0.485	10	0.227	31	0.4242	25	0.507	17
Jalore	0.415	15	0.459	20	0.338	25	0.4377	19	0.538	15
Jhalawar	0.385	17	0.447	25	0.455	13	0.4357	21	0.588	10
Jhunjhunu	0.514	9	0.639	1	0.567	4	0.5750	1	0.692	4
Jodhpur	0.326	23	0.447	24	0.415	17	0.4291	23	0.667	5
Karauli	0.496	11	0.463	17	0.257	28	0.4191	26	0.535	16
Kota	0.669	2	0.472	15	0.570	3	0.5374	2	0.56	13
Nagaur	0.345	20	0.482	11	0.339	24	0.4435	15	0.541	14
Pali	0.346	19	0.417	27	0.373	22	0.4064	27	0.480	21
Rajsamand	0.233	31	0.464	16	0.467	10	0.4257	24	0.411	30
S.Madhopur	0.437	13	0.461	19	0.331	26	0.4364	20	0.432	28
Sikar	0.427	14	0.571	2	0.461	12	0.5063	6	0.775	1
Sirohi	0.401	16	0.382	30	0.535	6	0.3878	29	0.430	29
Tonk	0.337	21	0.445	26	0.372	23	0.4350	22	0.441	27
Udaipur	0.236	30	0.41	28	0.484	8	0.3604	32	0.469	24

Source: Deptt. Of women and child development, Govt. of Rajasthan

Above the table food security index is a composite index covering three dimensions, availability, access, absorption. Districts having higher index value are considered relatively more food secure compared to district with lower index values, after calculating the index of each variable we have averaged them to give each of the three dimensions of food security. The composite food security index is again

derived by averaging all the selected indicators. Food security outcome index is used to cross check the validity of the FCI for the availability, access, absorption components, the nutritional status of an individual can be considered as the outcome of food security. The outcome index calculated here is based on two child related variables; child mortality rate and child malnutrition.

**Table 5 Status of Districts In Terms of FSI And FSOI**

Terms	Secure	Moderately Secure	Moderately Insecure	Severally Insecure	Extremely Insecure
<b>FSI</b>	jhunjhunu, kota	G.Nagar, jaipur, alwar, sikar, hanuangerh	bharatpur, dholpur, bundi, churu, dausa	ajmer, bhilwara, nagaur, baran, chittaur, tonk, jodhpur, jhalawar	barmer, sirohi, dungarpur, Udaipur, Banswara
<b>FSOI</b>	Sikar, hanumangarh, G.Nagar	Jhunjhunu, jaipur, jodhpur, Bikaner, Bharatpur	alwar, churu, dausa, kota, jhalawar, jalore	Udaipur, Ajmer, Dholpur, Bundi, Pali, Karauli, Jaisalmer, Banswara, Bhilwara	Baran, Tonk, Barmer, Sirohi, Rajsamand, Dungarpur

## 6. IDENTIFYING PRIORITY DISTRICTS

The FSOI and FSI discussed earlier provides the option of prioritizing the development efforts in the most food insecure districts in the two lowest categories is the extremely and severely food insecure districts in both the indices should be prioritized for developmental intervention towards enhancing food security. Out of the 22 priority intervention districts. Location wise, six district in north eastern, four in southeastern, another four in southern and eight in western region. These districts not only have high under five mortality and under nutrition rate but also rank poorly in terms of availability, access and absorption indicators. They need urgent attention of govt. and policy makers.

## 7. STRATEGIES FOR PROMOTING FOOD SECURITY

The district most beset by hunger and food insecurity have been identified in the earlier section. Broadly measures to improve availability must include improving irrigation and agriculture productivity. Farm income can be improved through better rural connectivity. Access should be improved by spending on food, land distribution and enhancing the status of women. The central and state govt. have launched number of schemes and programmers for enhancing food security in the state.

**7.1 Enhancing Availability:** - more than a decade of low investment in agriculture, including agriculture research and infrastructure, has resulted in a relative stagnation in food output with the present problem of spiraling food prices there is a renewed emphasis on increasing food production-

**(a) National Food Security Mission :** - NFSM is very useful to increase production of crops. In Rajasthan the NFSM concentrates on irrigated food grains, wheat, rice and pulses. An increase in agriculture productivity rain fed areas will substantially reduce the incidence of hunger in these areas.

**(b) Improving Connectivity :** - the rate of growth of rural incomes and reduction in rural poverty are strongly influenced by the provision of rural and district road connectivity

**(c) Pradhan Mantri Gram Sadak Yojana (PMGSY) :-** it is useful to chemical fertilizer and Hvy seeds has Increased considerably on account of their decreased transportation cost that formed a fair portion of their total cost.

**(d) Bharat Nirman: Rural Roads;** - Bharat Nirman is a plan for action in rural infrastructure that started in 2005 and will end in 2009.

**7.2 Improving access to food :-** the provision of low priced food grain as a method of subsidizing the consumption of the poor.

This done through the public distribution system has undergone some changes with the current targeted PDS food for work schemes which is now replaced by the NREGA. The mother and infant supplementary feeding programme. The mid day meal scheme for children in govt. run schools.

**7.3 Enhancing Absorption :-** increasing the nutrient intake of the poor is not the poor is not the ultimate solution of food security. The capacity of body to utilize the increased intake of nutrients is very important. This depends closely on complementary measures such as access to safe drinking water and clean sanitation.

## **8. CONCLUSIONS**

The analysis shows that ensuring food security and improving nutritional status is a challenge for the state as a whole. Various schemes and initiatives in recent years show commitment of the govt. to improve the situation. Through this paper we have endeavored to bring out the performance of districts in each of the food security related indicators, clearly indicating the well and poor performing districts. Priority districts for food security intervention have also been identified to draw attention to the need for more inclusive growth efforts and special intervention to bridge the divide between the regions and districts of the state. The state has made progress on certain indicators which is reflected in discussions on the intervention in the states and results of the same should be

evident in subsequent rounds of census and NFHS. The analysis also takes into account the information from the state govt. which makes the policy recommendations of this paper pertinent for immediate use and provides scope for further upgrades with availability of new datasets.

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