

A Regional Analysis of Food Security in Bundelkhand (Uttar Pradesh, India)

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ABSTRACT

In the present examination the creators have endeavored to break down the state of food security in the Bundelkhand area of Uttar Pradesh at locale level. Bundelkhand area has been picked as a unit of study since it is perhaps the most unfortunate locale in examination with western, focal and eastern districts of the state and considerably in the wake of being in closeness to heartland of green insurgency (Punjab, Haryana and Western Uttar Pradesh) the locale is still in reverse in agrarian advancement in India as a rule. Horticulture is the pillar of the economy and for the most part subject to monsoonal precipitation.

The Bundelkhand is ceaselessly confronting dry spell since most recent couple of years and individuals are moving for work. Hence, there is a pressing need to take care of the states of food security of the individuals living in this locale. The standard factual procedures have been utilized for the investigation of information. The investigation presumes that the state of food security is horrible. Just one area of Jalaun has indicated high food security. Greater part of the locale are direct and low food secure due to low food grain availability, low acquiring intensity of the individuals, and so on. The water system offices are additionally not very much created prompting low utilization of manure and low profitability of harvests. Business rate, pace of urbanization, stockpiling limit and number of reasonable costs shops are likewise not good prompting pitiable food security condition in the investigation region.

1. Introduction

Food security is the most warmed and discussed subject and in this setting approach producers, organizers, analysts and leaders everywhere throughout the world have been investigating available resources to guarantee food security to the a large number of resident (Tripathy et al., 2011). A family is said to be food secure when it has physical, financial and social access to the necessary measure of food grains regarding amount, quality, wellbeing, (Sharma and Sharma, 2008), the food accessible ought to be socially worthy and when it isn't at undue danger of losing such get to (Mishra et al., 2008).

The issue of food insecurity is pervasive everywhere throughout the world yet it is increasingly normal in creating nations like India which produces surplus food on one extraordinary however at the other outrageous 33% of the populace is very poor and one portion of the kids are malnourished in one manner or the other (Kannan et al., 2000). India has accomplished a fourth crease increment in food grains from 50 million tons in 1950 to 219.3 million tons in 2007 to 2008 against a triple increment in populace from 33 million to in excess of 100 million (Kumar, 2010). Regarding food factors, the idea of food security essentially remains on three columns, food availability, which manages the local creation of food grains in the territory; food stability, which manages the consistency in the availability of food in a region or to make the food accessible either through import from the surplus territories or by keeping up cushion stock at smaller scale level at the hour of artificial or cataclysmic event and hurtful regular stability, lastly accessibility; which relies upon the physical and monetary access to food, guided by the buying power and per capita pay of the individuals.

It is of most extreme significance since availability of food will be of no utilization, until and except if individuals have intends to purchase the accessible food (Chaturvedi, 1997; Grish, 1997; Jain, 1997; Ghosh, 2000).

2. Literature Review

Burke (1989) inspected that, in the event of Eastern Uttar Pradesh the profitability is low in light of the fact that there is intense weight of rustic populace on the farming area, low per capita pay and utilization of old horticultural executes. She further opines that, Uttar Pradesh will confront intense deficiency of rice and heartbeats in future, which establish primary eating routine of dominant part of the individuals and to conquer this issue one needs to expand the water system capability of the horticultural in reverse zones and to build the yield by applying present day inputs.

Alexandratos (1991) in his investigation opines that food security as far according to capita availability of food is expanding the world over. Be that as it may, this improvement is uneven and there are numerous nations which can't contribute in such progress. The food security condition in a portion of the nations today is more terrible than it was 20 years prior. The breaking down of financial improvement is answerable for the destitution and food insecurity.

Swaminathan (2001) opines that India has accomplished good progress on the creation side however disregarding this food insecurity is extremely basic at the family level and destitution is the main driver behind this insecurity. He opines that the availability isn't the issue yet the accessibility to the accessible food is the primary issue along these lines, the new agribusiness should expect to give increasingly more food as well as some business openings in the homestead and non-

ranch area with the goal that individuals increase some pay to get to the food.

Gorton et al. (2009) has examined about different financial, physical and socio-social factors identified with food security. They opine that a low degree of instruction is related with decreased food security. Individuals living in urban regions when contrasted with their rustic partners are bound to encounter food security. Further talking about transport they express that absence of transport to embrace food shopping has been connected with food security in mane examines.

Ubong et al. (2009) in their article says that, Nigeria is the tenth most crowded state, sixth biggest oil trading nation with half of its territory region cultivable despite this Nigeria can't encourage its populace. Another methodology of rural training has been peddled and is hence proposed that rural science ought to be made one of the center courses at the lesser optional level in order to give youngsters an early direction on the job of horticulture in food security as well as in national, monetary and social improvement. The issue of food security has pulled in numerous researchers and has given voluminous and assorted writing in the issue from alternate points of view.

A portion of the significant supporters are Acharya (1983), Mohammad (1978 and 1995), Swaminathan (1996 and Shakeel et al. 253 2001), Kravdal (2001) and Anderson (2009).

3. Study zone

Bundelkhand has been in the news for every single appalling explanation. Since numerous years, this locale has been confronting dry spell. Because of the moneylender's snare, the ranchers are submitting suicides, selling their territory, steers and even their spouses (Singh, 2010).

The yearly precipitation is low (600 to 1400 mm) and frequently flighty combined with shorter length which in the long run makes the bigger piece of the locale droughtprone with restricted farming generation. Soils show incredible variety extending from profoundly devastated, shallow and low water retentive red soils to exceptionally beneficial, profound and great water retentive dark soil, dissimilar to the dirt in different areas of Uttar Pradesh. In the event that it doesn't rain at the

perfect time with consistency, the dry season related pain influences the majority.

The water system offices are a complete catastrophe and nobody appears to mind. Joblessness is normal and individuals are relocating looking for work. Keeping every one of these focuses in see, the creators have chosen Bundelkhand district of Uttar Pradesh to give a top to bottom and nitty gritty appraisal about the state of food security in the territory. Officially, Bundelkhand area of Uttar Pradesh (thus called as UP-Bundelkhand) contains 48 squares under the ward of 7 areas.

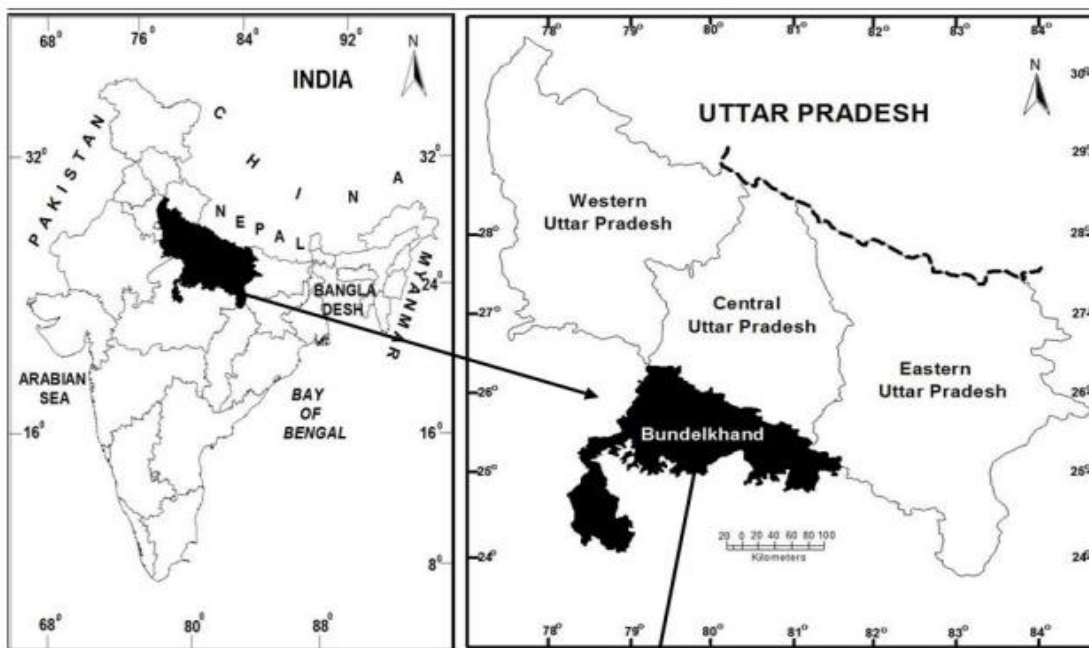
The topographical territory of the UP-Bundelkhand is 2.94 million hectare which is about 12.21% of that state. Contingent on the financial contemplations and framework advancement, UP-Bundelkhand is the most unfortunate district in examination with western, focal and eastern areas of the state. UP-Bundelkhand has just 4.96% of the state's populace.

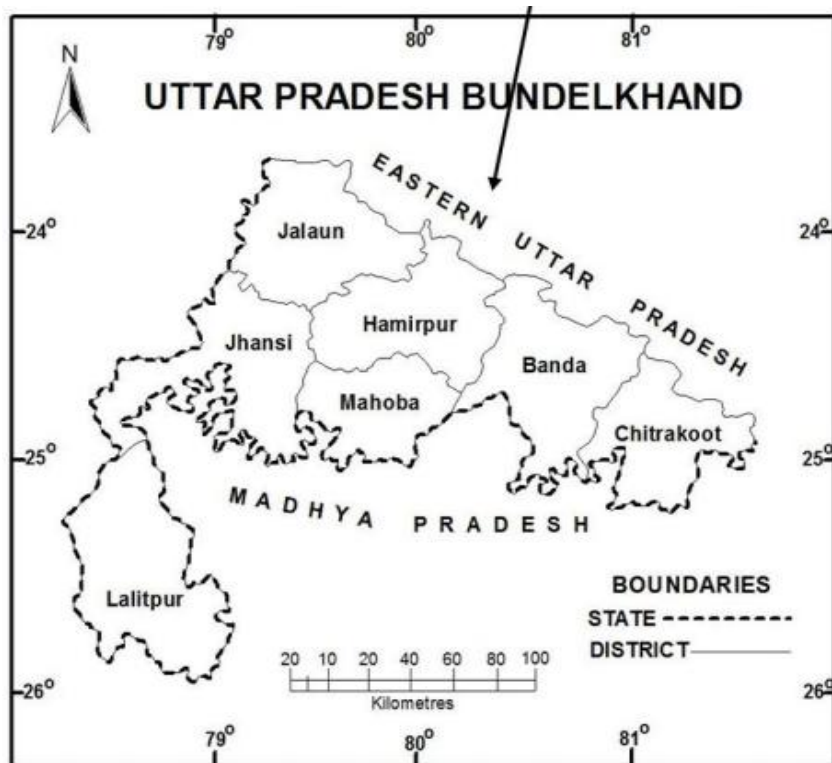
4. Objectives

The targets of the present examination are to discover the spatial example of food availability, food stability and food accessibility and from now on decide the food security in UP Bundelkhand and furthermore to inspect the interrelationship between the pointers of food security. At last, a few measures and proposals have been given to progress of food security in the examination territory.

5. Database and methodology

The present investigation depends on the optional wellsprings of information to survey food security (Table 1) at region level got from the announcement of agrarian measurements of Uttar Pradesh for different years, distributed by the directorate, service of horticulture, division of insights and financial aspects, Lucknow, Uttar Pradesh. Food availability has been worked out at region level by taking three years moving normal of rural produce to expel the climate irregularity and variance in the information from 2006 to 2007 J. Geogr. Reg. Plann.





Location of Uttar Pradesh Bundelkhand Region in India.

also, 2008 to 2009. The food availability, the factors that have been incorporated are oats and heartbeats (food grains) yet for the calories per head per annum alongside the food grains, the creation of sugar, oilseeds, potato and onion for each locale have additionally been consolidated. There are numerous components which influence the measure of food devoured, for instance age, sex, occupation, salary level, rustic versus urban populace, vegan and non veggie lover diet, body size, atmosphere and for the vast majority of these the usable information isn't accessible. The food devoured by a youngster and a grown-up is extraordinary.

Essentially food devoured by a male and a female, ordinary and pregnant ladies, individual working in fields and office isn't comparative. As per Singh's scale every unit of populace is equivalent to 0.773 utilization units or 1000 man equivalents to 773 utilization units (Chakravarty, 1970). All the food grains created are not accessible in a similar sum for utilization. There are numerous wellsprings of spillage between the generation and utilization of food grains for example misfortunes away and transport, demolition by creepy crawlies and irritations, kitchen squander, utilization of seeds and so forth however the precise information isn't accessible for every one of these misfortunes. Subsequent to inspecting different assessments of misfortunes given by various researchers, Chakravarty (1970) has proposed a complete derivation of about 16.8% of the absolute net generation for getting net food accessible for utilization. The coefficient of creation is consequently, 0.832 ($100 - 16.8 = 83.2$).

6. Results and discussion

Food availability districts Food security of any locale basically relies upon food availability which is an element of residential farming generation or through imports from surplus zones. To look at the general situation of food availability in UP Bundelkhand for the year 2008 the factors taken are; food

grain availability (kg per head per annum), calorie availability (calorie per head every day) and animals availability (populace per domesticated animals). The standard z-scores have been acquired for the every one of the factors of food availability independently. With the assistance of z-scores, the composite z-scores have been determined so as to outline the food availability area at locale level.

The regions of the investigation zone have been partitioned into three classifications of high, medium and low food availability based on mean and standard deviation technique. Three regions of Jalaun, Lalitpur and Hamirpur are having high availability of food. Because of well inclusion of trenches, high utilization of manure and high return, the food grain availability and calorie availability is higher in these regions. Availability of animals is additionally high which has made these areas a high food accessible district. Regardless of dry spell condition the availability of live stock is high in light of the fact that here creature cultivation is a vital piece of the provincial economy. Impressive progress has been made as of late in improving the live stock through rearing, separating bothersome creature and updating indigenous steers with improved bulls of understood attempted India breeds and circulation of seeds of improved assortments of grain. Region of Jhansi and Banda have moderate availability of food. In spite of the fact that the food grain and calorie availability is low yet domesticated animals availability is high a result of dry season and movement. It is frequently said that there is more domesticated animals than human populace in UP Bundelkhand. Individuals from Jhansi and Banda are relocating a direct result of dry spell subsequent to offering their domesticated animals to individuals who are as yet dwelling and this is the motivation behind why the availability of domesticated animals per head is more noteworthy. It is likewise conceivable that, because of Hindu respect for dairy

animals and bison UP Bundelkhand has high domesticated animals populace.

Food Availability, food Stability and Food Accessibility with Indicators in Bundelkhand Region, 2008.

S/N	Districts	Food availability		Food stability				Food accessibility						
		Production of food grains in kg/h/annum	Calorie availability per head per day	Population per livestock	Consumption of fertilizers (kg/ha)	% of gross irrigated Area to net sown area	Storage capacity per 1000 population (in quintal)	Number of fair prices shops (per Lakh population)	Yield of Food grains (kg/ha)	Employment Rate (percentage of main workers to total population)	Literacy rate	Road per Lakh population (In km)	Urbanization (percentage of urban population to total population)	Per capita income (In Rs)
1	Jhansi	219.96	2324	2.54	62.52	64.11	298	38	1305.78	25.03	61.67	99.36	41.39	27602
2	Lalitpur	374.99	3863	1.50	34.22	65.48	262	61	1162.34	29.90	45.86	118.60	14.74	22899
3	Jalaun	338.39	3849	2.04	61.87	80.47	727	58	1612.55	60.57	60.57	134.09	24.12	28461
4	Hamirpur	270.50	3730	1.98	29.29	45.04	196	43	1040.78	20.31	51.23	134.61	17.28	47043
5	Mahoba	203.64	3171	1.57	31.60	24.04	329	55	712.49	31.09	54.64	161.49	22.70	27195
6	Banda	225.58	2372	2.06	31.49	54.07	415	38	1004.86	21.83	49.35	96.57	16.69	23135
7	Chitrakut	173.83	1836	1.42	43.76	25.52	14	64	848.21	26.70	66.21	108.88	10.07	19492

Source: Directorate, Ministry of Agriculture, Department of Statistics and Economics, Lucknow, U.P., Census of India, 1991 and Census of India, 2001.

region Jhansi doesn't allow enormous scale cultivating and development of land under improved rural practices. This is the motivation behind why the availability of food is moderate. Mahoba and Chitrakoot have low food availability. Despite the fact that the calories accessible for utilization are higher (in view of incorporation of onion, potato, oilseeds and sugar) yet low availability of food grains and domesticated animals has made these locale to fall in the low class of food availability. These areas are likewise under the scourge of dry spells for recent years and this is the fundamental purpose behind low food availability in these locale of study region. Yet, at total level the information shows that the food availability condition to a great extent of food grains availability of UP Bundelkhand is great. This is a direct result of NFSM (National Food Security Mission) which planned to expand generation (particularly for beats which is appropriate for dry land cultivating) through region development and efficiency likewise making business openings and improving th farm level economy to reestablish certainty of ranchers Food stability districts The element of stability is affected by the manageability of the food framework which limits the odds of dangers identified with food insecurity in ordinary and just as in troublesome occasions by guaranteeing the food utilization at a necessary level (Tripathy, 2011).

7. Conclusions and suggestions

The investigation shows that, the state of food security in UP Bundelkhand is basic. The trio of food security that is, food availability, food stability and foods accessibility is answerable for food insecurity condition in one manner or other. Food security in the UP Bundelkhand is seen as decidedly related with food availability and food stability. In spite of the fact that not critical, yet additionally decidedly associate with food accessibility. Water system and Drainage (I and D) segment in Uttar Pradesh had been in the bleeding edge for over a century

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