

Mapping and Ensuring Food Security in Bongamunda and Kotgarh blocks of Bolangir and Phulbani Districts in Odisha, India

R. K.Mallick Cuttak, Odisha, and D. N. Rao, Visakhapatnam, Andhra Pradesh

Abstract

Today ending hunger is not primarily a technical or a production issue. Hunger persists because we as human beings have failed to organize our societies in ways that assure every person the chance to have a healthy and productive life. Periodic reports of starvation death in Odisha have been an issue of serious concern to the State Government. This paper addressing the problem in an effective way necessitates a systematic institutional arrangement for identifying and mapping of areas/habitations/households vulnerable to food/nutrition insecurity for the State Government to devise a field tested strategy to eradicate the problem of hunger and to ensure food security in areas of endemic poverty and destitution. As all these components substantially inbuilt in the concept and approach of "The Hunger Free Zone" it was felt that such a holistic approach could give specific direction in this regard addressing all dimensions of misery rather than providing solutions in isolation.

Key words: *Hunger, Food security, GIS, Mapping*

1. Introduction:

Right to survival is the fundamental right of every individual on this planet which ought to be assured by the government of the day. Out of the three most vital requirements for survival *roti, kapda aur makan*, it is *roti* which takes precedence over all other basic requirements. But, sadly enough even after more than fifty-five years of Indian independence the state is not able to ensure food round the year to all of its citizens. This is despite the fact that India has achieved self-sufficiency in food supply. There are sporadic cases of alleged starvation deaths in different parts of the country. Even if discounting the cases of alleged starvation death no one can deny the fact that large

number of people in the country go without two square meals a day.

To compound the matter there is a paradox of plenty. When the godown of the country is overflowing with grain why people should go hungry? The simple reason for the paradox is that people do not have the purchasing power for their basic requirements. Finding reasons for this high level of food insecurity especially among the tribal people is beyond the scope of this study. Hunger persists in some parts of the country. This is a fact which everybody of us has to accept. In such a scenario without passing the buck every right thinking individual, policy makers, civil societies institutions should come forward with

ideas, and operational mechanisms how to correct the malady.

2. Situational Analysis of Hunger:

The situational analysis points out limited scope of employment alongwith seasonal unemployment which aggravates the situation further and the most sufferers are the landless, small and marginal farmers who depend heavily upon their labour force for their daily bread. The labour demand reduces drastically and the wage rate recedes down. Unavailability of off-farm activities during the retarded crop season leaves with no option and they are either forced to starve or migrate. In proportion to the striving population, the labour requirement becomes very negligible. The abject poverty forces them to be caught in a debt trap and they are forced to either mortgage or sell off household articles.

3. Background of the Study:

Recently Oriya press was abound with stories of starvation death in different parts of Orissa, especially in the western and tribal parts of the state. Though the government of the day was quick to dispel the allegation there is no denying the fact that many people suffer from food insecurity round the year. Instead of passing the buck everybody should keep thinking of a way out how to ensure food security to these people. The reports relating to alleged starvation deaths in different parts of the country including Orissa have drawn the national attention and Honorable Supreme court in recent judgment have focused on the accountability of the civil administration in this regard. In spite of various schemes that

aim at the amelioration of poverty and food security issues, there is huge gap between the goals set and results achieved.

The main premise of the project (based on previous studies and global experience) is that deaths occur only out of such extreme family distress situations. A study done by CENDERET during 1999 in Bolangir, drought revealed that the number can be as low a 1 to 2 families per village (a total of 650 cases were reported from 600 villages). Based on this experience CENDERET proposed for a larger study with assistance from Project Hunger in the districts of Bolangir and Kondhamal. The project aims to capture this number by mapping the vulnerable people and monitor their status either through state or other development organisations.

4. Objective of the Study:

The broad objective of this project is to identify individual/families at risk of starvation in villages which have high food insecurity in distress times.

The specific objectives are:

1. To identify the district, block, GP, village and individual through pre-determined indicators/parameters
2. To evaluate their access to social safety net interventions (including public distribution system) and develop a GIS based surveillance and monitoring system of such individual families during distress time.
3. To suggest follow-up tracking system for continuous monitoring of their distress condition.

5. Study Area:

The study falls in two districts in Odisha, such as Khandhamal and Bolangir.

5.1 Khandhamal:

Kandhamal revenue district came into existence on 1st January, 1994, after Phulbani District was divided into Kandhamal and Boudh Districts of Odisha. The District lies between 19 degree 34' to 20 degree 36' north latitude and 83 degree 34' to 84 degree 34' east longitude. Kandhamal experiences sub tropical hot and dry climate in summer. Dry and cold climate in winter. The maximum temperature recorded in the District is 45.5 degree C and minimum temperature is 2.0 degree C. The average annual rainfall recorded is 1522.95 mm. The Kandhamal district covering a geographical area of 7654 sq kms is bounded by Boudh district in the North, by Rayagada district in the South, by Ganjam and Nayagarh districts in the East and Kalahandi District in the west. It has an average elevation of 485 metres (1591 feet) (see fig-1).

It is located 211 km from Bhubaneswar, the capital of Odisha and 165 km from Berhampur, the major city of South Odisha. Nearest railway station is Rairakhol around 100 km from here. The region around Phulbani has a variety of flora and fauna. It is a place surrounded by hills and has a lot of small and big waterfalls around it. Katramal Waterfall, the most spectacular of the lot is situated at a distance of about 31 km from Phulbani. Putudi Waterfall, a hot spot among the local people is situated at a distance of about 18 km from Phulbani. Pakdajhar waterfall is situated at a distance

of about 3–5 km from Sudrukumpa, a small village which is situated about 19 km from the main city of Phulbani. Last but not the least, there is Urmagarh waterfall, which is close to 21 km from Phulbani. Phulbani is surrounded by River Salunki.

5.2 Bolangir District:

The name Bolangir is said to have been derived from Balaramgarh, a fort built here in the 16th Century by Balram Deo, the 19th Raja of Balangir and founder of Sambalpur kingdom. The Bolangir District is surrounded by Subarnapuri district in east, Nuapada District in the west, Kalahandi District in the south and Bargarh District in the north. The District lies between 20 degree 11'40 to 21 degree 05'08 degree north latitude and 82 degree 41'15 to 83 degree 40'22 East longitude. The District covers an area of 6575 sq.km. Total population of the Balangir District is 16,48,997. comprising total male population as 8,30,097 and female population as 8,18,900. The total SC population of the District is 2,94,777 and ST population is 3,47,164. Balangir District has 3 subdivisions, 14 Tahasils, 14 Blocks, 2 Municipalities, 3 NACs, 18 Police stations and 285 gram panchayats. Minimum temperature measured in the District is 16.6 C and maximum is 48.7 C. 1215.6 mm average rainfall is experienced in Balangir District. The economy of the Balangir District is basically agrarian. The tourism industry of Balangir District also contributes to its economy (see fig-1).

The predominant soil groups found in the Bolangir District are Black. Red, Mixed Red and Alluvial soils. Over 70 percent

of the population depends on agriculture. The present cultivable area in the District is 3,45,650 hect. In the District paddy is the principal crop, which accounts for 61 percent of gross cropped area. The other important crops grown in the District are

pulses grown in 14 percent of the cropped area followed by oil seeds, which is grown in 3 percent, fibre in 4 percent, vegetable in 2 percent and other food crops like spices and condiments etc.

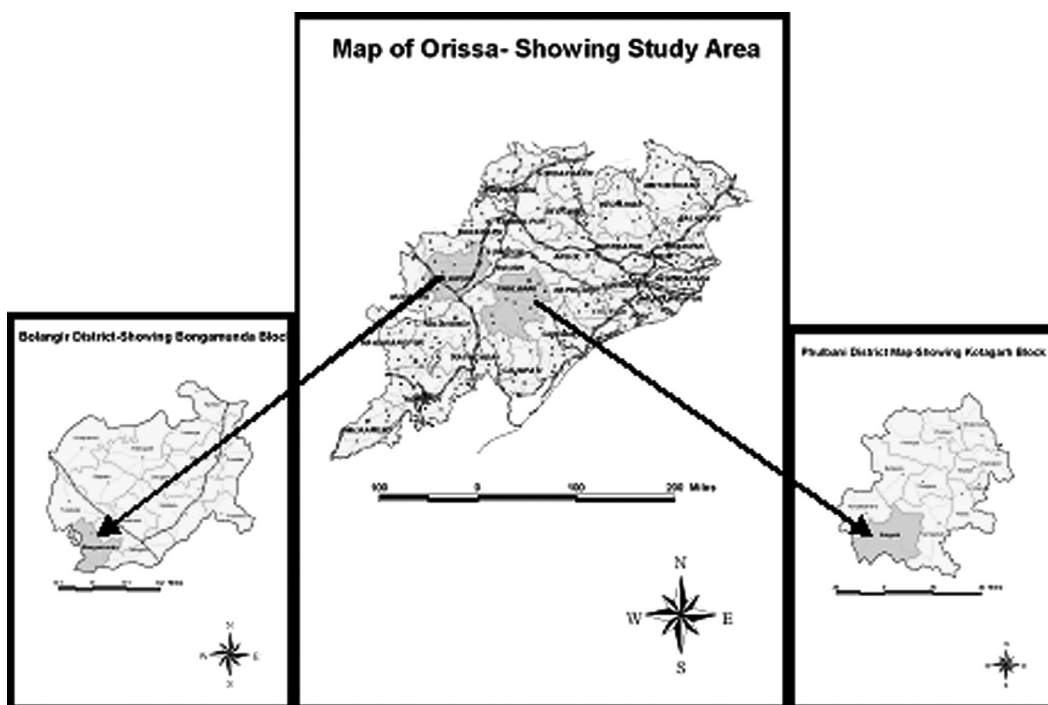


Fig. 1 Location Map of study Area

6. Study Methodology:

In order to reach the objectives of the study a foolproof research methodology was adopted which included both secondary and primary research.

6.1 Secondary Research

In the beginning a comprehensive study was made of all the probable districts where food insecurity might be quite high.

For the purpose of short listing the target area existing literature and data were extensively analysed.

- ✓ Use census data/WFP approach for identification of districts and blocks in Orissa
- ✓ Remote forest-dependent communities
- ✓ High concentration of STs/SCs
- ✓ High Concentration of landless or functionally landless.
- ✓ Low availability of food grains and poor access to PDS.

- ✓ Low per capita intake of calories.
- ✓ High level of out-migration
- ✓ High percentage of people belonging to BPL
- ✓ Marginal workers representing a high percentage of total working population (age-specific and gender-specific labour force).
- ✓ High unemployment rates and chronic underemployment.
- ✓ Low educational status (gender specific).
- ✓ High morbidity/mortality trends (IMR/MMR), gender specific.
- ✓ Insufficient healthcare facilities and low access to health care.
- ✓ High percentage of female-headed households.
- ✓ Low level of decision-making by women in all aspects of family and community life, women's access and control of assets and benefits.
- ✓ Presence of potential NGOs/CBOs or other agencies with proven capability to plan and undertake development activities.

This step of secondary research gave a deeper insight of the prevalence of poverty and level of food insecurity in different pockets of the state. Based on this information the final area of study was selected.

6.2 Primary Research

After the district and blocks were identified detailed a door-to-door survey was undertaken to identify individual/families at risk by trained personnel in all the villages using the following parameters.

- ☞ Prolonged illness
- ☞ Physically/mentally challenged
- ☞ Unable to work due to age factor/old age/child
- ☞ Living alone

- ☞ Negligible/very limited source of income
- ☞ Non-affordability to purchase grains
- ☞ Low accessibility to social security system
- ☞ Schedule caste/schedule tribe
- ☞ Out-migration of all able bodied persons
- ☞ Not presently enrolled in emergency feeding
- ☞ Not enrolled as BPL family
- ☞ Dependent on forest food (fruits/roots) for at least one month
- ☞ Whether children/parents live in the same village
- ☞ Whether in the Vulnerable age group (0-6) or (>50)
- ☞ Any other (specify)

Huge volume of data was generated regarding the socio-economic condition of the target villages from this exercise. Then 10% of the total people who were at risk were taken for detailed survey through semi-structured schedules. PRA techniques were also used extensively to validate and also to get quality feedback regarding the existing socio-economic condition of the target population.

6.3. GIS Mapping

After the data so gather using a multiplicity of methods they were analysed and an effort was made to identify the vulnerable people. A Geographic Information System (GIS)-based surveillance system for hunger monitoring was prepared and handed over to various authorities for better monitoring and surveillance of the people at risk.

6.4 Research tools:

A combination of research tools were used for the study. For household and door-to-door detailed survey a semi-structured

schedule was used which was administered by trained PRI members, Aanganwadi workers, ANMs, village health workers etc. under the supervision of XIMB. This was used to get mainly various socio-economic profile of each individual so that reasons of vulnerability could be assessed better.

In order to get qualitative feed Participatory Rural Appraisals (PRAs) were conducted in each village. Participatory Rural Appraisal (PRA) is a very effective method to gather qualitative information from the illiterate and semi-educated people, especially women. Participatory Rural Appraisals were conducted to gather valuable information from the rural people on matters of health and nutrition. SARAR technique was used for this assessment. SARAR is an acronym for Self-esteem, Associative Strength, Resourcefulness, Action planning and Responsibility. This technique is one of the most prevalent techniques for programme and poverty evaluation exercises in which people come under one platform and share their perception on various issues without being biased. This generated lots of qualitative data on the socio-economic condition of the people before, during and after the project. Tools like investigative technique, mapping, participant observation, ranking exercises, Venn diagrams were used in this process.

6.5 Depth Interview with Various Officials:

After collecting data on people's perception an attempt was made to know the perception and the state of preparedness of various block and district level officials

as well as PRI members. This interaction with officials gave an outlook regarding the prevalence of hunger and ways and means available to fight hunger.

After the first stage of secondary research two districts were selected based on the pre-determined parameters. Out of these two districts the study area was further pruned to two Blocks – Bongamunda in Bolangir district and Kotgarh in Phulbani district. These two districts are one of the most backward in terms of development index. The following socio-economic information on the project area clearly shows the present state of affairs in these two blocks.

	Kotgarh Block	Bongomunda Block
Total No. of Households	7,484	16,791
No. of Inhabited villages	142	133
Total Population	32,313	79,929
<i>Male</i>	16,222	40,024
Female	16,091	39,905
%age of SC Population	18.59	17.66
<i>%age of ST population</i>	56.64	18.99
Total Literacy Rate	20.14	28.90
<i>Male Literacy</i>	31.54	46.84
<i>Female Literacy</i>	8.69	11.15
Total Workers	15,919	35,742
<i>Male</i>	9,365	23,677

<i>Female</i>	6,554	12,065
Total Main Workers	12,680	30,015
<i>Male</i>	8,921	23,545
<i>Female</i>	3,759	6,470
Marginal Workers	3,239	5,727
<i>Male</i>	2,795	5,595
<i>Female</i>	444	132
Cultivators	6,510	17,004
Agricultural Labourers	5,154	9,229
Public Health Facilities (Allopathic)	3	4

6.6 Study Process:

A. Block Level Workshop:

Before the survey was undertaken a sensitization camp was organized in each of the Block Headquarters. In this workshop the participants were District Collector, BDOs, *sarapanchs*, ward members, *samiti* members, and other block and district level officials. The Basic objective of the meeting was to acquaint the representatives of PR institutions as well as other block and sub-divisional officials on Food insecurity mapping and vulnerability assessment study and to get their feedback so that the study can be conducted smoothly and in a participatory way involving all the stakeholders of the block. Issues like lapses in social fabric, Exploitative Migration, Social security services and lapses, Economic/livelihood related vulnerability, Seasonal food vulnerability, Health/education related vulnerability were widely discussed. The grass-roots level functionaries actively

participated and came out with their observation and understanding regarding the problem of food insecurity. Some of the more important observations made by these people at these workshops are

- Follow up mechanism need to be developed for the identified vulnerable HHs.
- Immediate and Appropriate measures need to be taken at panchayat and village level both by the community as well as by the PR institution to address hunger and starvation.
- Vulnerability is basically related to poverty and creation of employment and assuring the same could be a possibility for its reduction.
- Emergency feeding should be given both the time i.e. on lunch and dinner rather than once in a day prevalent at present (during lunch).
- Enough scope needs to be created for developing irrigation potential at *panchayat* and village level through lift irrigation points and other water harvesting structures.
- There are a number of HHs where there is none to feed the aged people though food is available at *panchayat* for supply.
- In many HHs, no food is available for consumption purposes.
- Govt. Social security measures not reaching to the people who need the most.
- Involvement of all stakeholders is highly required in this direction for food vulnerability reduction.

- For labourers, wage is available only during agriculture season resulting in less number of food security days.
- Steps taken towards creation of employment opportunity are not enough at district as well as block level.
- High infant mortality rate in both the areas.
- Depletion of assets is common. During employment scarcity, people compel to sell/mortgage HH articles at throw away prices.
- Nuclear family approach (separate living of son after marriage) is a customary in the tribal community which is affecting the social fabric.
- Lapses in social security mechanism and economic insecurity make people more vulnerable.
- Per capita HH land holding is very low. As land occupancy is less, production is also affected which has got a direct link with food vulnerability.
- Improper water and sanitation facility prevails in rural area, which deteriorates health condition of people and by the micro nutrient absorption.
- Many villages are still in an inaccessible zone for which district machinery finds it difficult to reach them.
- Food for work is not utilized properly to address hunger and poverty issues.
- Food, health and education are three major aspects, which need to be emphasized in the district for vulnerability reduction of people in general and tribal in particular.

B. Gram Panchayat Level Workshop

After the Block level a series of Gram Panchayat level workshop were organized at Gram Panchayat level. The participants in this workshop were *sarpanchs*, ward members, *samiti* members, Block Chairperson, VLWs, AWWs, ANMs, Govt. representatives etc. The main focus of the workshop was to explain about the checklist of the proposed Household survey at Village level. These people were trained by professionals of XIMB how to conduct the survey. An effort was made to make the survey foolproof and authentic by making the respective officials accountable. This made the exercise authentic.

After the door-to-door survey 10% of the total identified individuals/households were selected on a random basis for detailed household survey (see Annexure-II and III).

PRA Exercise

In order to validate the quantitative data and to get further information on vulnerability PRA exercises were conducted in sample villages in which the entire village participated. Women were encouraged to participate and come forward with their views.

GIS Mapping

Based on this huge volume of data gathered at different time GIS-based mapping was done to identify the most vulnerable individual/households of the society. The GIS-based database of the vulnerable people and households has been handed over to the respective *sarpanchs*, BDOs, District Collectors for follow up action.

7. Study Finding and suggestions:

As this study is mainly is to identify the vulnerable people and individuals who are threatened by possible starvation deaths no statistical presentation is made. However during the course of the study 2672 individuals in Bongamunda Block of Bolangir district and another 1120 families in Kotgarh Block of Kondhamal district. Apart from mapping the individuals the research team came across many findings related to hunger which should be taken care of with due importance.

There is no denying the fact that hunger and starvation does exist, if not starvation deaths in some parts of the state especially in the western and tribal areas. There are varying reasons for this malady. But generally speaking ensuring adequate food for all, the four major hindering factors found in the rural area are, lack of self sufficiency in food production (production at par with the land carrying capacity), inadequate food availability for the people, less food entitlement for the rural mass and inadequate nutritional intake. These factors are interlinked with each other and cannot be addressed separately. A holistic approach needs to be taken to deal with issues relating to hunger. Therefore, diversification of activities needs to be stressed adequately to find out possible solution for hunger. Diversification in agricultural practices (such as cultivating low water intensive crops, opting for cash-crops and food-crops instead of the customary paddy which has become highly unremunerative over the years) and combination of agricultural and non-agricultural activities may also facilitate further towards ensuring a community free from hunger.

As all these components substantially inbuilt in the concept and approach of “The Hunger Free Zone” it was felt that such a holistic approach could give specific direction in this regard addressing all dimensions of misery rather than providing solutions in isolation.

A. Suggestions:

Instead of shying away from this very fact that hunger and starvation does exist everybody responsible addressing the problem should stand up and devise a workable plan to execute. As pointed out.

In contextual term “The Hunger Project” is a vision to realize and to make people free from hunger. Based on Gandhian philosophy, the project looks for a healthy and productive future of people in harmony with nature. For its actualisation, the strategies to be adopted are based on principles of empowerment, gender equity and self-sustenance. Utilisation of available local resources and involvement of people’s institutions/local institutions could be helpful in strengthening strategic intervention for a society free from the domain of hunger. Through the holistic characteristic of “The Hunger Project” we can focus on empowerment process of people especially the weaker section of the society and to create opportunities for betterment.

The hunger project never sees hungry people as objects of charity but as the authors of their own lives. The investment is to empower their self-reliance. The Hunger Free zone strategy is not about creating ideal villages by focusing resources into certain areas “that has been done hundreds of times and it seldom works”. They

don't spread because the status quo is so powerful that ideal villages remain isolated. The key is empowerment of the poorest members of society to become self-reliant. There must be (a) a focus on *reaching the unreachable*, those living in remote areas, (b) *social empowerment*, a commitment by the people to set aside social evils such as drinking (c) *economic*, so that people gain productive assets and (d) *information empowerment*, to ensure people gain access to opportunities that are rightfully theirs and lastly (e) *mainstreaming* the sections which are being deprived or sidelined from the process of development.

B. Follow Up action:

The study indicates that there are not many disproportionately high number of people who are perennially starving. But the problem is that these people are not tracked properly. At present there are no dearth of schemes and programmes to take care of these distressed people. But the question is who would own for follow-up and tracking them? Obviously the government machinery is not geared up to provide such individualistic service. PRIs, SHGs/CBOs and local NGOs can play a vital role in addressing this peculiar problem. These community-based institutions should be encouraged and in fact should be entrusted to keep a track of the targeted individual and provide the service to overcome their distress conditions.

8. Conclusion:

It is beyond the comprehensive of any right-thinking individual that when godowns are overflowing with grains and there is bumper

production why people should starve? Even if the logic that starving people do not have purchasing power does not hold good as there are social safety nets for the most vulnerable section of the society. If the existing schemes and programmes aimed at these people are implemented in the right earnest, the stigma of starvation can be addressed in the right perspective. It is high time government, PRIs and civil society organisations took up their responsibilities to ensure that nobody goes without food for a considerable period to be branded as starving.

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Mr. R. K. Mallick

Research Scholar,
Department of Applied Geography,
Ravenshaw University,
Odisha, India
Mallickgis@gmail.com,
Mallickdevelopment@gmail.com

Prof D. N. Rao

Vice President
Centurion University of
Technology and Management,
Visakhapatnam, Andhra Pradesh, India
email- dnraojitm@gmail.com

