

## MEASURING FOOD SECURITY THROUGH QUALITATIVE INDICATOR: A CHALLENGE BEFORE RURAL MANAGEMENT: A CASE STUDY

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### ABSTRACT

The ongoing concern for Ecology, Climate change, Gender and Minorities issues, International conflicts have a nodal point in the name of Food security or let us say Food insecurity. Is our nation ready to measure itself in terms of food security or still we are gauging ourselves in terms of food insecurity? The pressure on the developing nations by World Bank for evolving a method of Good Governance gave birth to the Millennium development goals 2000. Eradication of extreme poverty and hunger were the first priority of United Nations MDGs. This gave rise to question the formulation, implementation and evaluation of Food security as a developmental tool.

The paradox is that everybody understands the problem deeply but has no sustainable solution to solve it and if at all they have, they are dependent on the other significant contributors to food security. It is worth mentioning that food security can only be ensured when all the forces are working in cohesion with each other and not just on one agenda. It has to be wholesome and an honest way of finding limitations, overcoming it with innovative thinking and a transparent system wherein the last person must also be involved. The production, distribution and utilization are the three pillars of food security. If anyone of these is missing, food security cannot be ensured. The two large food distribution schemes owned by the government of India are the targeted public distribution system (TPDS) and the mid-day meal scheme (approximately 120 million children are signed up). It is the mismanagement of storage facilities and poor logistics that has created distrust in both the operations which are actually extensive and good and can always be improved through many ways, provided the state acts accordingly. It is the mockery of the whole system that despite of having lot of research in the productivity area nothing much is there to ensure food security to the poor and destitute. This paper has cases and examples from the targeted area and gives us real location specific indicators and its findings are a humble attempt to at least put forth a set of ideas for the development of the marginalized society in some way or sensitize the policy makers so that many other such societies can follow the same model of upliftment.

**KEYWORDS:** Food Security, Qualitative Indicator

### INTRODUCTION

#### What is Food Security

Food security exists when all people, at all times, have physical and economic access to enough safe and nutritious food to meet their dietary needs and food preferences for an active and healthy lifestyle. (World Food Summit 1996)

To be food secure means that:

- **Food is Available** - The amount and quality of food available globally, nationally and locally can be affected temporarily or for long periods by many factors including climate, disasters, war, civil unrest, population size and growth, agricultural practices, environment, social status and trade.
- **Food is Affordable** - When there is a shortage of food prices increase and while richer people will likely still be able to feed themselves, poorer people may have difficulty obtaining sufficient safe and nutritious food without assistance.
- **Food is Utilised** - At the household level, sufficient and varied food needs to be prepared safely so that people can grow and develop normally, meet their energy needs and avoid disease.

### **What Happens When People Do Not Have Food Security?**

For the more than 800 million people who do not get enough regular, healthy food, ill health and a shorter life expectancy are real risks. Children, and especially very young children, who suffer from food insecurity will be less developed than children of the same age who have had sufficient food. They will most likely be shorter and weigh less, and be less able physically and intellectually, because of poor nutrition.

### **Why is There Food Insecurity?**

#### **Poverty**

Poor people lack access to sufficient resources to produce or buy quality food. Poor farmers may have very small farms, use less effective farming techniques, and/or be unable to afford fertilisers and labour-saving equipment, all of which limit food production. Often they cannot grow enough food for themselves, let alone generate income by selling excess to others. Without economic resources and a political voice, poor farmers may be forced on to less productive land possibly causing further environmental deterioration. Addressing poverty is critical to ensuring that all people have sufficient food.

A new peer-reviewed journal of *Food Security: The Science, Sociology and Economics of Food Production and Access to Food* is to be published from 2009. In developing countries, often 70% or more of the population lives in rural areas. In that context, agricultural development among smallholder farmers and landless people provides a livelihood for people allowing them the opportunity to stay in their communities. In many areas of the world, land ownership is not available, thus, people who want or need to farm to make a living have little incentive to improve the land. Important issues for farmers under discussion currently are: land ownership, soil quality, water use, subsidies, credit, market stability/access and insurance. Further

A direct relationship exists between food consumption levels and poverty. Families with the financial resources to escape extreme poverty rarely suffer from chronic hunger; while poor families not only suffer the most from chronic hunger, but are also the segment of the population most at risk during food shortages and famines.

Two commonly used definitions of food security come from the UN's Food and Agriculture Organization (FAO) and the United States Department of Agriculture (USDA)

- Food security exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life. (FAO)
- Food security for a household means access by all members at all times to enough food for an active, healthy life. Food security includes at a minimum (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to acquire acceptable foods in socially acceptable ways (that is, without resorting to emergency food supplies, scavenging, stealing, or other coping strategies). (USDA)

The stages of **food insecurity** range from food secure situations to full-scale famine. "Famine and hunger are both rooted in food insecurity. Food insecurity can be categorized as either chronic or transitory. Chronic food insecurity translates into a high degree of vulnerability to famine and hunger; ensuring food security presupposes elimination of that vulnerability. [Chronic] hunger is not famine. It is similar to under nourishment and is related to poverty, existing mainly in poor countries."

"The number of people without enough food to eat on a regular basis remains stubbornly high, at over 800 million, and is not falling significantly. Over 60% of the world's undernourished people live in Asia, and a quarter in Africa

This case study is of Shahjamal area of Aligarh District, mainly the population of which comprises of fifty percent Muslims and fifty percent non Muslims. Either they are working in the locks factory or they are the small farmers. The muslim area was mahfoznagar and the non Muslim area was prem vihar. People were trying to conceal their incomes from every sources but it was tried to extract as much information as possible.

Families at shahjamal were mostly nuclear *karkhanas* workers including children under 14.

But on being asked that why they are exploiting the future of their children they had no answer but the expression on their faces showed that they were guilty conscious. Although children are school going their names are enrolled in the school registers but they just go as a formality.

It was observed that the nature of houses was that, that most of them had rented houses but some had owned houses and much of their income was drained by paying house rent which was quite big.

People of Muslim community complained that neither there was electricity or power in their area nor their names are there in the voters list and top it all they do not have access to the public distribution system..

Major fuels which are used for cooking are cow dung and kerosene, few houses use LPG but these houses are quite food secure.

### **Productive Assets: Land**

In Shahjamal, respondents commonly identified landholdings as an important determinant of a household's ability to provide food for its members. during the mapping exercise, villagers cited reasons for identifying certain house holds as food insecure. In shahjamal villagers indicated that roughly 40 percent of households were food insecure due to landlessness or lack of good quality land 0571 .The indepth interviews supported this findings. Specifically ,many interviews showed that landless families are day by day uncertain whether they will find work.

One of the families in seven is landless and they cannot think of sitting at home for one single day. One of them states, "If I lose wages for one day, then we must struggle for two days to eat." Similarly, a landless widow depends heavily on her partially disabled son's wages to buy groceries... "if and when he gets them. "Owning land, she claims, would make it easier for them to obtain loans. In addition, they could at least lease the land out and collect rent. This would take the pressure off days when no wages are earned.

Quality of land appeared to be more important than quantity in determining the food security status of the family.

The Ghafoor's family owned five acres of dry land. Lack of irrigation meant that farm production hinged on receiving abundant and timely rainfall. Roughly, since three years in five are witnessing poor rainfall years in Aligarh hence the risk of poor crop production is great. This year was not unusual: ghafoor's received only 50 kilograms of sorghum from his land; just enough to feed his extended family for a month. By contrast, access to irrigation meant that inferior land could be fairly productive.

Therefore, households with a modest amount of fertile land or irrigation were often better-off than those with larger plots that were dry and infertile.

### **Productive Assets: Livestock**

Although lack of land seemed to be the most commonly cited reason for food insecurity, observation and interview revealed that livestock ownership or sale might also be a good indicator. In the village, we observed that poor households rarely owned large livestock nor had access to them or do not have any cash to rent them. The most resource-poor households lack relations with those who own bullocks. Shamshad, for example, owns 2.5 acres of low quality land (banjar dubba). Since he does not have access to a bullock, he must either borrow money from the village moneylender (savakr) to rent them or let his land sit idle. This year Shamshad decided to let his brother graze animals on the land rather than farm it.

Larger farmers, by contrast, owned a number of large livestock such as cows, hulloks, and buffaloes. These households typically owned irrigated land, which reliably provided crop wastes to feed the animals.

Despite the advantages of owning large livestock, these animals could also become an unnecessary burden to families living on the edge. Usually, if a poor family owned any large animals, it was just one or two. During bad agricultural years (such as the year of our study), fodder and water prices were high and these households could not afford to feed the animals. For example, the Ghafoor family was forced to liquidate what seemed to be a profitable asset. Ghafoor explained that their bad harvest meant that they must spend exorbitantly to buy fodder for the bullocks.

With the cost of fodder rising, Sumit Navendra sold two of his cows and began to half the amount of fodder fed to his remaining cow. Milk production, he predicted, would fall and it would probably be unprofitable to maintain the last one. Nevertheless, he felt sentimental about this cow and kept it because it was 'lucky.

Because large livestock often generate income, households are reluctant to liquidate them. However, when they do, it is because they have no other choice, Sheik Abdul Ahmad, a worker in a lock factory from Mahfoznagar (shahjamal) was planning to sell a milking buffalo for Rs 2,000, even 10 though it provided roughly Rs 250 per month. He and his wife had no stocks of rice and had already cut down on purchases of vegetables, oil, and chilies. Debtors were demanding their money and Abdul Ahmad saw no other way but to sell the buffalo. Selling the buffalo would pay half the

loan and allow him to buy rice for the family.

### **Other Productive Assets**

During my work, I also observed that ownership of various other productive assets could either contribute to the food security of the household or destabilize it.

In general, it depended on whether the asset allowed, the household to rise out of debt or whether it created more debt. For example, a middle-aged widow named Annapurna began a small business making chuhlas, or mud stoves. Her business did not require any capital and, before long, she had saved some money to put toward a chile grinding device. The remainder she took as a loan. Before long, Annapurna's chile grinding business was providing regular income.

Within no time, she had paid off her old debts and was making regular payments against her loan. Buying the chile grinder, she said, was the best decision she ever made. Not all investments worked out, however. Krishna, a well digger from prern vihar used Rs 10,000 in savings to purchase a crane with a partner. The crane could be used to remove mud from hand-dug wells. Although he would earn out Rs 1,200 for each well contract, Krishna miscalculated the demand for the crane as well as the costs of paying a team of laborers to work the crane. As a result, his crane sat idle and his other debts, totaling Rs 1,700, were unpaid. He took another loan to buy some dry land, but the poor rains meant no harvest is year. Later in the year, we learned that he was forced to migrate to the city to repay his debt.

### **Distress Sales of Other Productive Assets**

Meena, wife of Yameen a rickshaw puller, says she has sold till now 40 percent of valued items in distress. 10 grams of gold, a wrist watch, and Sewing machine etc.

Another case is of Sikandar who has sold his youngest son to his master and the master in return sends 800 rupees and staple food to him.

Ishaq Ali says he has sold all the silver jewellery of his mother in law as she was no more in the world. In this way many have sold their close assets and cattle. The reason is quite easy that either to pay back the loans or to buy immediate food or for the marriage of their relatives.

### **Loans**

It was noted that most food-insecure families were preoccupied with obtaining and paying back loans. Both agreed that a good indicator of household food insecurity was the number of small debts owed. Among the food insecure, it was not uncommon to have a variety of debts. In mahfooznagar five out of the seven case study families were heavily in debt.

Majeed said that he had so many loans; he could not remember the number of people he owed. His wife, Anisa begum said that she did not know how to repay these loans. Almost certainly, they will use a system of *adal-badal* (literally "exchange") to repay. By this, Anisa meant that she will take a loan from one person to pay another and then take a new loan to pay off the second one. The situation of multiple debts was commonplace. Krishna Gouda, for example, owed Rs 3,000 to a moneylender, Rs 1,000 to a cousin, Rs 3,000 to his wife's aunt, Rs 300 to a caste fellow, and a number of small bakis (or debts) to clothes merchants and neighbors. The total debt was greater than one year's salary.

In mahfooznagar households held larger sums of debt than in Premvihar But in both villages, the strategy of juggling small debts from neighbors, shopkeepers, and friends was a remarkably robust finding among the food insecure. Steeped in debt, food-insecure families took small loans (Rs 5 -10) to purchase enough food for one meal. In addition, they borrowed grain, with or without interest, from neighbors, large landowners, and shopkeepers. It was not uncommon for households to have debt at several stores in the village. In the mahfooznagar for example, Benazir explained, “We don’t have lump sum amounts to buy groceries or pay back the credit at once.’

Instead, she buys on credit from two or three grocers at once, each of whom only allow her a small amount of credit. In this way, Sushil bai juggles her daily food expenses, even though she remains in an endless cycle of debt. Similarly, Sabena holds credit at three different grocery shops. When a shopkeeper refuses to give her credit, she tries to get credit at another until she can pay back the first one.

Poor households also took loans from local moneylenders at high interest rates. Often, the interest amounted to as much as the principle. Wali Mohammad, for example, took a Rs 312 loan four years ago. After four years, the interest and the principle amounted to Rs 650. Villagers also took large loans from banks or cooperatives, but more often avoided these sources, as the paperwork was too troublesome and confusing. In shahjamal bank officers were not as strict about collecting on loans and many villagers were lax about repaying. Here, we observed that debt was a “web from which it is difficult to extricate oneself.’ Many of the villagers felt the same way. One worker of the locks factory, from a Harijjan case study family, was “drenched” in debt and finally had to migrate from the village, since he had no possible way to repay it all.

### **Wage Workers**

In both communities, wage workers with no other source of income were often food insecure.

Women wage laborers of Mahfooznagar commented that their food security for a particular day depended on whether they got work on that day. Haseena khaton, an elderly wage almost entirely on wage work, but cannot always get it.

Due to the seasonality of the agricultural cycle, the food security status of agricultural wage workers also followed a seasonal pattern. Most wage workers that were interviewed (irrespective of caste) agreed that the period right after the main harvest was a time of relative food security. During this time work was abundant and they were paid in-kind wages. Conversely, the months preceding the harvest are relatively lean.

For wage working families, the lack of regular work during the lean seasons was often exacerbated by increased morbidity among children. The effect of children’s illness on household food security of wage households was clearly stated by the women interviewed: during these periods, women often had to forego wage work in order to look after their sick children.

### **Women with Young Children Who Work For Wages**

Interviews with the families, key informants, and observation in the village indicated that women with small infants who still went for wage work often came from food insecure households. When asked, villagers agreed with this assertion; local customs dictate that mother should stay with their children, particularly if they are breast-fed. On the whole, women from food secure, particularly, upper caste families, did not work outside their home or their own farms.

Conversely, mothers in foodinsecure families had no choice but to go for wage work. In mahfooznagar for example, Shabbo took her four-month-old daughter, Guddi, to the factory when she works. Her family cannot manage alone on her husband's earnings;

They say "we are surviving only by working hard." In Premvihar Anno also took her infant when she went for wheat harvesting. During the harvest period, she was employed less than one month, but earned 50 kilograms of sorghum, enough to feed her family for two months.

Many women lamented over having to leave their children unattended while they sought wage work. Sujatha, for example, passed tenth grade and has a good job in a locks factory. However, her husband does not contribute regularly to the family income. To feed her family, she will take any job, even agricultural work. Her children wander the village in (her) absence. "they are too young to take care of themselves," she said, "but what to do?"

### High Ho Use Hold Dependency Ratios

Throughout the qualitative work, villagers identified various demographic variables as strong determinants of household food security. More so than the absolute size of the household, the villagers listed characteristics that were related to the number of persons capable of earning money or the number that must be supported by those who work. Many of these variables (e.g., "one person earning," "disabled head of household," "many small children") are related to the elic concept of the dependency ratio. For example, the villagers

Thought that households that were dependent on a single wage earner were at high risk of food insecurity .They identified the most food-insecure families in

Their neighborhoods, villagers cited "only one earner" as a common reason for which these households struggled. In

Mahfooznagar for example, 37 percent of the total households identified had only one earner; in Premvihar 36 percent of the households identified had one earner.

The villagers also identified households comprised of many elderly or solely elderly members as food insecure. In mahfooznagar 40 percent of households identified that elderly members who could not work for money or could only do light housework are more food insecure. The situation was similar in Premvihar where 43 percent of the identified households were identified because they had old members. Villagers also noted that many of these elderly households did not have any social support; either their sons did not support them or they did not have any sons. Consequently, they struggled.

During our survey, villagers also identified households with several small children as food insecure (with special reference to Muslim area of mahfooznagar). This indicator was not as strongly associated with food insecurity as the presence of the elderly. Our studies on these families provide several reasons for which these household were vulnerable. First, child-bearing and caring responsibilities often kept women away from wage work. Charu, a 24-year-old mother of five, reported that she lost seven days of wages when her daughter was ill. To tide the family over, she borrowed Rs 20 from her neighbor to buy food. In Premvihar a 26-year-old mother named Akbari worked until the eighth month of her first pregnancy. She stayed home for three months after her delivery, but then resumed wage work, since her wages were



essential for the family.

Aside from the cost of lost wages, children's sicknesses require money for doctors visits, transport, and medicines, as well as lost wages for the caretaker. Shakir, a toddy tapper, complained about spending roughly 100 rupees per month for his children's medicines (equivalent to roughly 10 of his wife's wage days). Similarly Charu claimed that in addition to losing her 7 days of wages she had to pay transport costs and doctor's fees when she took her daughter to see a physician in Aligarh city (quite far from Shahjamaal). Charu explained that if she or her husband become ill they can sleep off the fever.

However, if the children become ill she must take them to the doctor despite the cost.

### **Buying Staples ONA DAILY BASIS**

Direct observation and interviews indicated that purchasing staples on a daily basis was a strong indicator of food insecurity. Poor people could not afford to buy enough for long periods of time. They bought cereals at least twice a week, usually after the "wage day." Researchers recorded a number of instances in our studied families where mothers purchased only enough food for a few meals at a time. In Mahfoznagar Charu and Akbari regularly bought only what they needed as they were dependent on daily wages. Sometimes purchasing grains on a daily basis was part of an intricate food security strategy. In Premvihar Savita was the second wife of a farmer with some irrigated land. Her husband did not support her. To cope, she said that she would buy 'atta' on a daily basis whenever she would get wage work. She would save her bag of storable local sorghum for the leanest season. When questioned, villagers agreed that buying staples on a daily basis was an indicator of food insecurity. The Ghafoor's family ornamented, "One who can't earn enough to store at least for two or three days will buy every day. They are surely food insecure."

### **Illness**

Households in which working age adults had physical disabilities or chronic illnesses were also identified as being food insecure. We also found examples in our studied families. Laxman of Premvihar became ill at the age of two. As a result of this sickness, his upper right arm became wasted and now he has a problem getting wage work. Similarly, Rama fell from a toddy tree almost 20 years ago. He can still climb toddy trees, but is unable to do heavy work such as well-digging, road making, plowing, or harrowing. Aside from long-term disabilities, accidents with temporary consequences can bring on large medical expenses, which begin a downward spiral.

Vinod Manohar of Premvihar used to work on a sand carting truck. However, recently, a motorcycle hit him while he was on his bicycle. One month after the accident, Vinod Manohar was still unable to work and was forced to borrow Rs 2,500 to pay medical expenses. His wife, Archana, said; "Now we have to borrow money for the first time in our life. We are finished."

Many rickshaw pullers and karkahna workers are suffering to Tuberculosis. They are living in an unhygienic and deplorable condition.

Huanara's only son is suffering from rickets and she does not have enough money to see the doctor. In many households it has been observed that children are suffering from Polio and chickenpox.

### **Migration in Search of Work**

In Mahfoznagar as well as Premvihar migration appeared to be a strong indicator of food insecurity. Wage work



within the village was often not available during the lean seasons. Families with no productive activities within the villages sent migrants to cities or to labor-deficit agricultural areas. In

Mahfooznagar Aslam migrates in a circular fashion to Khurja 35 kilometers from Aligarh. There he works as a rickshaw puller for 15 days a month; the remaining 15 days he returns to Aligarh to be with his family. "I don't have to struggle for jobs. I run a rickshaw in the city and save money for my family," he says. Each month he sends about Rs 250-300 to his wife and then see during the 15 days that he is home in the village. If he gets work, then he might earn Rs 100 rupees in 15 days. Women also migrated temporarily during the lean season. During the summer season, four women from here migrated to labor-deficit areas for rice planting or harvesting. All were from food insecure families that had no other means of making money for food. Migration. However, appears to be a very village-specific response. In Mahfooznagar, fewer people migrated to the city.

Ishaq Ali says that he has the best talent of nickel polishing but out of 30 days of work he gets only 15 days of temporary employment. His talents are remaining idle.

## RESULTS AND FINDINGS

My works with qualitative methods suggest that they are a promising tool for small-scale organizations that do not have the human or financial capacity to engage in large-scale indicator development exercises. Indicators suggested through qualitative techniques, however, are not generalizable beyond the communities in which they are developed. The qualitative experience suggests that many indicators represent coping strategies that are very location-specific; as such an in-depth understanding of the local culture is needed to identify and interpret any given indicator. The location-specificity of these indicators is not likely to be a problem for small-scale nongovernment organizations that have long-term commitments to certain communities. We believe that these organizations can (and do) use many of the same types of participatory exercises we used, as well as the more traditional ethnographic methods to develop community specific indicators. In addition, organizations will be able to develop new participatory methods that specifically meet their needs. In general, however, more attention needs to be paid to particular combinations of indicators that are strong indicators of food insecurity. My study did not investigate locally determined combinations, but we anticipate that they would be much more valuable than single indicators.

If indicators are identified in a qualitative fashion they can be validated over time using an NGOs "inside knowledge" of the community as well as the community's assessment of how the indicator is working to target the food insecure. Given the location-specific nature of indicators it is unlikely that "successful" indicators can be shared with other organizations without some sort of validation (quantitative or qualitative) in the new location. The qualitative methods we used to gather information about food security conditions were simple and feasible at the community level. They did not require large amounts of data entry and data analysis time. They will require adjustments for each new situation, however.

## CONCLUSIONS

### Future Scope

In addition these methods require investigators with solid training in ethnographic/participatory methods. Investigators must have the capability to leave behind preconceived notions regarding food security relationships. They

must learn about community perceptions about food security and observe patterns within the community. The skills necessary for this work were difficult to glean from traditional resumes; but they became more obvious once we worked with individuals in the field. Although it is desirable to have investigators with prior experience in participatory methods it is also possible to train a group of candidates in these methods and then choose the ones that show the most promise during the field training exercises.

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