

New paradigm in understanding food security in Bangladesh: experiences from fieldworks in coastal areas of southwest Bangladesh

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Abstract. *Food security in extremely poor households in developing countries like Bangladesh has become exceedingly challenging because of high exposure to natural disasters, weak institutional governance, high population density and rapid urbanization. The conceptual understanding of food security has been changed over time, and the 3A's model- availability, accessibility, and application has clearly shifted our conceptual understanding of food security in our recent time. However, the 3A's model does not express the total scenarios of food security, in particular the links between food and non-food issues in conceptualizing food security because most of the previous researches tend to capture food security in a modernist perspective-driven by experts' opinion and interpretations. This paper campaigns for adopting the interpretivist methodology in understanding and capturing the prevailing complexities of food security, keeping the sensitivity and voice of food insecure households, in particular the extremely poor households of Southwest coastal areas of Bangladesh. In addition, this paper reviews and critiques the prevailing complexities in conceptualizing food security due to its multidimensional characteristics. In order to explore and explain the complex understanding of food security, this paper employs both the methodology of listening and understanding and the interpretative framework for collecting qualitative data regarding the understanding of food security. This paper promotes the necessity to adopt the 'methodology of listening and understanding' from an Interpretivist perspective that is mainly qualitative in nature, is able to make sense of the complex understanding of food security containing both food and non-food issues by generating multi-contextual information provided by the extremely poor households in coastal areas of Southwest Bangladesh.*

Keywords: *coastal areas of Southwest Bangladesh, food security, Interpretivist methodology, and methodology of listening and understanding.*

JEL Codes: Q18.

1. Introduction: Understanding the shifting complexities in conceptualizing food security through the 3A's model

The concept of food security is multidimensional in nature than can be clearly reflected at definitions in different research and policy usage ranging from self-sufficiency of food to coping with disaster vulnerability and risk (Clay, 2002; Heidhues et al., 2004). A conventional concept of food security can be

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related with providing both physical and economic access by all people at all times to safe and nutritious food to meet the dietary needs for an active and healthy life (FAO, 1996); however, numerous studies have conceived of competing definitions of food security with more than 200 definitions and 450 indicators (Hoddinott, 1999).

At a landmark international conference in 1974, the World Food Summit has incorporated the coordinated actions to deal with global food crisis and to ensure future availability of adequate food to all at reasonable prices (FAO, 1974). Eventually, the opportunities have been created to tackle the global food problem through inter-governmental cooperation to improve food availability as well as distribution. In the beginning stage, the concepts of food security have given a particular focus on basic food availability and price stability at international and national level (Clay, 2002). As a result, national government tend to emphasize food availability through increasing food production; however, the major components of food availability depend on the adequate production and distribution of food (Ericksen, 2008; Gregory, 2005).

Recent evidence shows that both domestic food production and food importing play a central role for food availability, which is very much similar to the understanding in 1970s. Nevertheless, the understanding of food availability associated with food security has been shifted from domestic food production to vital interaction between agriculture/food policies and socioeconomic factors at the micro and macro-level (Hall, 1998), as it has been estimated that the global demand for food may increase by 60 percent by 2050 (FAO, 2012). Careful observation on food availability reveals that instability in food production associated with environmental variability can become significant challenge for domestic food production particularly in developing countries (M.S. Swaminathan Research Foundation, 2001). The initial concepts of food security have addressed the supply shortfalls created by production failures (Borton & Shoham 1991); however, drought, flood and diseases have always raised concerns about availability of food (Rochford, 2013).

The production-supply focused food security concepts have been highly questioned since the adequate food availability at the national level does not ensure food security at the individual and household levels (Frankenberger & McCaston, 1998). Sen (1981:7) explicitly exemplifies the facts particularly referring to famine that one can have food insecurity with no significant decline in food availability per head. Clearly, this becomes apparent that food security has a convincing relation with accessibility of food to people's entitlement (Davies et al., 1991). It can, therefore, be perceived that considering the access to food for food security has minimized the limitations of the prior concepts of food security.

There is much more things to discuss for food security such as adequate access by all people, sufficient access to domestically produced food and sustainable access to food without dependence on foreign-exchange-consuming imports although food security has clearly incorporated food availability and accessibility (Africa Leadership Forum, 1989). The concept of food security further highlights whether everyone has enough to eat at any time for life and for productive effort (Kracht, 1981; Maxwell, 1996). Some of the cases, the concepts of food security are preferably emphasizing the availability of food to ensure a minimum necessary intake by all members where the minimum requirement of food has become arguably confusing. Alamgir and Arora (1991) admit that the minimum requirement of food includes a wide range of factors such as body size, weight, sex, nature of work, and for women pregnancy and lactation status. The associated problems with the minimum food requirements for food security can be adjusted by providing adequate access to enough food at all times by all people for an active and healthy life (Reutlinger, 1985).

In 2000s, the concepts of food security have articulated disasters' vulnerability and risk reduction because vulnerability cuts across the food security (Hussein, 2001). A current understanding of food security indicates a situation with physical, social and economic access to sufficient, safe and nutritious food to meet the dietary needs and food preferences at all times for an active and healthy life (FAO, 2002). It appears that

the prevalence of malnutrition has declined from 1970 to 2000 (FAO, 2004); however, climate change can pose problems for national food supplies because agriculture is so dependent on the monsoon (Shukla, 2003). In addition, climate change is likely to bring greater variability that can raise the number of current 1 billion food-insecure people in the world (FAO, 2009a; 2009b; Whetton, 1994). Moreover, climate change, natural resource constraints and competing demands for biofuels have created considerable challenge for the food systems (FAO, 2012).

Clearly, the problems of food security are getting complex; therefore, the understanding of food security needs to investigate further as it's no longer dealing with only food. The non-food factors such as education, health and sanitation have become very crucial for food security (Pinstrup-Andersen, 2009); consequently, this has emerged the necessity for comprehensive understanding of food security in current time. Due to the continuing changes in issues attached to food security, it has become considerably important to understand the both explicit issues such as food production and supply, and embedded issues such as poverty and education of food security. In essence of that, one of the major growing concerns direct towards existing 3A's paradigm in understanding and analyzing food security, and also urges a new 'non-food based' paradigm in understanding and analyzing food security.

2. Methodological transition: directing towards sustainability

In general, research design has four main ideas such as research strategy, conceptual framework, research questions, and tools and procedures of data collection (Punch, 1998: 66). However, these four ideas of research design can vary substantially if we are conducting a qualitative research as it calls for considerable flexibility in design (Bazeley, 2013: 33). This paper adopts a 'methodology of listening and understanding,' which is mainly 'qualitative in nature,' is able to make sense of the complex situations of food security by generating multi-contextual information (Richards & Morse, 2013: 28). The term 'qualitative in nature' can be confusing as this means different things to different people. In a generic term, qualitative research is a situated activity that locates the observer in the world, and consists of a set of interpretations studying in natural settings (Denzin & Lincoln 2005: 3). We consider the term 'qualitative research approach' to entail a nonmathematical process of interpretation, carried out for the purpose of discovering concepts and relationships in empirical data, and findings are not arrived at by statistical procedures (Strauss & Corbin 1998: 11).

Firstly, the key reasons for adopting qualitative strategies because the extremely poor households hold the most food insecure status, and consider as the 'hard to reach' group in the society. They do not have a fixed place to live and also tend to build their houses on government's land, legally or illegally. Moreover, many of them are not included in the official statistics. Since there is lack of existing reliable data about extremely poor households to apply random sampling, the use of probability statistics would limit our understanding of food security. Secondly, the important reason is that there is little known about the experiences of extremely poor households concerning to their food and non food insecurity, and the links between these two issues. On top, we hold a viewpoint that the use of qualitative methods of inquiry offer 'voice to the participants,' that helps to explore the insights of food security keeping the contextual understanding of both food and non-food phenomena. We have adopted constructivism position, which asserts that social phenomena and their meanings are continually being accomplished by social actors (Bryman, 2012: 33). This means that the meaning attached to food security is not discovered but constructed (Crotty, 1998: 42). Aligning with this view, we believe that it is exceedingly complex to generate definitive understanding of food security. Therefore, in this research, what we are presenting is a specific version of the

meanings and understandings of food security in extremely poor households in coastal areas of southwest Bangladesh (see Table 1 for methodological framework and its components used in exploring the understanding of food security).

Table 1: Methodological Framework in Exploring the Attached Meaning of Food Security

Dimension	Aspects	Level of interaction	Framing
Context	Perception of food security by the extremely poor household heads	Link between individuals from different socio-demographic background	Interpretivist
		Link among different communities	
Process	Formal and informal food support programs	Link between individuals with GOs and NGOs	Subjectivism
Content	Understanding of food and non food issues	Link between food and non food issues in exploring food security	

Source: Authors' generated, 2017

This research assumes that food security is a social invention, and the boundaries of 3A's model (availability, accessibility, and application/utilization) of food security are artificial, which means the boundaries are socially constructed. Social constructivism relies on constructions of something are mental, as with constructivism, but they are generated as much through social relationships and conversation as through interaction with objects (Hepburn, 2006: 39). Therefore, the exploration of meanings and understandings of food security based on the original words of different stakeholders associated with food security programs may represent different perspectives of food security.

In exploring those attached meaning of food security, we have adopted purposeful sampling because it allows us to choose research participants in such a way that the researchers are interested (Silverman & Marvasti, 2008:167). In purposive sampling, participants are selected on the basis of their familiarity with the required information, willingness to reflect on the phenomena of interest, and level of interest to participate and spend the time (Spradley, 1979). We have selected the research participants with the foremost criteria of maximize the learning about food security from them.

We have performed the data collection and data analysis simultaneously. However, we gave special attention and more priority to data collection. In this regard, Bazeley (2013: 35) highlights that effective data gathering and sampling strategies can ensure quality of data for analysis. Considering that we have selected 18 research participants (see Table 2 for data collection sources along with the types of collected information) in such ways so that they would lead us to understandings, to assertions, perhaps even to modifying of generalizations (Stake, 1995:4).

Table 2: Data Collection Matrix

Sources of Information	Types of Information			
	Interviews	Focus Group Discussion	Documents	Observation/Fieldnotes
Extremely poor household heads (8 persons)	Yes	Yes	-	Yes
Local government officials (4 persons)	Yes	-	Yes	-
Local non-government officials (2 persons)	Yes	-	-	-
Members of civil society (2 persons)	Yes	-	-	-
National experts (2 persons)	Yes	-	-	-

Source: Authors' generated 2017 (adapted from Creswell, 2007: 342)

This paper adopts a consistent and recurrent pattern recognition framework, which is shown in Figure 1. This data analysis framework explores the subjective understanding of food security while analyzing the descriptive information, and examines the objectivity of 3A's model of food security through understanding the analytic information. During the data analysis, data triangulation has been carried out to generate aggregated meaning of food security from the collected multisource information.

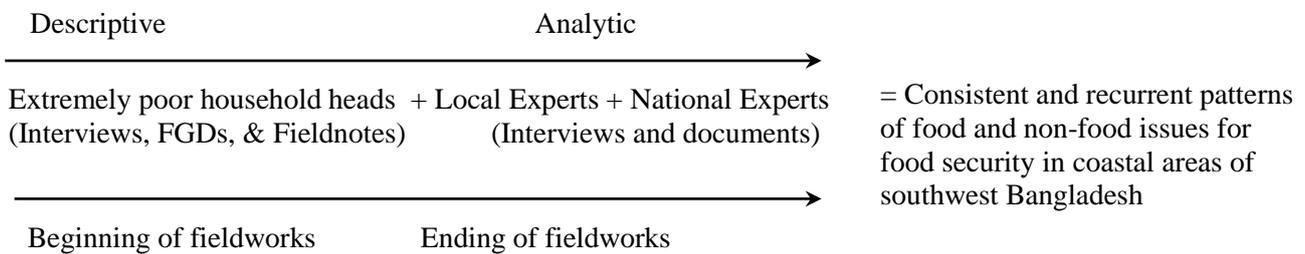


Fig. 1: Conceptual Framework of Data Collection and Data Analysis of Food Security

In this paper, we have positioned ourselves within the subjectivism paradigm, in contrast to objectivism in interpreting the results of research. In line with subjectivism, constructivists not only reject objectivity but also celebrate subjectivity (Guba, 1990:17). For the ease of data presentation, the interviews data are primarily discussed as aggregated form. The findings of the aggregated thematic data show how the concept of food security is grounded among different groups in coastal areas of southwest Bangladesh.

3. Research site: empirical significance of data

One-third of Bangladesh belongs to the coastal areas which occupies a population of 3 crore and 48 lakh (BBS, 2014). Considering three indicators namely influence of tidal waters, salinity intrusion, and cyclones/storm surges, 48 Upazilas or sub-district (third tier administrative unit) of 19 Zilas/ District (second tier of administrative unit) of Bangladesh (Bagerhat, Barguna, Barisal, Bhola, Chandpur, Chittagong, Cox's Bazar, Feni, Gopalganj, Jessore, Jhalkati, Khulna, Lakshmipur, Narail, Noakhali, Patuakhali, Pirojpur, Satkhira, and Shariatpur districts) are considered as coastal areas which are 'exposed' directly to vulnerabilities from natural disasters (Ministry of Water Resources, 2005).

Research site is selected in such as ways that establish the representativeness of food security in southwest coastal areas of Bangladesh. The site is selected on the basis that it contains information relevant to research problems and questions related to food security. The selection of research site holds the ideas of ‘problem sampling’, which provides data of maximum relevance to the focus and questions of research (Layder, 2012: 121). Considering the administrative boundary, Rayenda Union (union is the smallest administrative unit in Bangladesh) is located in Sharankhola Upazila, which is situated in Bagerhat Zila, a southwest coastal Zila of Bangladesh. This research site is characterized by the frequent disaster and climate vulnerabilities due to its close vicinity to the Bay of Bengal of Bangladesh. Rayenda Union lies between 22°15’ and 22°20’ north latitudes and between 89°47’ and 89°96’ east longitudes (BBS 2012a). Like other Union Councils of the Bangladesh, Rayenda Union Council performs an important role for promoting food security through implementing the different programs associated with food namely Vulnerable Group Feeding (VGF) program under emergency relief activities, Vulnerable Group Development (VGD) program for risk reduction and capacity development, forty days work program for extreme poor, Food for Work (FFW) program, and Cash for Work (CFW) program (Rayenda Union Council, 2014).

4. Findings of fieldworks: addressing the methodological aspects

The findings of the interviews from multiple sources explicitly show three dimensions namely content, context, and process of food security. While analysing the interviews, we have primarily incorporated the ‘what aspect’ of food security with the content dimension. Later, we have explored the ‘why aspect’ of food security with the context dimension, and the ‘how aspect’ of food security with the process dimension in relation to the methodological framework. The links among the three dimensions along with their aspects of food security are shown in Figure 2.

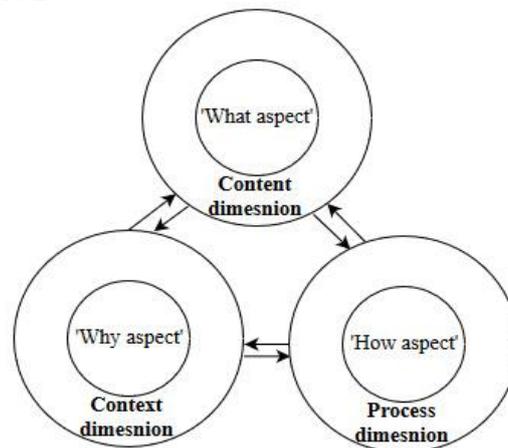


Fig. 2: Interlinking aspects among the three dimensions in methodological framework

Considering the three dimensions, we have generated the aggregated thematic experiences of food security. The aggregated thematic experiences are then further classified into three different categories comprising the perspectives of extremely poor household heads, non-government officials and members of the civil society of Rayenda Union, and government officials of Rayenda Union and national experts. The following aggregated themes reflects the three dimensions such as content, context, and process of food security:

i) Aggregated thematic perception of food security of extremely poor household heads: the ‘what aspect’ of food security targeting the content dimension

“I think food support programs are very useful for us. We are properly utilizing the rice for our families. I think the amount of rice is not sufficient to maintain four or more than four members’ food demand in a family. Sometimes we get twenty kilogram rice instead of twenty two kilogram rice from the Rayenda Union Council. The Union Council keeps that two kilogram rice to maintain the operational cost of rice distribution. The Council members should not take anything from that rice so that poor people like us can get the right amount of rice.” - Karim Fakir (pseudonym), Fisherman, Household interview in Rayenda Union.

ii) Aggregated thematic perception of food security of the government officials and national experts: the ‘why aspect’ of food security targeting the context dimension

“The current vision of VGD support is to generate food surplus in poor households. Government thought that poor households would be able to save that food, which would ultimately help poverty reduction process. I think there are some flaws in the existing VGD guidelines. Whenever poor households are getting VGD, I have tried to understand whether they are taking VGD as extra surplus, savings, or support. In most cases, poor households are eating the whole amount of food in every month. On top, they think they can work less as they are getting VGD support. If this is the real scenario, then VGD should be after forty years.” - Asaduzzaman Milon, Chairman, Rayenda Union Council

iii) Aggregated thematic perception of food security of the non-government officials and members of civil society: the ‘how aspect’ of food security targeting the process dimension

“Some NGOs are also conducting earthen work programs as a part of food for work program. They give one hundred fifty BDT (Bangladeshi Taka) per day for their daily work. I think these works are making the poor people lazy. For example, if they work outside the program for the whole day, they can earn three hundred BDT. Again, if 'Food For Work' program comes for four hundred people, chairman and ward-members engage two hundred people to complete their works. The rest of the money unofficially goes to their pocket. Sometimes they don't offer works for the whole period. For example, if they are supposed to engage people for forty days, they engage people for around twenty to twenty five days. So, even that two hundred people don't get the opportunity to work for the whole period.” - Md Motahar Hossain, Headmaster of Rayenda Pilot High School, Rayenda Union.

5. Findings of fieldworks: links between institutional aspects and food aspects for food security

We have mentioned earlier that this paper has adopted the Interpretivist approach in understanding and conceptualizing food security with multiple dimensions. Interpretivism epistemology is widely used to establish intangible but strong social interactions and understand how people think when they are confronted with different social issues (Saunders et al., 2012; Collins, 2010; Littlejohn et al., 2009; Myers, 2008).

The findings of the interviews indicate the issues of food security have two aspects namely institutional and food aspects of food security. The interrelation between the institutional aspects and food aspects along with the aggregated themes generated by the different research participants are shown in Figure 3.

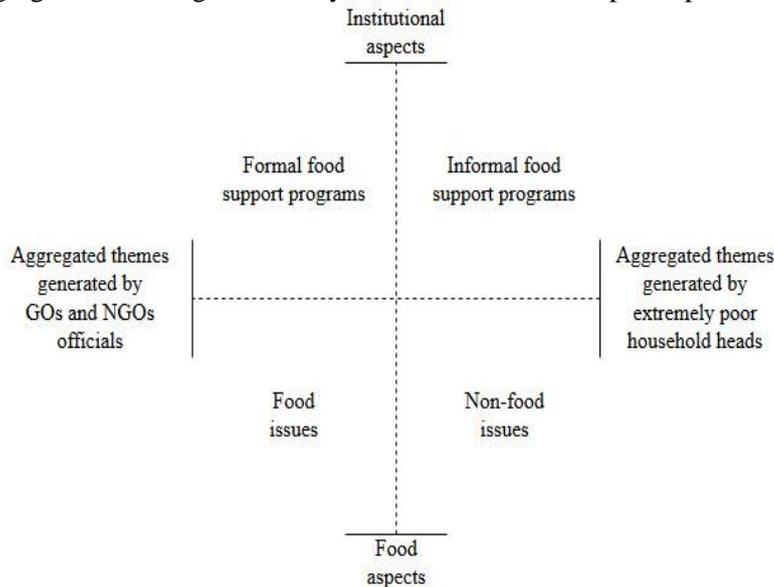


Fig. 3: Interlinking institutional aspects with food aspects in understanding food security

The data from the fieldworks reveal that the GOs and NGOs officials highlight food security with the institutional aspects. For example, “Many GOs and NGOs are working together for food security. But I think whatever we are implementing is very compartmentalize. NGOs have separate programs and GOs have their own programs. We need to develop strong coordination to improve food security of our targeted population. Many sectoral programs are going on targeting the same issue- food security. But I think until or unless if we are able to develop a strong institutional network, we are far reaching from improving food security through our programs” -Asish Kumar, ‘Proshar’ Project Coordinator-USAid, Sharankhola Upazila, Bagerhat

In relation to formal support programs of food security with institutional aspects, the findings of the fieldwork explores that GOs and NGOs are mostly performing output oriented activities and are keeping their focus on tangible benefits to formal food support schemes such as Food For Work (FFW), Money for Work (MFW) programs. Participants of both GOs and NGOs have indicated the issues of transparency and accountability as one of the crucial challenges of food security through those development programs.

While explaining the institutional aspects of food security from the extremely household heads’ perspectives, this research explores that extremely poor people tend to rely on their neighbors during their food insecurity though they can offer little help to each other. The in-depth interviews and focus group discussion reveal that extremely poor households put high emphasis on the non-food issues along with the informal support programs mostly from the neighbors. For example, “Government helps us with twenty two kilogram rice in every month. We can use that twenty two kilogram rice only for ten days, even sometimes for fifteen days. Then I have to work hard to arrange food for rest fifteen to twenty days. I beg every day from morning to evening. This way, I collect money, and I buy food with that money. Sometimes I can hear my kids are crying for food, and then I need to ask my neighbors for food. Sometimes they cannot even help us as they are also poor.” - Nur Hasan (pseudonym), Beggar, Household interview in Rayenda Union

Interviewees have pointed out that there is a clear link between the 3A's model of food security and non-food issues of food security such as health, education, and place of living. The respondents have specifically mentioned that along with the availability, accessibility, and application/utilization aspects of food security, the non-food issues are playing dominant role for containing food security at household level. Also, respondents have acknowledged some other factors such as long and unsafe work trips, rigid working hours, and hazardous working environment hold links with their missing working days, which ultimately leads to income inconsistency resulting the households to food insecurity.

Finally, food insecurity often can be the result of lack of assets, education, health and attributes directly linked to ones well-being (Burchi & Muro, 2016; Candel, 2014; Barrett, 2010; Lobell et al., 2008; Brown et al., 2008; von Braun, 2008; von Braun, 2009; Bhattacharya et al., 2004; Maxwell, 1996). This study has explored that government and non-government officials have been credited to formal food support programs as well as food items. In contrast, the extremely poor household heads have well acknowledged the informal food support programs and non-food items in explaining food security. As this study is proposing a new approach to view food security holistically from two major stakeholders, i.e., extremely poor household heads, and officials working in different tier of government and non-government institution, we have prescribed to view food security in aggregated fashion comprising both food and non-food issues.

6. Conclusion

In this research, we consider the subjective interpretations of the food security from three different groups. In this respect, this research promotes the 'constructionism' paradigm to construct the meaning of food security accepting the multiple realities of food security. By applying this new paradigm 'constructionism' in understanding and constructing the meaning of food security, we hold a position that claims the existence of multiple meaning of food security ranging from only food associated with 'objectivism' to the links between food and non-food issues associated with 'subjectivism.' Finally, this research paper concludes that examining food security is not unidimensional; it is multidimensional. The concept of food security holds multiple meanings attached with general to specific contextual information, and we need to adopt the constructionism paradigm so that we could create the meaning of food security and explain the importance of incorporating non-food issues in conceptualizing food security in a developing country like Bangladesh.

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