

# Food Security in Bangladesh: Challenges and their Implications Revisited!

Md. Abu Bakar Siddique\*

## Abstract

*The economic growth of Bangladesh strides forward rapidly since 2000 with the decline in extreme poverty rate to 25% in 2014 from 31% of 2010. Nevertheless, Bangladesh is always on the edge of food insecurity due to number of intertwined factors. Still a large number of people remain unable to access food in the quantity, diversity and regularity required for a food secure life. Therefore, this article, by analyzing publicly available data on food security, climate change and Social Safety Nets Programs (SSNPs) of Bangladesh endeavors to critically revisit the underlying challenges and their implications. It finds that the situation of food availability, access and utilization remains challenged considering Bangladesh's unique context and the emergence of issues such as climate change, food prices crises, and food safety and nutrition concerns. Hence, sustainable food security in the fullest essence is highly debatable here. It further terms that SSNPs in Bangladesh as weak since most of them are 'ex-post' coping initiatives only few remains to be 'ex-ante' preventive programs. It also reiterates that failure in 'trade-based entitlement', 'labor-based entitlement' and 'transfer-based entitlement' for the landless 11 million rural households is potentially generating food insecurity. Additionally, this paper tries to echo that Article 25 of the Universal Declaration of Human Rights (UDHR) and Article 15 of Bangladesh Constitution obligates Bangladesh to take effective actions for ensuring food security for all. This paper concludes with the call for ensuring effective and efficient SSNPs and nutrition including food safety. The legal regime of food security in Bangladesh would therefore, be well advised to be revisited soon.*

**Keywords:** Food Security, Climate change, Social safety Net, Nutrition& Bangladesh.

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\* Md. Abu Bakar Siddique is lecturer, Department of Law, Bangladesh University of Professionals (BUP), Dhaka-1216, Bangladesh. He is also an MHRD scholar of University of Sydney, Australia and Advocate of Bangladesh Supreme Court. Email:[sojol\\_llb@yahoo.com](mailto:sojol_llb@yahoo.com) or[msid9898@uni.sydney.edu.au](mailto:msid9898@uni.sydney.edu.au) Mobile: +8801816074884.

## **Background**

“Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”

- (World Food Summit– 1996)

Availability of adequate food at national level and access to that adequate food by every individual are the ‘two most vital components of the concept of food security’ (Islam, 2012:101). But the third element (i.e. leading active and healthy life) necessitates more which can be termed as ‘effective biological utilization of food’ and it mostly relies on other issues like ‘health and sanitation environment and household capacity to care for vulnerable members of society’ (USAID, 2013: 4). Thus evolution of the food security concept suggests that it encompasses a broad range of issues over time depending upon different country context since “the character of the food system and the nature of food policy are both changing as urbanization, technical change and the industrialization of the food system transform the way food is produced, marketed and consumed in developing countries” (Maxwell & Slater, 2003 as cited in Islam, 2012:103).

The economic growth of Bangladesh strides forward rapidly since 2000 with the decline in extreme poverty rate to 25% in 2014 from 31% of 2010 (Planning Commission, 2015:09). However, Bangladesh having ‘large population’ and ‘extremely scarce natural resources’ is always on the edge of food insecurity (Hossain et al. 2005:104) due to number of factors intertwined with each other. Hence, ‘20% of the population of Bangladesh is still calorie deficient’ and ‘low birth weight among Bangladeshi infants is among the highest in the world’ is no wonder (Faruque, 2014:05).

According to USAID (2012: 29) “the population is expected to increase from 160 million in 2011 to 185 million by 2020 and 222 million by 2050”. Therefore, bulk of challenges lies ahead in achieving permanent food security in the country which includes ‘water resources and land area constraints, soil degradation and climate change on the supply side, coupled with a rapidly urbanized and more affluent population on the demand side’ (*ibid*).

Nonetheless, Article 15 and 18 of the Constitution of Bangladesh obligates state to take necessary steps to secure basic necessities of life, including food, nutrition and public health (Ministry of Law, 2010). Besides, Bangladesh is a signatory nation of various international covenants which entails universal pledge of the nation ‘to respect, protect and fulfill the right to food of its citizens’ (Islam, 2012:107). Therefore, the challenges of feeding her citizen in any circumstances are not also excluded from legal implications.

## **Objectives**

In the above mentioned backdrops, this paper will endeavor to analyze the most underlying challenges to ensure three foremost pillar –‘availability’,

‘accessibility’ and ‘utilization’ of food security in Bangladesh. It will make a critical assessment of the most compelling factors such as ‘climate change, social safety nets and nutrition on food security in Bangladesh. It will briefly revisit their associated implications to take into account of them in the future policy incorporation on food security in Bangladesh.

## **Methodology**

The study in this paper will mainly take an analytical approach as a methodology. It will be based on comprehensive literature review on publicly available data on Bangladesh climate change, social safety nets programs (SSNPs) and nutrition as well as laws and policies. Throughout the study qualitative approach is specifically adhered.

## **Climate change and Food Security in Bangladesh**

Our food system is constructed through a ‘dynamic interactions between bio-geophysical and human environment’ (Parvin et al. 2013: 808). Disturbance to food system can potentially affect food security. According to Gregory et al. (2005 as cited in Parvin et al., 2013: 808) “Climate change can affect food system and eventually food security by several ways ranging from crop production, market changes, food price, income loss and supply-chain infrastructures, etc.” The traditional food system of Bangladesh heavily relies on climatic incident like rainfall, weather & temperature, water level, soil condition etc. Moreover, ‘because of geographical location’ any climatic change ‘will adversely influence the food security of Bangladesh’ (Islam, 2012:126).

Here, question may arise that Is climate change effecting food security as well as hindering people’s livelihoods in Bangladesh or it is simply a myth? The recent study by Parvin et al. (2013: 809) in one of the coastal district of Bangladesh (e.g. Khulna) reveals that “climate change(mostly seasonal variability and salinity intrusion) is playing prime role behind their reduction of income, loss of employment and reduction of crop production”.

Their study further observes that the due to decrease in ‘both the availability and accessibility to food’ since last 10-20 years, ‘majority of the families (75 percent) have claimed that their food consumption both in quality and quantity (63percent) has deteriorated’ (*ibid*). The significant amount of hardship was felt especially after two cyclones SIDR in 2007 and later Aila in 2009 which has not only hampered agricultural production but also made it difficult to find suitable job to ensure food security for their family and predominantly affected their ‘food consumption pattern’ (Parvin et al. 2013: 810). The country wide impact of climate change is also visible as ‘domestic food grain production remains susceptible to floods and droughts’ which is accompanied by ‘non increase in production other than cereals’ (Hossain et al. 2005:104).

The global trajectory of foodgrain production in the climate change reality is projected downward in general and most particularly for

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Bangladesh mostly because of coastal erosion and flooding due to the impact of climate changes (Islam, 2012: 127-128). According to Parvin et al. (2013: 804) “it is also estimated that by 2050 major two type rice (pre-monsoon and dry season) production will decrease due to salinity and flood in Bangladesh”. Moreover, IPCC (2012) in its latest report warns that “higher sea levels will lead to an increased frequency of coastal flooding even if cyclone frequency or intensity remains unchanged” and “an increased exposure to both temperature extremes, and severe droughts, might be expected” (IPCC, 2012 in Black et al., 2013:33). Although, currently the food production especially rice, has increased in manifolds and it is claimed by the Bangladesh government that around 3-4 million tonnes of rice is surplus to the demand of the country whereas; Bangladesh Institute of Development Studies (BIDS) study proves otherwise and term such claim as ‘very high and not realistic’ (Ahmed, 2013).

Thus from present scenario to future projection climate change is an extra burden on the effort to secure food for all citizens in the country like Bangladesh for numerous factors. In short these factors are: uncontrolled farming environment, rice based agriculture greatly depends on availability of fresh surface and ground water, lack of stress tolerant varieties, seasonal farming, changed cropping pattern, excessive and unplanned urbanization, indiscriminate use of natural resources, unplanned industrial growth, imbalanced use of agricultural inputs and extreme farming. A comprehensive climate change policy addressing all these issues has no alternatives in this regard.

## Social safety Net and Food Security in Bangladesh

Being a developing country the utmost challenge is making food accessible for all irrespective of race, religion, castes, ethnicity, rich, poor and urban or rural. It has been unanimously discussed that in order to make food accessible the most ‘dominant determinant’ is nothing other than ‘the level and the growth of income’ (Hossain, 2013). Even though the income growth in Bangladesh has been increasing every year by 6.5 percent except few exceptions since 1990, “the income is highly unequally distributed and the disparity has been growing” and this ultimately compels ‘nearly one-third of the people to live below the poverty line’ (*ibid*). This poverty stricken population lacks “sufficient resources to afford a diet of 2,122 kilocalories (kcal) per person per day, along with other basic necessities” (Hossain et al. 2005:104).

Here, one obvious question can draw one’s attention that being agro based economy and ‘about 63 percent of the labor force’ involved in ‘agriculture, forestry and fisheries’ (Islam, 2012: 136); why does this large group of population suffer chronic poverty and food insecurity? The answer is failure of ‘trade-based entitlement’, ‘labor-based entitlement’ and ‘transfer-based entitlement’ because “50 per cent of rural households involved in agricultural production are landless” and the number of landless

agricultural households are 11 million in Bangladesh (*ibid*). Therefore, under the states' constitutional obligation, certain cost efficient and effective "social safety net programs (SSNPs) are amust to insulate the poor from systematic and idiosyncratic shocks and help them to be food secure" (Hossain et al. 2005:120). This is because, in medium terms, incentives like credit programs and insurance mechanisms at the time of crisis can be highly beneficial in pulling down poverty chain and enabling them to fight with sudden shocks (*ibid*: 125).

The existing SSNPs both cash and in kind (i.e. food) from Bangladesh government predominantly 'focus on poverty reduction and employment generation' (Sharif, 2012: 5). Current SSNPs like Vulnerable Group Feeding (VGF), Old Age Pension, Vulnerable Group Development (VGD) and Test Relief (TR) programmes have been subjected to change over the last thirty years (*ibid*). Here, Khuda, (2011:104) argues that "the focus should be more on development-oriented rather than on relief-type programmes". The locus of almost all SSNPs undertaken by successive governments dealing with poverty and vulnerability of the underprivileged people have been rural based which typically ignores the rapid growth of 'urban poor living in informal settlements' (*ibid*: 102). The usual justification for covering more rural area than urban is that more poor live in rural areas than urban and the rural populations are frequently exposed to natural disaster which entails regular disaster relief for them (Rhaman et al. 2011:30). Thus, the legacy of targeting rural area for development programmes continues in Bangladesh and despite of "the widespread poverty, poor living conditions, and fast growing migration from rural to urban areas, the country has no comprehensive policy on urbanization or urban poverty reduction" (UNICEF, 2010 in Islam, 2012: 138) whereas "addressing the needs of the urban poor is likely to emerge as a major program challenge"(Rhaman et al. 2011:30).

On the other hand, these SSNPs running in rural area is under question for number of reasons. This includes 'poor programme implementation, monitoring and evaluation' causing transfers leakage to 'non-poor beneficiaries' (i.e. number of intermediaries involved in handing over the benefits) (Ahmed, 2007:13) and 'lack of an overall coordinating authority' as many programmes undertaken by different ministries overlap each other and causes inter institutional dilemma in launching and closing such programmes (Sharif, 2012: 7). Here, World Bank, 2006 cited in (Khuda. 2011:104) opines that "leakage could be reduced through cash payment rather than in the form of food, and also by reducing the number of intermediaries". Ahmed (2007: 3-4) terms SSNPs in Bangladesh as "weak" since most of them are "ex-post" coping initiatives only few remains to be "ex-ante" preventive programs. Therefore, he calls for developing ex-ante risk management and in this regard "various insurance policies, such as expanded pensions, health insurance, unemployment insurance, catastrophic risk and natural calamities insurance,etc" can be initiated (*ibid*).

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Being poor and vulnerable to food insecurity most urban and rural poor often looks for employment not food aid. Thus SSNPs engaging employment generation both after sudden shocks of nature or specially designed for employment should be given top priority in line with other ex-ante programs. But often “it is taken for granted that the programs adopted by the Bangladesh government to lift the excluded groups into mainstream society are contributing significantly in the national development” (Khan et al. 2012) which is not always true. Therefore, involvement of non-state actors (i.e. NGOs) can significantly supplement government initiatives in this regard. In broader sense, social safety net programs in order to give poor people access to food should neither be temporary nor permanent rather be practical and root cause driven to eradicate food insecurity by making poor enable to sustain their livelihood.

### Nutrition and Food security in Bangladesh

The prevalence of stark food intake and chronic malnutrition in Bangladesh is unstoppable as long as real food security is not achieved and this malnutrition problem will not be solved even after ‘increases in food availability and household access to food’(Hossain et al. 2005:125). If the nutrition value of the available food is mixed with contaminants beyond the tolerance limit then the food is not safe. Thus safety of food is the most important factor to meet the third requirement of the food security concept.

Hossain, et al. (2005: 104) observes that “apart from the prevailing deficit in total calorie intake, the normal diet of Bangladeshi people is seriously imbalanced, with inadequate consumption of fat, oil and protein, and with more than 80per cent of calories derived from cereals”. They further mark that factors like low income, food preferences and lack of nutrition education are the contributing agents with lack of local production of non cereal foods, in such imbalance of food consumption, where other factors like general health and sanitary environment are also crucial reactants (*ibid*). Thus, in the context of Bangladesh, food safety and nutrition is one of the burning issues for various reasons.

According to Islam, G., (2013: 47) there are “three types of hazards: (a) microbiological hazards; (b) physical hazards and (c) chemical hazards” associated with food safety. The excessive uses of chemical products (e.g. pesticides, antibiotics in animal production, fertilizers) are regular incidence in agricultural production (*ibid*) that causes serious chemical hazard in Bangladesh. Moreover, arsenic contamination is a ‘real disaster’ that affects thousands of poor people in numerous ways (*ibid*: 51). Arsenic exposure in Bangladesh occurs in “two ways: (a) by ingestion of contaminated drinking-water and food and (b) by inhalation of metal-containing dust” (Khan, I., 2010:579). The accretion of excessive level of arsenic has happened because of excessive utilization of ground water from ‘both shallow and deep tube-wells for irrigation of agricultural lands, particularly during the dry period (November-March) for production of high-yielding varieties of rice’

(Zahidul: 2003 in *ibid*). Such contamination has caused “9,136 deaths per year and 174,174 disability-adjusted life-years (DALYs) among people who were exposed to arsenic concentrations of above 50 µg/L, and this constituted about 0.3% of the total burden of disease in Bangladesh” (Lokuge et al., 2004 in *ibid*).

Besides arsenic exposure, adulteration of tropical fruits (e.g. mangoes, bananas, jackfruits, litchis) in Bangladesh with toxic chemical agents is another perilous reality (Islam, G., 2013: 53-54). This adulteration happens in the supply chain of these fruits by traders. The ‘artificial ripening of fruits by different toxic chemical agents like calcium carbide’ is seriously hazardous to human health (*ibid*). This is because the toxicity of industrial grade calcium carbide (i.e. that is used in ripening tropical fruits in Bangladesh) is more than ‘arsenic and phosphorous that converts the healthy fruits poisonous’ (Kader, 2002 in *ibid*).

Here, Fattah and Ali (2010) cited in (*ibid*) observe that:

“...[a]cetylene, generated from carbide reduces oxygen supply to the brain and in acute stage; it causes headache, vertigo, dizziness, delirium, seizure and even coma. In the long term, it may produce mood disturbance and loss of memory. Immediately after consumption, there may be abdominal pain, vomiting and diarrhoea. Other toxic effects include skin burn, allergy, jaundice and carcinogenic potential”.

Adulteration of tropical fruits may not be directly related with food security but it is undeniable fact of reality that most of the poor Bangladeshi heavily consumes these adulterated fruits, due to not being costly and easily available, without being conscious about the consequences mentioned above. The regular or seasonal intake of such contaminated fruits has inextricable links with the physical hazard of the health and often complicates food security issue in Bangladesh even though; ‘eating a wide range of chemicals is part of our daily life’ (Islam, G., 2013:57).

Ensuring food safety including other foods does need lot of hard work from the part of duty bearers (i.e. governments, traders). But for leading a healthy and active life food, free from harmful chemicals that ‘may disrupt body metabolism, cause cancers, damage genes, alter organ functions, and affect reproduction and development’, has no alternatives (*ibid*). Strong institutional safeguard for proper monitoring of food market is still a dream for 160 million people as from price to quality as well as safety of foods are not within government exclusive control. Therefore, “solving these problems will require decisive action by the government, the private sector and individual households to address nutritional issues more directly” (Hossain et al. 2005:125).

### **Closing remarks**

Right to life is the sole basis of all human rights as enunciated in each international, regional or national human rights instrument. Life without

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food is simply impossible. Article 25 of the UDHR that -“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control.” and Article 15 of Bangladesh constitution is synergic in the sense that both aim to ensure a healthy and prosperous life of every human being. Therefore, the world food summit by defining the concept of food security in 1996 reiterates this universal commitment once again in the global forum. It is mention worthy here that, human rights is groundless when a single stomach starves in want of food at any corner of the world. Bangladesh being a signatory to International Covenant on Economic, Social and Cultural Rights (ICESCR) has always taken the shield of ‘progressive realization clause’ when the question of implementation of right to dignified life as well as right to food comes. But it is undeniable reality that as state she has not achieved that capacity to legally enforce this right. Nonetheless, under the statehood, citizens of Bangladesh can expect minimum effort to ensure effective and efficient programs in the two most important steps like social safety nets and nutrition including food safety. Since climate change is a global phenomenon; responsibility of the Bangladesh governments can be shared in line with the global principle of common but differentiated responsibility.

In ensuring food security under three main auspices of it (i.e. availability, accessibility and utilization) other factors of human rights should not be ignored as poverty being cornerstone of all human crisis leads to entitlement failure in various ways and that makes individuals vulnerable to food insecurity. National Food Policy: Plan of Action: 2008- 2015 of Bangladesh, under the three broad objectives has defined 26 areas of intervention but other issues like ‘economic policies, including pricing, marketing, tax and tariff policies’ can be more crucial for making food available (Islam, 2012:103). Similarly for maximum inclusion in food accessibility requires comprehensive pro-poor economic growth at national level including root-cause driven SSNPs for covering the actual needy poor (*ibid*: 104). Most importantly, for being successful in the above mentioned initiatives, ensuring food safety for all foods including tropical fruits cannot be underestimated. Thus, the success in global food security campaign will be visible if hunger from least developed countries will perish and sustainable agricultural practice will prevail.

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