



Food Safety and Challenges for Public Health: Bangladesh Perspective

Monotosh Kumer Mojumdar^{1*}, Dr. Md. Sadrul Amin²

¹District Food Incharge, Office of the District Food Controller, Magura, Bangladesh

²Ex-Dean, Faculty of Post Graduate Studies,

Hajee Mohammad Danesh Science & Technology University, Dinajpur, Bangladesh

ABSTRACT

In Bangladesh, most of the foodstuffs are they manufactured or processed, are unsafe for consumption or adulterated to varying degrees. This problem persists at every level of the food chain from preparation to consumption. Food manufacturers, processors, restaurants, fast food outlets and so forth are all involved in one way or another in this corrupt practice of adulteration. Foods are adulterated by using various harmful chemicals and toxic artificial colors, on the one hand, and rotten perishables turned to poisonous foods are stored, sold and served to consumers in an unhygienic atmosphere, on the other. The unhygienic and unsafe treatment of food is seriously impacting public health by causing numerous chronic and non-chronic diseases. Despite different reasons for the unsafe treatment and adulteration of foodstuffs in Bangladesh, this study will concentrate on the regulatory failures to combat the current food safety problems persisting in Bangladesh.

Keywords: *Food Safety, Food Security, Bangladesh, Public Health, Challenges*

INTRODUCTION

Food is a significant reason for the considerable number of diseases in the entire world. Bangladesh, a third world developing country of South Asia, is not an exception in this case. Consumption of unsafe food is a serious threat to public health in Bangladesh for last couple of decades. A survey conducted by the Institute of Nutrition and Food Science, Dhaka University, in early 1980s had revealed that inadequate diets and intake of adulterated foods are responsible for the malnutrition of 60 per cent of the people of Bangladesh. The Institute of Public Health (IPH) in Dhaka and the World Health Organization (WHO) in their joint study of 1994 on food adulteration tested 52 street vendors and found that, all of the vendors' food samples were contaminated with different types of disease breeding micro-organisms. Another study of 2003 conducted by the same organizations as above in the capital city revealed that amongst 400 sweetmeats, 250 biscuits, 50 breads and 200 ice creams samples, 96 per cent of sweetmeats, 24 per cent of biscuits, 54 per cent of breads, and 59 per cent of ice creams were adulterated.

This 2003 study found that over the preceding decades, some 50 per cent of the food samples tested in IPH laboratory were adulterated. Similarly, a recent official statistics published by the Ministry of Health and Family Welfare (MOHFW) of the of the Government of Bangladesh (GoB) reveals that nearly half of the food samples have been found adulterated tested by the IPH from 2001 to 2009. This GoB statistics indirectly demonstrates that the situation of the prevailing food adulteration concerns in Bangladesh has not improved over the past 10 years.

Adulterated food has many deadly affects. The National Taskforce on Food Adulteration (NTFS) made by the GoB find out that adulterated foodstuffs each year causes various food borne illnesses, including diarrhoea, malnutrition and other diseases leading to death of many people in Bangladesh. Especially children are more vulnerable than adults as unsafe food is a major cause of child mortality. Universally it is

accepted that, unsafe food is an important factor of malnutrition, which causes various types of serious illnesses including diarrhoea along with other permanent consequences for the human body. Hence, Bangladesh which has abundant adulterated foods cannot deny the contribution of unsafe foods for malnutrition. In a recent study recognized by the GoB portrayed the depressing picture of child mortality. Pointing the forefinger to the malnutrition as a significant cause of child mortality, this report mentioned that in every 19 children 1 child die before they complete five years.

Major Food Safety Concerns in Bangladesh and Their Impact on Public Health

Little of the public health apprehensions regarding food safety issues in Bangladesh have been unveiled in the 'Part I'. However, this is an immense issue which warrants being elaborated more. World Health Organization (WHO) has expressed its anxiety about the impact of food safety upon public health in Bangladesh in its website. It reveals that unsafe food can be a significant reason of many chronic and non-chronic diseases including but not limited to diarrhoea, cancer, heart diseases, various kidney diseases and birth defects. Below find a discussion concerning the core food safety issues and their specific potential impact upon the public health.

- 1. Unhygienic Practice in Food Handling:** Unhygienic practices in food handling become a common phenomenon in the Bangladesh food industry. Countless restaurants, fast food outlets are cooking, baking and processing foods in extremely unhealthy environments. Unhygienic food is a significant reason of diarrhoeal diseases as well as malnutrition. Referring the data of International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR), WHO suggested that in Bangladesh at least 501 people visits hospital every day for diarrhoeal diseases that are related to food safety. The NTFS has also used by similar ICDDR data which mentioned that a total of 1,657,381 cases of acute diarrhoea and resultant deaths of 2,064 lives occurred in 1998 alone in Bangladesh.¹⁵ Especially, the extent of attacks and deaths from diarrhoea has become alarming for the last couple of years in Bangladesh. The report of the Directorate General of Health Services (DGHS) mirrors the magnitude of the diarrhoeal diseases and confirms that this health problem is caused by mainly unsafe foodstuffs. The DGHS report suggests, from 2003 to 2009 17,999,284 people were attacked by diarrhoea and among them 4,674 people died, which signifies that in average at least 3,850 people die for diarrhoea each year. NTFS report also mentioned that each year 5.7 million people become disable due to diarrhoeal diseases in Bangladesh.
- 2. Use of Formalin and DDT in Foods:** Formalin use in foods is a crucial problem in Bangladesh currently. Supermarkets openly sell fruits, fishes and vegetables that have been treated with formalin to keep them fresh. This widespread use of formalin in various foods is considered to be gravely dangerous for public health. Scientific scholarships suggest that consumption of formalin directly through food can cause different types of cancers, especially the lung cancer. Use of DDT is prohibited in 49 countries and restricted in 23 countries around the world. Bangladesh also banned application of DDT, but unfortunately its use remains rampant. In Bangladesh DDT is commonly used in dried fish (locally called as 'sutki') processing. DDT saves its chemical features irrespective of the environmental circumstances and it is capable of generating to human body through breast milk. Using of DDT is a significant reason of cancer especially breast cancer, liver cancer and pancreatic cancer. DDT has also many adverse effects on various types of reproductive issues including unproductiveness; weaken semen, abortion, early menopause, birth defects and low birth weight of children. WHO stressed about the frightening child mortality rate and mentioned that, 150,000 children die each year within first 4 weeks of their lives. DDT can affect neurological issues on human health having trembling, seizures, nausea and dizziness etc.
- 3. Use of Toxic Colors in Food:** Unauthorized food colors, especially textile dyes are used in food, manufacturing and processing in Bangladesh. Textile colors are especially applied in the various types of sweets, which is locally called as 'misti' in Bangladesh. Mentionable that, people of Bangladesh love misti or any sweet based foods and some people are even addicted to this. Except misti some cultural foods named beguni, peaju are also adulterated by textile dyes. Generally, these harmful colours are used to make foods attractive, 'appealing and appetizing'. Research suggests that the toxic colours in food can create indigestions, allergies, asthmas and even cancer. Artificial colours can also risk the

human body for sleeping disorders, vomiting, diarrhoea, heart diseases, and several kinds of neurological diseases.

4. Other Food Adulterations: Except the aforesaid specific food safety issues, Bangladesh experiences many types of food adulterations every day. Few of the remarkable and relatively common adulterations are included below. The puffed rice (locally called known as ‘moodi’) is contaminated by using the urea fertilizer to make it whiter and bigger in size. Urea is extremely hazardous for human body which can create cancer and various ulcers. In a recent doctoral research on Bangladeshi food conducted by Al-Rmalli, it is found that the level of cadmium in the puffed rice is nearly double than that of uncooked rice, which the writer suggests may be the result of using urea in the puffed rice. Al-Rmalli mentioned ‘exposure to cadmium is linked with kidney disease and over 20 million people in Bangladesh suffer from chronic kidney disease. Ghee, a popular food in Bangladesh made from the pure milk, is widely used in Bangladeshi cuisine. In the village culture children are encouraged to eat hot rice mixing with the ghee and palm sugar in the morning as breakfast. It is also used to manufacture various desserts in Bangladesh. Ghee is now adulterated in many ways. The impure ghee is made by rotten milk, palm oil, soybean, animal or vegetable fat, potato paste and with artificial color flavors instead of milk.⁴¹ Due to this tainting of ghee, people are deprived from the expected nutrition which ultimately may cause adverse effects on public health.

OBJECTIVES

In the above mentioned backdrops, this paper will endeavor to analyze the most underlying challenges to ensure three foremost pillars –“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 food safety authority, nutrition as well as laws and policies. Throughout the study qualitative approach is specifically adhered.

Food Safety 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 is 11 million in Bangladesh (ibid). Therefore, under the state’s constitutional obligation, certain cost efficient and effective social safety net programs are a must 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).

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 80 percent 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. 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. 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).

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, because 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).

Food Safety in Bangladesh

Bangladesh is among the most vulnerable countries in the world that are exposed to unsafe food hazards. Consumers have the right to get what they are told of the contents of food product. It is extremely difficult for them to assess their exposure to risks in each food product and to accurately articulate their demand for

safety. They believe what the food vendors tell them. In the Western countries, food safety regulations are very strict and millions of dollars are fined as penalty, if food safety is breached. Furthermore, jail sentences are also specified for and negligence (tort) suits are lodged in the courts for compensation for breach of safety of food. Although statistics are hard to get in Bangladesh, it is estimated that millions suffer from food related illness each year, many of which are not reported. Only deaths due to food poisoning are covered in the media¹.

Followings are common food safety concerns in Bangladesh:

1. Food adulteration
2. Harmful preservatives used for food preservation
3. Inadequate quality control
4. Artificial ripening using formidable chemicals and methods
5. Unhealthy manufacturing process
6. Low quality ingredients
7. Unhealthy and dirty food markets
8. Unhealthy food preparation in restaurants.

Alarming increase in adulteration of foodstuffs has created a strong public opinion for combating the ferocity of the offence. Now a days, mixture of poisonous chemicals (say, sodium cyclamate, formalin, fertilizer, harmful colors etc.) with food and eatables has become a cause of common concern. These deleterious substances cause serious injury to human health, i.e., cancer and ulceration. In fact, adulteration is occurring very frequently in Bangladesh with almost all types of foods. *An unacceptable culture of impunity has already been established here allowing perpetrators for cool-headed mass killing* (emphasis added).

There has been a wide circulation of views for controlling different kinds of adulteration of foodstuffs. Mobile courts are now vigilant around the capital and outside to find out the food shops, hotels and restaurants selling noxious foodstuffs. Electronic media has been giving significant coverage of various forms of food adulteration harmfully affecting the people at large. Conscious stakeholders have also come forward to manifesting their thoughtful research on the effects of adulterated food on human body. Some also used to maintain contact with the Bangladesh Law Commission for making necessary reforms in the existing food safety laws².

Legal Environment of Food Safety in Bangladesh

Food adulteration is an act of dishonest tradesmen who intend to make unscrupulous profit from minimum investment. Random manufacture of adulterated foodstuffs unsuitable for human consumption demands strong regulatory mechanism to maintain a standard of purity for the preservation of public health. In Bangladesh, legal environment of food safety and quality control consists of Laws, Regulations & Standards, Administration & Inspection and Laboratory analytical services. Followings are the existing legal and regulatory frameworks for ensuring food safety in Bangladesh:

1. The Constitution of Bangladesh
2. The Penal Code, 1860
3. The Bangladesh Pure Food Ordinance 1959
4. The Food (Special) Court Act 1956
5. The Control of Essential Commodities Act, 1956
6. The Special Powers Act 1974
7. The Fish and Fish Products (Inspection and Quality) Ordinance 1983
8. The BSTI Ordinance 1985 & the Labeling Act
9. The Consumer Rights Protection Act 2009.

¹ Sengupta in note-08

² See, Report of the Bangladesh Law Commission 2006 on the proposed Pure Food Act.

The Constitution of Bangladesh:-

As per the Constitution of Bangladesh, the State is under a responsibility to secure for its citizens basic necessities of life such as food, clothing, and medical care etc.³. The state shall regard the raising of nutrition level & the improvement of public health as among its primary duties. It shall also adopt effective measures to prevent the consumption of harmful drugs, drinks and alcohols.⁴

The Penal Code, 1860

The Penal Code, 1860 provides punishment for adulteration of food or drink and sale of noxious food or drink⁵. However, these provisions could not effectively control the trend of manufacture and sale of adulterated foodstuff. In subsequent years, widespread evil of food adulteration began to threaten public health. With a view to protecting consumers from the menacing effect of adulterated food articles, Pure Food Ordinance was promulgated in 1959.

The Pure Food Ordinance 1959

The Ordinance aims to ensure purity of food being supplied to people in the market and, therefore, provides for preventing adulteration. The term 'food' is comprehensively defined in Section 3(5)⁶ of the Ordinance. Public food analysts are appointed to monitor food safety at the food shops, restaurants etc. Manufacturing of adulterated foods, their distribution, sales etc. causing malnutrition and injury to the public health have been made prohibited and punishable under the Ordinance. A consumer or purchaser of alleged adulterated food has the right to laboratory examination of the foods purchased. Food Inspector or any authorized person may prevent selling of adulterated foods and seize them if appropriate. Pure Food Court (popularly, mobile court) administered by a First Class Magistrate is empowered to try the offences relating to food safety and injury to public health. Only a Public Analyst or an Inspector or a person authorized by the Government can lodge complaint with the court. Punishment includes imprisonment or fine or both⁷.

The National Food Safety Advisory Council provides advisory services to the Government for ensuring food safety within the country. Headed by Minister for Ministry of Local Government, Rural Development and Co-operatives, the Council comprises inter-ministerial representatives, Director General of Bangladesh Standards and Testing Institution, representatives from Dhaka University (Department of Food and Nutrition & Department of Chemistry) and Federation of Bangladesh Chambers of Commerce and Industries (FBCCI). The Advisory Council provides advisory services⁸ to the Government on the following subjects-

- (a) Issues related to the safety of food,
- (b) Standard and quality control (National and Codex Standard) for food with a view to ensuring their purity, safety and proper nutritional value,
- (c) Developing man-power services and facilities required for ensuring safety & quality of foods for human consumption, and
- (d) Policies and strategies related to food safety and quality control.

Weaknesses of the Pure Food Ordinance:

The Ordinance provides minor penalties of different kind for adulteration of food articles. Taking advantage of such minor penalties, unscrupulous traders had started mixing injurious materials with almost every food articles which resulted in an amendment to the Ordinance by the Bangladesh Pure Food (Amendment) Act, 2005. The amendment widened the definition of adulteration, the scope of the law and enhanced the punishment of the offences.⁹ But this could not cement the loopholes. Section 6A of the Ordinance prohibits the use of different formidable chemical elements in the foodstuffs which cause injury to human body. But

³ Article 15(a) of the Constitution of Bangladesh

⁴ Article 18 of the Constitution of Bangladesh

⁵ See, sections 272, 273, 274, 275 & 276 of the Penal Code 1860.

⁶ "Food" means any kind of edible oil, fish, fruit, meat or vegetable or any other article used as food, drinking water etc. or any substance which is intended for use in the composition or preparation of food, any permitted flavouring matter or any spice or condiment, and any food grade coloring matter, preservative, anti oxidant and other additives intended for use in food.

⁷ Sections 40, 41, 41A, 44, 45 of the Ordinance.

⁸ Section 4A (2) of the Pure Food Ordinance, 1959.

⁹ Visit <<http://www.thedailystar.net/law/2009/01/03/life.htm>> (accessed during 07-10 June, 2011).

despite having harmful effect, sodium cyclamate has not been included therein. In the absence of sodium cyclamate in section 6A, the Mobile Court finds it difficult to punish the traders who are using sodium cyclamate in their food products. The Director General of the Directorate of Food generally looks after the purity of foodstuff, but he has not been made a member of the National Food Safety Advisory Council as formed under section 4A. With a view to remove these loopholes, the Law Commission suggested the Government to further amend the Ordinance in sections 4A, 6A and 44.¹⁰

The Food (Special) Court Act 1956:- The Food (Special Courts) Act, 1956 is supplementary to the Control of Essential Commodities Act, 1956 and provides for setting up of special courts headed by a special magistrate for speedy trial of offences in relation to foodstuffs. Punishment under this Act is an imprisonment for a term which may extend to three years or with fine or with both.¹¹

The Special Powers Act, 1974: - The Special Powers Act, 1974 makes hoarding & black-marketeering of foods punishable with death or life imprisonment or 14 years rigorous imprisonment or with fine. Similar punishments are made for adulteration of or sale of adulterated food, drink, drugs or cosmetics. Such offences are triable by the Special Tribunal headed by the Sessions Judge or Additional Sessions Judge.¹²

The Fish and Fish Products (Inspection and Quality) Ordinance 1983

It deals with inspection and quality control of fish and fish products. The Government can make necessary rules for ensuring the quality of fish and fish products intended for export. The Government may circulate compliance standards¹³ for the following matters:

- a) quality and standard of fish and fish products;
- b) regulation of catching, handling and marketing of fish or fish products;
- c) processing, storing, grading, packaging, marking, transporting and inspection of fish and fish products;
- d) prescribing the quality and specifications for containers of fish and fish products and the marking and inspection of such containers;
- e) requiring the registration of fish processing and fish packing plant and establishment for freezing, processing and preservation of fish and fish products;
- f) requiring the licensing of persons dealing in freezing, processing and preservation of fish and fish products;
- g) determining the requirements of the equipment, construction and sanitary operation of fish processing and fish packing plants;
- h) prescribing the sampling procedure and the manner in which samples of any fish and fish products may be taken;
- i) prohibiting illegal marketing of any substandard fish or fish products etc.

The Government may appoint compliance inspectors to ensure the minimum standards mentioned above. The Ordinance provides punishments for a) non-compliance with any of the above standards and requirements or b) non co-operation with the Inspector, or c) for continuing occurrences of the above offences.¹⁴

The Bangladesh Standards and Testing Institution Ordinance 1985

Bangladesh Standards and Testing Institution (BSTI) is the national standardization organization in the country working under the administrative control of the Ministry of Industries, Government of Bangladesh. After the independence, erstwhile Pakistan Standard Institute became Bangladesh Standard Institute (BDSI) and Central Testing Laboratory (CTL). In 1985, BSTI started its journey by merging CTL and BDSI under

¹⁰ Law Commission Report in note 26. The Report also recommended enhancement of punishment prescribed in sections 272, 273, 274, 275 and 276 of the Penal Code, 1860.

¹¹ Section 6 of the Food (Special) Court Act 1956.

¹² Sections 26, 27, 28, 29, 30, 30A of the Special Powers Act, 1974

¹³ Section 3(2) of the Fish and Fish Products (Inspection and Quality) Ordinance 1983.

¹⁴ See, sections 9, 10, 11 of the Ordinance.

the BSTI Ordinance 1985. After that in 1995 Department of Agriculture, Grading and Marking was merged with BSTI.¹⁵

A number of laws and regulations govern the activities of BSTI some of which may be mentioned below:

- a) The Bangladesh Standards and Testing Institution Ordinance, 1985 (as amended up-to-date)
- b) The Standards of Weights and Measures Ordinance, 1982 (as amended up-to-date)
- c) The Bangladesh Standards and Testing Institution Regulation, 1989
- d) The Bangladesh Standards of Weights and Measures (Amendment) Rules, 2006
- e) The Bangladesh Standards of Weights and Measures (Package Commodities) Rules, 2007

Organogram of BSTI

The Council is the highest decision-making organ of BSTI. It may exercise all powers and perform all functions that might be exercised or performed by the Institution. The Council works through various committees. BSTI is headed by a Director General who is its principal executive officer and is responsible for its proper administration. The institution discharges its responsibilities through 06(six) wings. Under these 06 wings there are 21 divisions or sections such as standards wing, physical testing wing, chemical testing wing etc. Headquartered in Dhaka, the Institution has 06 regional offices at 06 Divisional Headquarters and 03 district offices at 03 district headquarters.¹⁶

The functions of BSTI: - The main functions of the BSTI are, *inter alia*,:

- a) formulate national standards of industrial, food and chemical products,
- b) quality control of the products as per specific national standards; &
- c) implement metric system of weight and measures in the country.

Certification Marks:

BSTI operates the certification marks scheme under which the manufacturers or importers are licensed to use the standard mark on goods produced or imported by them in conformity with the relevant Bangladesh Standard (BDS). This scheme is governed by the Bangladesh Standards and Testing Institution Ordinance, 1985 and Bangladesh Standards and Testing Institution (Amendment) Act, 2003 and the regulations made there under.¹⁷ The scheme covers industrial and agricultural processed products but excludes drugs and pharmaceuticals (administered by separate authority). To provide quick services to the applicants and licensees, BSTI operates through 05 regional branch offices besides the head office to take care of certification marks function.

WTO-TBT (Technical Barriers to Trade) National Enquiry Point

As a member of the World Trade Organization (WTO), Bangladesh has signed the Agreement on Technical Barriers to Trade (TBT). Each WTO member must set up a National Enquiry Point which is able to answer all reasonable enquiries on standards, technical regulations, conformity assessment procedures etc. from other members of WTO and other interested parties there. BSTI is the National Enquiry Point. There is an internal committee on WTO affairs in BSTI and it participates in the notification activities to WTO through the Ministry of Commerce and the Ministry of Industries.¹⁸

Bangladesh & SPS Agreement:

Bangladesh has also signed the WTO Agreement on Sanitary and Phytosanitary (SPS) Measures dealing with food safety & dietary nutrition. Therefore, it is bound by the sanitary and phytosanitary requirements under the Agreement. However, the preamble of the SPS Agreement categorically states that its provisions are not to be applied in a manner which is arbitrarily or unjustifiably discriminatory or which amounts to a disguised restriction on international trade. The SPS Agreement has certain rules and provisions for least developed countries like Bangladesh. Article 10 refers to the special rights of LDCs. Article 10.1 requires

¹⁵ For Details about BSTI please visit: <<http://www.bsti.gov.bd/about.html>> & <http://www.moind.gov.bd/index.php?option=com_content&task=view&id=442&Itemid=545> (accessed during 07-10 June, 2011).

¹⁶ BSTI in note 39

¹⁷ Under section 20 of BSTI Ordinance 1985, BSTI issues quality assurance certificates on various products either produced in the country or imported from other countries.

¹⁸ For details, see BSTI in note 39

members to take account of the special needs of developing country members, in particular, those of the LDCs. As an LDC, Bangladesh can take the benefit of Article 10.2 by applying for longer time frames for SPS compliance.¹⁹

The Consumer Rights Protection Act 2009

The culture of consumerism is seemingly unknown in Bangladesh. Ill-fated consumers are completely cheated at almost every level of service sectors including food safety, transportation, healthcare, education, access to justice, housing and what not. Consumer rights are considered as fundamental rights to life. Therefore, promotion and protection of these rights are essential for the life of every citizen. The Consumer Rights Protection Act 2009 was enacted with the intention to protecting the legitimate interests of consumers. The Act comprehensively deals with the protection of consumers' rights from the grip of greedy traders. It categorically identifies some acts or omissions as violative of consumer rights. The National Consumer Rights Protection Council (NCRPC or Council) has been set up to monitor the state of protection of consumers' rights in the country. The Council comprises members from various quarters such as different ministries, National Security Intelligence, BSTI, Consumer Association of Bangladesh (CAB), NGOs, law enforcing agencies and different trade bodies etc.²⁰ The Consumer Rights Council works through different district committees comprising Deputy Commissioner, Police Super, President of District Chamber of Commerce, representatives of consumer rights based organizations, person experienced in trade, industry and public administration etc.²¹ The National Consumer Rights Protection Directorate is headed by a Director General (DG). The DG can take any action to protect and prevent violation of consumer rights and dispose of the complaints relating to violation of consumer rights.²² The DG or any person authorized by the Government can investigate into any offence under the Act, issue proclamation, detain or arrest the perpetrators and can also order for temporary closure of shops, factories, business places etc. for the alleged violation of consumer rights. He may also take assistance from law enforcing agencies.²³

The Government may prohibit manufacturing, selling etc. of foods prejudicial to human health or attach or forfeit any such item²⁴. Both civil and criminal remedies are available against the infringement of consumer rights. Punishments of different categories have been provided in the Act for violations of various degrees. Civil cases are disposed of by Joint District Judge and criminal cases are triable by 1st class Judicial Magistrates or Metropolitan Judicial Magistrates.²⁵

Other related Laws on Food Safety²⁶:

- (a) The Bangladesh Pure Food Rules, 1967: In this Rule, there are generic standards for 107 food products. Now, this 'Rules' is under revision.
- (b) The Food Grain Supply (Prevention of Prejudicial activity) Ordinance, 1956: This ordinance provides special measures for prevention of prejudicial activity relating to the storage, movement, transshipment, supply and distribution of food grains. It provides basis for the protection of false statement or information.
- (c) The Radiation Protection Act, 1987: Under this Act, the Institute of Food and Radiation Biology (IFRB) of Bangladesh Atomic Energy Commission is primarily involved in food irradiation research and development in the country.
- (d) The Iodine Deficiency Disorders (IDD) Prevention Act, 1989: It was enacted, a) for universal salt iodization, b) to ban non-iodized salt from market & c) to eliminate IDD from the country.
- (e) The Essential Commodities Act, 1990: The purpose of this act is to stabilize, maintain or increase supply of essential commodities including foodstuffs. The Act also provides broad spectrum of

¹⁹ Dr Mohammad Hassanul Abedin Khan, Director, WTO Cell, Ministry of Commerce, Bangladesh, "Bangladesh's experiences with SPS and food safety: Shrimp exports", web: <www.searo.who.int/LinkFiles/Publications_Bangladesh_experiences_SPS.pdf> (accessed during 07-10 June, 2011).

²⁰ Section 5 of the Consumer Rights Protection Act 2009

²¹ Section 5 of the Act.

²² Section 21 of the Act.

²³ See sections 23, 24, 25, 26, 27, 28 of the Act.

²⁴ See sections 29, 32, 33, 35, 36 of the Act.

²⁵ Parts 5 & 6 of the Consumer Rights Protection Act 2009

²⁶ Dr. Mohammed Hossain, "Food safety and quality control in Bangladesh", Web: <<http://www.thefinancialexpress-bd.com/2008/09/10/45060.html>> (accessed during 07-10 June, 2011).

monitoring activities for storage, transportation, distribution, disposal, acquisition, use or consumption of any essential commodity.

- (f) Some other minor Laws and Regulations: In addition, a number of other Laws and Regulations exist in the country to ensure the safe and quality food, viz., the Animal Slaughter (Restriction) and Meat Control (Amendment) Ordinance, 1983 (it is under revision); the Pesticide Ordinance, 1971 & the Pesticides Rules, 1985; the Destructive Insects and Pests Rules (Plant Quarantine), 1966 (amended up to 1989); the Agricultural Products Market Act, 1950 (revised in 1985); the Fish Protection and Conservation Act, 1950 (amended in 1995); the Marine Fisheries Ordinance 1983 and Rules, 1983; Procurement Specifications, Ministry of Food, Rice Mill Control Order etc.

Challenges of ensuring food safety in Bangladesh

Bangladesh has strong regulatory framework of food safety but it suffers from very poor implementation of those instruments. We have very good laws but unfortunately our institutional sets up are not strong enough to apply those laws.

Challenges of ensuring food safety in Bangladesh can be characterized as follows:

- a) Poor implementation backbone,
- b) Defective legislations and lack of legislative wisdom and prudence.
- c) Absence of effective judicial activism,
- d) Pervasive corruptions at every level of state life and lack of political commitment
- e) A general lack of public awareness about the prevailing laws ensuring food safety.

Bangladesh is yet to develop a uniform food safety administration system and to formulate a food Safety policy. Nevertheless, some activities in food safety and quality control are going on in the country. A number of Ministries, Departments and Agencies are involved in these activities with a major responsibility of the Ministry of Health and Family Welfare. The government and its development partners made some desired efforts to develop a Food Security Policy. Earlier in 2000, a Task Force on Comprehensive Food Security was set up which came up with a strategy paper for future food security policy of the government. Under the auspices of the project titled “Improving Food Safety, Quality and Food Control in Bangladesh (IFSQFCB)”, different action programs have been taken to enhance food safety, strengthen and develop food control capacity in Bangladesh. The project is tasked with developing and implementing coherent national food safety and quality policies and strategies, underpinned by risk-based food control programmes which cover the entire food supply chain. Training activities were undertaken and technical support materials were developed for food businesses and assistance in the introduction of food safety management programmes. The delivery of such activities would include training of trainers and technical units to provide guidance on implementation of Good Manufacturing Practices (GMP), Good Hygienic Practices (GHP) and the introduction of the Hazard Analysis Critical Control Point (HACCP) System for small-to-medium sized food enterprises.²⁷ There are approximately 27 food security and social safety net programmes in action in the country but the coverage of these programmes is still not sufficient to reach all the needy people²⁸. However, consumer rights based organizations, by their significant movements, keep continuous pressures on the policy makers to take pro-active actions for establishing a sustainable food safety net in Bangladesh.²⁹

Once passed by the Parliament, the proposed *Food Safety and Standards Bill* will be a very significant initiative to diversify agriculture and encourage food processing industries. These initiatives are highly relevant at this juncture when rising incomes, urbanization, and globalization have opened new avenues for agricultural diversification in marginalized countries like Bangladesh³⁰. The parliament is expected to frame the *Fish and Poultry Feed Act* and the *Hatchery Act* to regulate fish and animal feed production, prevent

²⁷ The IFSQFCB Project is being implemented jointly by the FAO & the Ministry of Health and Family Welfare, Government of Bangladesh. Funding is provided by the European Union. For details about the project please visit: <http://www.bdfoodsafety.org/inner_details.php?Page=8> (Accessed during 07-10 June, 2011).

²⁸ Ms. Usha Mishra Joshi, Senior Advisor, WFP, the keynote paper presenter in a National Workshop on ‘Current Food Security and Challenges in Bangladesh’, organized jointly by the Ministry of Food and Disaster Management, Government of Bangladesh & World Food Programme, Dhaka, Bangladesh, October, 2005.

²⁹ For example, Consumer Associations Bangladesh (CAB), Voluntary Consumers Training & Awareness Society (VOCTA) etc. Details of their activities can be found at <www.consumerbd.org> & <www.vocbangladesh.org/vocta>

³⁰ Sengupta in note-08

contamination and deal with other compliance issues. The laws will help prevent sale of sub-standard and adulterated fish and animal feeds, exposing millions of people to deadly diseases like cancer³¹.

Kibria³² points out that, local feed manufacturers and suppliers in Bangladesh are doing their businesses without registration and license. Due to lack of proper surveillance, most of them sell poor quality feed, chemicals and antibiotics in the market. Farmers also use the contaminated feed and antibiotics to fatten domestic animals and in shrimp farming in ponds or low-lying lands. He suggests that processing plants might introduce a self-checking method before collection and export of raw materials, or send those for further testing. To stop the toxic antibiotics from getting into the food chains and control the fish and animal feed manufacturing, registration is a must. Farms, feed manufacturing factories including landing/auction centers, depots, processing and export units should be registered and brought under a licensing system. Kibria proposes to take lesson from the curative and preventive measures taken by the Thai government and create scopes and potential areas of collaboration between the two countries in this regard³³. Ms Joshi recommends that there is an urgent necessity to develop an integrated policy and action plan, bringing together all the diverse players and stakeholders as well as making them accountable for contributing their effort to the overall challenge of improving food security in Bangladesh³⁴.

Being world's one of the smallest food producers, Bangladesh is poorly rated in terms of value addition to its raw produce in the food processing industry. Countries such as Philippines, India and China, not to speak of those in Europe and North America, have managed to add considerably more value to their farm products than Bangladesh. The food processing policy has been suffering from serious constraints such as, absence of uniform regulatory machinery covering all stages of the value chains. Multiplicity of laws has created confusion in the minds of the consumers, producers, traders, and investors. Besides, most of the existing laws were framed at a time when the food processing industry was at a nascent stage. Genetic modification of food was not possible then. Enactment of uniform Food & Nutrition Code updating and consolidating all existing laws on the subject is *sine qua non* and will thus usher in integrated food management and safety systems. Under the proposed Code, a high-powered Food Safety and Standards Authority, equipped with adequate manpower and logistic facilities, will then be established to lay down guidelines and set safety standards in Bangladesh. New positions of district level food commissioners need to be created in order to ensure compliance. In addition, removing infrastructure constraints, offering fiscal incentives, reducing the abnormally high cost of packaging, and shortening the supply chain between the farmer and the consumer would also be necessary³⁵.

CONCLUSION

An effective food safety regulatory framework is imperative to ensure safe food for consumers in a country. Bangladesh is lacking it for a long time which resulted serious public health issues as discussed in this paper. However, considering the current situations, it can be recommended that the FSRRB requires a single well-drafted and up to date legislation that will provide for an autonomous and apex food safety regulatory body to perform all kind of coordination. Also such apex body needs to be built on the accountability and transparency that will be free from any kind of bureaucratic complexities. Laws should be amended providing the higher penalties for the wrongdoers as well as an efficient administrative enforcement regime need to be structured based on persuasive tools.

³¹ Md Sharful Alam, secretary of Ministry of Fisheries and Livestock at a workshop on 'Compliance with International Food Safety Requirements: Lessons from Thai Experience', Dhaka, Web: <<http://gurumia.com/2010/01/18/bangladesh-establishes-new-food-safety-laws/>> (accessed during 07-10 June, 2011).

³² Muhammed Shamsul Kibria, the keynote paper presenter on food safety in the workshop in note 55.

³³ Kibria in note 56

³⁴ Ms Joshi in note 52

³⁵ Sengupta in note-08

REFERENCES

1. The Survey was cited in Quazi Mohammad Ali, "Some Aspects of Consumer Protection in Bangladesh," *The Dhaka University Studies Part-C* (1984): 111.
2. Neela Badrie, Sonia Y. De Leon, and Md Ruhul Amin Talukder, "Food Adulteration Management Systems: Initiatives of Trinidad and Tobago, West Indies, Philippines and Bangladesh" (paper presented at Caribbean Agro-Economics Society 26th West Indies Agricultural Economic Conference, Puerto Rico, July 2006), 85.
3. Shah Mahfuzur Rahman, Md Asirul Hoque, and Md Ruhul Amin Talukder, "Food Security in Bangladesh: Utilization, Nutrition and Food Adulteration" (paper presented at the National Workshop on Food Security, Dhaka, Bangladesh, 19–20 October 2005), 45–6.
4. National Taskforce on Food Adulteration, "Bangladesh Country Paper" (paper presented at the FAO/WHO Regional Conference on Food Adulteration for Asia and Pacific, Seremban, Malaysia, 24–27 May 2004), 6.
5. "The State of the World's Children 2008: Child Survival," United Nations International Children's Emergency Fund, December 2007, accessed November 15, 2012, <http://www.unicef.org/sowc08/docs/sowc08.pdf>, 1.
6. For details of the relation between food adulteration and malnutrition, see Motarjemi et al, "Contaminated Weaning Food: A Major Risk Factor for Diarrhoea and Associated Malnutrition," *Bulletin of the World Health Organization* 71 (1993): 79.
7. "Sustainable Development and Healthy Environment: Food Safety," World Health Organization: Country Office for Bangladesh, accessed November 8, 2012, <http://www.ban.searo.who.int/en/Section3/Section40/Section104.html>
8. S. M. Nazmul Alam and Bob Pokrant, "Re-organizing the Shrimp Supply Chain: Aftermath of the 1997 European Union Import Ban on the Bangladesh Shrimp," *Aquaculture Economics & Management* 13 (2009): 53.
9. M. A. Z. Chowdhury et al, "DDT Residue and Its Metabolites in Dried Fishes of Dhaka City Markets," *Soil & Environment* 29 (2010): 120
10. Shaban Wanis Al-Rmalli, "Arsenic and Other Trace Elements in Bangladeshi Foods and Non-Foods and Their Relationship to Human Health" (PhD thesis, De Montfort University, 2012), <https://www.dora.dmu.ac.uk/handle/2086/6015>, at page V
11. S. S. M. Sadrul Huda, Ahmed Taneem Muzaffar, and Jasim Uddin Ahmed, "An Enquiry into the Perception on Food Quality among Urban People: A Case of Bangladesh," *African Journal of Business Management* 3 (2009): 228
12. Philip Hampton, HM Treasury, *Reducing Administrative Burdens: Effective Inspection and Enforcement*, 2005, <http://www.berr.gov.uk/files/file22988.pdf>, 5.