

**Project Report on**

**Food Adulteration & Health Hazards In**

**Bangladesh**

**Submitted To**

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## Letter of Transmittal

January 26, 2019

Dr. Khandoker Mahmudur Rahman

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Subject: **Submission of the Project Report**

Dear Sir:

I would like to present the report of my project entitled “**Food Adulteration & Health Hazards in Bangladesh**”, which was established as an obligation to complete the United International University's BBA program.

Although I am working on the statement, I have tried to follow each of the instructions that have been recommended to me. It was a very enlightening knowledge to work on this new topic.

Sincerely,

Aminur Rahman

ID No: 111131159

# Acknowledgement

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Successful completion of any project requires the help of several people and different websites. As a student, I also received help from various websites and people during the preparation of this report. First of all, I would like to thank Almighty Allah. So, I express my sincere thanks to my honorable supervisor, **Dr. Khandoker Mahmudur Rahman**. He gave his precious time freely from the opening of this work until its completion. Their experience in management, affectionate encouragement and dangerous suggestion provide me with essential assistance for the declaration and allow the meaningful conclusion of this statement to work for a short time. I do not hesitate to say that, without constant management and important advice and suggestions from time to time, it would be difficult to complete the full declaration.

# DECLARATION

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I am Aminur Rahman, a student of the United International University School of Business and Economics (Marketing), Bangladesh. I hereby declare that the Report project on "**Food Adulteration and Health Hazard in Bangladesh**" is an original work and has never been presented before- any degree, diploma, degree or recognition.

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## **Abstract**

This report was prepared as a requirement of United International University's BBA program. This report will give a clear idea of the adulteration of food. The adulteration of food is mainly inferior in the quality of food, either by mixing or replacing inferior substances or by eliminating some precious healthy ingredient. The adulteration of food has become a general job in our country and we are consuming these foods almost every day. Adulterated foods have numerous harmful effects on our health. Every day we see in television news as unhygienic and spurious food entering our home. The adulteration of food has different aspects in individual health, as well as in the physical conditions of the population. The report compiles the various types of adulteration practices and hazard of these foods in Bangladesh context.

## **Introduction:**

We work to earn satisfying hunger. What we are eating could be a dangerous tincture, sawdust, industrial starch or other contaminated food. These foods are an important source of diseases. Therefore, we invite diseases instead of good health. Food is the basic need of life. Food is a substance that people and animals eat to survive. Food usually comes from animals or plants. People eat food for energy and nutrition. Nutritious food makes people and animals strong and healthy. The foods contain proteins, fats, carbohydrates, vitamins and minerals. If we cannot eat, we become hungry and weak. We cannot live without food. It is essential for our health and life. It must be pure, healthy and free from any kind of adulteration for the proper maintenance of our forces. It is important that the food is pure, clean and fresh. Nowadays, food is often adulterated. The action of doing something poorer in quality when adding another substance is defined as adulteration, which is generally considered in the production of food. In legal terms, adulteration means that a food product does not meet the legal standard. Some adulterants generally used in meat and meat products are water or ice, carcasses or canals of animals other than the animal destined to be consumed. Adulteration of food has become a general problem. This problematic problem not only ignores people's rights to safer food but also seriously increases the problem of health risks. It is the main cause of serious and chronic diseases. The aim of our study is to describe food adulteration, its impact on the consumption of adulterated foods on human health and to indicate the danger to health. We have no objectives to blame or undermine anyone. Our main intention is to inform the recent food adulteration scenario and we want to achieve positive change through the correct measures so that the regulators concerned can take appropriate action.

### **1.1 Background of the study:**

Food adulteration is a process by which the value of food is lower, either by adding inferior quality material or by extracting a valuable ingredient. Not only does it include the addition or calculated substitution of substances, but also the biological and chemical contamination during the development, preservation, processing,

transport and delivery of foodstuffs, is also responsible for the degradation of the quality of food products. Adulterants are chemicals or substances generally used to make food products unsafe for human consumption. The adulteration of food is increasing in our country. It seems that all Bangladesh is trapped in the hands of merchants of adulterated foods. Now it is really difficult to find good or safe food in the stack of adulterated food. What food is safe now? Almost all types of food, including life-saving drugs, are adulterated here. Now the common people are thinking: is there safe food in the local market?

The previous food laws state, "Any food product with reduced or degraded quality was called adulterated food". But the new laws (FSS Act, 2006) say that "the word adulterated food was called poor quality food, unsafe food or food containing foreign matter.

### **1.2 A food item is said to be adulterated if:**

- A substance which is added with food is injurious for human consumption.
- An inferior substance which is added with food substitutes wholly or partly.

### **1.3 Purpose Statement:**

While I am doing this report on the topic "**Food Adulteration & Health Hazards In Bangladesh**" to know the importance of food, the harmful effects of adulterated food, the process of adulteration of food and the prevention of food adulteration

### **1.4 Literature Review:**

The main objective of this report is to discover the effect of adulterated foods and their health risk by knowing the relationship requirements of the organization of their BBA strategies. In this report I shared the theoretical knowledge related to the topic of the relationship.

### **1.5 Aim of the Report:**

- To understand various types of adulteration.
- To know the current scenario of food adulteration.
- **To know food adulterations categories.**

- How Foods are generally adulterated.
- To evaluate **a few general adulterants and the disease cause by food adulteration.**
- To know other effects of food adulteration on society health.
- Other types of foods adulteration
- How food adulteration in food packing production
- Why food Adulteration.
- How to control food adulteration.

### 1.6 Significance of the study:

The importance of any relationship is considered an important component of the study, as the research task remains incomplete until the report is presented. Although the most relevant hypothesis, the well designed and conducted research study and the most important generalizations and discoveries have little value, unless they are presented successfully. The purpose of the research will not serve adequately unless the results are disclosed to others. Our study on food adulteration serves all aspects of significant research. People can have a good understanding of food adulteration by reading this report. They can include various types of adulteration, categories of food adulteration, as are foods in general, adulterants and common adulterated diseases, effects of adulteration of food on the physical condition of society, how to spoil food in the production of packaged food, how to control the adulteration of food etc.

### 1.7 Methodology:

The methodology refers to the discussion on the specific form of study chosen and used to address the selected research topic. This discussion also includes theoretical concepts that provide additional information on the selection and application of methods. The methodology focuses on the characterization and definition of the study. It also explains the techniques chosen and provides a complete account of the procedures used to select, collect and analyze the data.

The most common data collection methods are:

### **1.7.1 Research Type:**

I am doing this report on the area of “**Food Adulteration**”. It is a descriptive type report. In this report all the required information’s are described.

### **1.7.2 Data Type:**

The study requires various types of information of food adulteration, various types of adulteration, categories of food adulterations, such as foods are generally adulterated, adulterants and common diseases, effects of adulteration of food on the health of the community, how to control the adulteration of food, etc. Minor data available to prepare this statement was used.

### **1.7.3 Secondary Information:**

- Various websites information.
- Personal investigation of some source of report.
- Newspaper reports on food adulteration.

### **1.7.4 Data Presentation:**

I will submit the report by the hard copy by the Microsoft office. Some of the data analysis we have presented by Microsoft word.

### **1.8 Scope of this report:**

This report covers the following features:

- The entire concept food adulteration.
- Characteristics of different types of food adulteration.
- How foods are generally adulterated.
- Effects of food adulteration on society health.
- How to control food adulteration.

### **1.9 Limitation of this report:**

I faced following obstacles while preparing this report:

- Deficiencies in data required for the study.
- Time provided for conduct the study is another main constriction.

- Limited number of information in the company website.

## 2. Various types of adulteration

Adulterated foods are a serious danger to physical fitness. They cause many deadly diseases and even cause death. The adulteration of food has become a dangerous problem in our country. Coping with adulterated food is a big crime. Criminals must be identified and punished. We must remember that if we do not control it now, this problem can escape control. However, our government has taken some measures to eliminate adulteration food measures, but these are not enough for everyone. In the end, it is not possible for the government itself to solve the problem of food fraud without our participation. We must create public awareness so that people can be careful when they buy food. Several types of adulterants found in food and food products are as follows:

**Intentional adulterants:** intentionally doping agents are agents, starch, pepper oil, indictable and other coloring dyes. They are sand, flakes of marble, stone, clay, chalk dust, water, mineral oil and coal tar dyes. This adulteration causes harmful effects on the body.

**Metal contamination:** metal contaminations are dopants that are in the form of arsenic from pesticides, lead and mercury effluent from the chemical industries, cans.

**Adulterants in the background:** accidental adulterants are the adulterants found in the form of pesticide residues, can of rodent droppings, food larvae. Contamination of the metal with lead arsenic, mercury can also occur randomly. The formation of occasional adulterants common with adulterants consists of pesticides, D.D.T and marathion residues present in the plant product.

### 2.1 Food Adulterations Categories:

**Replacement:** In the substitution categories of adulteration, complete or partial replacement of a valuable food ingredient or food component with a less expensive substitute. The goal of avoiding "the origin" and the false declaration of "development".

**Addition:** In this category, little quantity of non-authenticated substance is added to mask inferior quality ingredient.

**Removal:** In this category, authentic and costly constituent are removed from food without purchasers knowledge.

## 2.2 Foods Prone To Adulteration

Foods are generally adulterated to increase the amount of food for greater profits. In general, contamination / adulteration in food is done either by economic income or by negligence and lack in the correct hygienic processing, storage, transportation and sale situation. Now, all that we like may or may not have been prey to the place of adulterants. We observe it in pink but it is white or black. These types of adulteration are quite common not only in our country but also in developing countries. The Journal of Food Science reports that "olive oil, milk, honey, saffron, orange juice, coffee and apple juice are the seven food ingredients most likely targeted by food adulteration intentional or economically motivated."

### **Milk:**

Milk can be one of the easiest targets and that is why food authorities or sovereign food testing agencies have discovered that milk is adulterated. A report warned milk users of how cow's milk could be adulterated because they graze in the trash. Some milk adulterants are water, gypsum, urea, caustic soda and skimmed milk, while Khoya is adulterated with paper, developed oil and skimmed milk powder.

### **Honey:**

Honey is often adulterated with water and table sugar to enhance the amount. The Center for Science and the Environment conducted a study and reported that most of the honey brands sold in the state contain a variable amount of antibiotics and their consumption over time could induce resistance to antibiotics, causing blood disorders and injury to organs of the body such as the liver.

### **Spices:**

Spice like turmeric powder are adulterated with 'metanil yellow' which is formed with make use of some raw material like 'metanilic acid' and 'diphenylamine'. The

common public does not know the menace of consuming turmeric powder mixed with 'metanil yellow'. It can source cancer in living tissues. Black pepper can be adulterated with Papaya seeds.

### **Ice-Cream:**

The adulterants of the ice-cream are peppers, ethyl acetate, butraldehyde, emil acetate, nitrate, detergent powder, etc. that are poisonous Pepperoil is generally used as a pesticide and ethyl acetate causes diseases that affect the body's organs such as the lungs, kidneys and heart. Ice cream is produced in an extremely cold situation where the fat hardens and various harmful substances are mixed.

### **Food grains and flour:**

Rice and wheat are part of our staple food. Most people live on rice. Wheat and rice powder are generally mixed with starch. This is generally to thicken the cream of rice and wheat powder. This extra substance eliminates the nutritional ingredient for the consumer, leaving us in the illusion that our diet is perfect. Rice and wheat are mixed with small "grains of stone" to increase the weight per quintal of an unscrupulous retailer.

### **Coffee Powder:**

The coffee powder generally diverse with Tamarind seeds, chicory powder. The damaging consequence mixed coffee powder is that it can cause diarrhea, stomach disorder, giddiness and rigorous joint pains.

### **Tomato Sauces:**

Tomato sauce normally complementary to fast foods that are also artificially made with "pumpkin pulp", "sugar", "inedible colors and flavors". There is no tomato concentrate in that sauce to maintain an economic rate on the local market. These mixed sauces with "unnatural colors and flavors" are highly carcinogenic.

### **Tealeaves:**

The tea leaves are generally mixed with chemicals and additives that are added to their aroma or flavor. This mixture is like adulteration. Many substances have also

been used to adulterate tea. The normal substance for adulterated tea is the blue of Prussia, an insoluble blue pigment, generally used to color planes, pastels, paints and varnishes; It is not toxic to the human body. Indigo: a blue tincture derived from the *indigofera tinctoria*; It is not toxic to the human body.

### **Vegetable Oils and Ghee:**

Mustard seeds and mustard oil are adulterant with the argemone seeds used to add volume and weight. Papaya seeds are also used for food adulteration. People who consume them can cause epidemic dropsy and severe glaucoma. Young children and the old public with little immunity are more sensitive to this. According to a food declaration, 70% of the olive oil sold is mixed with cheaper oils.

### **Sweets:**

Khoya and Chhena are regularly used for the preparation of traditional sweets, and are often mixed with starch. All we need to do is boil a small sample in water, cool it then add a few drops of iodine result. The presence of blue color indicates the presence of starch. Silver coating used to decorate sweets is made from silvery. Though, many sweet shop owners use silver vark that could contain aluminum.

Khoya and Chhena are regularly used for the grounding of traditional sweets and are often mixed with starch. All we have to do is boil a small sample in water, let it cool and add a few drops of iodine. The existence of blue indicates the presence of starch. The silver coating used to decorate the desserts is made of silver. However, many sweet shop owners use silver vetch that could contain aluminum.

## **2.3 How Foods are generally Adulterated:**

- Meat and eggs can be mixed by adding preservatives like potassium nitrate, boric and other acids etc. color matter like aniline red and cochineal-carmine is usually mixed with colors.
- In Vegetable, malachite green is used for viewing bright glowing green color which may be carcinogenic for human.
- Martius yellow is being used to enhance the yellow color of food substance. It can be carcinogenic and causes stomach disorder.

- Starch is being mixed to give rich texture to paneer, khoya and condensed milk that might cause stomach disorder.
- Pepperoil is mixed with ice cream which might cause kidney, lung and heart disease.
- Coffee Powder is mixed through tamarind seeds. Chicory powder is being used as coloring agent and it adds to weight.

The practice of non-authentic substances in food items is stringently forbidden and the same apply to export leaning units. Our food testing laboratory furnish with all the required tackle and is operated by a team which is qualified in the investigation of food adulteration, using technique like HPLC, HPTLC, GCMC, LCMSMS and chemical investigation.

### **3. Food adulteration in Bangladesh:**

The adulteration of food with toxic substances harmful to health has reached an epidemic level in Bangladesh. The newspaper said it is a silent killer. Nowadays it is very difficult to find a sector of the food industry without adulteration. From fresh vegetables to fruits, from milk to products processed with milk, fish, meat and processed foods, all foods are contaminated. Almost every day we can find new forms of adulteration in the news.

Contamination of food with toxic chemicals is a dangerous threat to public health. Especially in a country like Bangladesh that has a low level of health knowledge and the level of awareness is very low. The effect of these foods causes diarrhea and threatens life. In the long term, these toxic chemicals in food have a negative effect on the vital organ of the human body, such as the liver and kidneys, which cause kidney failure and cancer and a premature loss of life. In recent years, patients with hepatic and renal insufficiency in hospitals have increased dramatically.

People from all walks of life are aware of the dangers of eating adulterated foods with toxic chemicals, but this information does not translate into practice. In a recent study,

it was discovered that although people are aware of health risks, they are still exporting and consuming these adulterated foods. Various explanations are provided for this situation, but the absence or unavailability of unadulterated foods, the inability of the organization to test and discard mixed foods, adulterated foods are attractive in appearance and cost less.

There is no shortage of laws and regulations to curb food adulteration in Bangladesh, such as the Bangladesh Standards Test Institute (BSTI) Order of 1985 and the 2005 Foodstuffs Ordinance. The following crimes come under of application of these rules: poor quality food, fake licenses, poor infrastructure and lack of hygiene, food adulteration, food impurities, sale of expired products and incorrect information on food packages, etc. The main problem lies in its sustained and adequate realization by a credible power. Occasionally, law enforcement agencies will unexpectedly be in active mode and will implement mobile courts to penalize sellers or producers of contaminated food products. In Bangladesh, more than 50 percent of the food consumed every day, such as milk, fish, baby food, is adulterated and poisonous and adulteration is on the rise over the last two years.

This was revealed in a report organized by the National Food Safety Laboratory under the Bangladesh Public Health Institute, which says:

The principal analyst said that the laboratory report also found adulteration in all types of milk powder, spices such as turmeric, pepper, mustard, edible oil and palm oil.

Even one hundred percent adulterations were found in different types of sweets in the bazaar and most of the liquid drinks, juices, jellies, jams, puddings and ice creams were below standard.

In a common sample, 7000-9000 samples of food collected each year from the laboratory from various sources such as health inspector, transportable magistrates, police; Border guards have discovered that various chemical agents such as calcium carbide and ethanogenesis are used at random to ripen different types of fruit such as banana, mango, papaya, tomato and pineapple, and also to keep them fresh.

The government of Bangladesh has planned another law to limit the use of formalin and a greater punishment for not including the following law for the commerce and use of food products. The administration has embarked on a trial of error more to enact another law. Build the Burdon basket with the laws for the controller, but there are no provisions to punish the controller for poor compliance with existing laws. The law guarantees strict provisions only to increase the regulation of formal trade without any provision for monitoring, research, quality control, administration, prevention, modification, customer learning, etc.

#### **4. Formalin Myth in Bangladesh:**

Formalin is the most common phenomenon considering the problem of food adulteration in our kingdom. Equipped with equipment not suitable for detecting formalin in food, law enforcement agencies embarked on an enormous journey in June 2014 and mainly destroyed fruit trucks, almost without anything.

A mobile court, in collaboration with the police, has damaged a significant number of locally available fruits, such as mango, jackfruit, lychee, etc. and imported fruit over the border, labeling those fruits as adulterated by formalin, DDT and calcium carbide. But scientists from Bangladesh's Industrial Research and Technical Research Council, commonly known as the science lab, found that the Formaldehyde Meter Z-300 formaldehyde detection motor is not suitable for fruit testing because it can give propaganda on the presence of formalin because the engine was designed to calculate the presence of formaldehyde in the air.

The use of formalin in the food industry is a crucial problem in Bangladesh. Technical studies suggest that formalin consumption directly through food can cause different types of cancer; especially lung cancer.<sup>22</sup> The use of DDT is prohibited in 49 countries and is controlled in countries all over the world. DDT is responsible for cancer, especially breast, liver and pancreas cancer. DDT is also responsible for many adverse effects in a variety of types of reproductive problems, such as unproductivity; weaken sperm, abortion, early menopause, birth defects and low birth weight. The WHO underlines the appalling rate of infantile humanity and states that 150,000

children die each year in the first 4 weeks of their lives. DDT can cause neurological problems to human health with tremors, convulsions, nausea and dizziness, etc.

## **5. Some common adulterants and the diseases caused by food adulteration:**

The General Food Safety Laboratory (NFSL) of the Mohakhali Institute of Public Health (IPH) recently conducted a survey on food security in the country. Around 500 types of foods have been identified as highly adulterated foods during the test. Germs of typhoid fever, dysentery and diarrhea have been found in street foods, such as Fuchka and Jhalmuri. This kind of situation is really alarming. The necessary steps are necessary to stop the adulteration of food. The report states that most of these foods contain salmonella, artificial colors, coliforms, mycotoxins and e-coli, which are very harmful to human health. e-coli is responsible for dysentery, while salmonella produces typhoid fever in the human body. Furthermore, coliforms and mycotoxins are germs of diarrhea. According to the analysis, the percentage of germs in food was very high. Children suffered from dysentery, diarrhea, typhus and jaundice due to these germs in food.

### **Milk:**

Cow's milk or buffalo milk can be adulterated with starch, milk powder and urea.

Health effects: cancer.

### **Butter:**

Adulterants: the essence of Ghee is mixed in cheaper oils and is passed off as pure ghee. This type of ghee cannot solidify like a normal ghee. It may not have the grainy consistency of pure ghee. Oleomargarina or butter - added to butter.

Health effects: cancer or acute renal failure.

Argemone oil is generally used to adulterate butter and ghee. Argemone oil is very toxic. It could cause a disease known as dropsy. The aqueous fluid in some parts of the body is the main indication. It affects the normal functioning of the body. It can paralyze the human body.

### **Sugar and salt:**

Adulterants: with gypsum powder and white sand. Health effect: Stomach disorder.

### **Tea powder:**

Adulterants: With used tea leaves, dye or artificial color, iron filling.

Tea- colored tea leaves after removing the essence.

Health effect: Cancer, tetanus.

### **Chilli powder**

Adulterants: Sudan red, red brick powder, grit, sand, dirt, non-permitted colors, saw dust or use dry papaya seeds to obtain the required color.

Health effect: Stomach disorder, Sudan dye is carcinogenic.

### **Sweets**

Adulterants: Metanil yellow is used to brighten the colour of pulses, turmeric powder and sweetmeats, is colours not permitted.

Health effect: tumor and cancer.

Mustard seeds and vegetable oil

Adulterants: Argemone seeds and argemone oil.

Health effect: Epidemic dropsy.

### **Honey**

Adulterants: Jaggery, Sugar, Corn syrup.

Health effect: Obesity, Diabetes mellitus, Eyes and nerve damages.

Adulteration on bakery items

Adulteration of baked goods and dairy foodstuffs can have tremendous health effects. For example, foods filled with cream, cereals and creamy sauces increase salivation, abdominal cramps, vomiting and prostration. Poorly processed milk can cause food poisoning and abdominal pain, and improper canned meat can cause food poisoning and abdominal pain.

## **6. Other Effects of Food Adulteration on Community Health**

Vegetables and fish are generally mixed with formalin and other types of chemicals. This type of adulterants is used to conserve foods that damage physical fitness and cause different types of cancer, asthma and skin diseases.

Meat and non-hygienic meat products cause food-borne diseases, generally with fever and chills. These are the harmful effects of food adulteration on public health.

Cobalt is used in the water packaging process. Cobalt is highly harmful to health.

Coffee powder mixed with tamarind powder and seed dates can cause diarrhea.

### **6.1 Other types of foods adulteration**

Cumin seed: Grass seeds are camouflaged and color with charcoal dust.

Turmeric: Lead chromate is being used to give turmeric its natural color. It is very harmful causes anemia, abortion, paralysis and brain injure.

### **6.2 Coriander powder with dung powder.**

Fruits: Arsenic sprayed causes dizziness, chills, cramps, paralysis, death etc.

Washing soda is often mixed with powdered sugar and other food items may cause intestinal disorders.

Food items prepared and processed under unhygienic conditions and stale foods cause food poison.

Mogdad coffee, roasted ground peas, beans to adulterate coffee.

Alum is mixed to disguise usage of lower-quality flour with luxurious flours.

Starch - added to sausages.

## **7. Foods adulteration in food packing production**

Fraud in the primary equipment used in food processing.

- Change the expiration date or date of food packaging and production.
- Refilling and repackaging the damaged foods.
- Illegal use of well-known and certified trademark illegal and irregular.
- Manipulation or fraud of real weights and sizes of product.
- Changes the country of origin or the producer.

## **8. Health Hazards Of Food Adulteration:**

The effects of food additives can be immediate or long-terms.

### **Immediate effects:**

Common reactions are urticaria, runny nose, headache, asthma etc.

Cause gastro-intestinal disturbances like diarrhea, infections.

Bleeding, hyperactivity, irritability, contact dermatitis and skin eruptions.

Toxicity due to toxic sweeteners, additives, colours etc.

Consumption of Argemone oil mixed mustard oil cause Epidemic dropsy.

**Long-term effects:** Damage organs, birth defects and cancer.

Breaking of teeth and adverse effect on the lining of the digestive tract.

Anemia.

Cardiac arrest and stomach or intestinal cancer.

Various abnormalities of bone, eyes, skin and lungs.

## **9. Ways to prevent food adulteration**

Many countries around the world are worried about food adulteration and its high risk. The government of food and drugs was established in the United States in 1906 and food security and standard power began to operate in India in 2011. Occasionally, law enforcement agencies perform strong vigilance to discover these cases of adulteration. At the beginning of June 2014, the Dhaka Metropolitan Police also launched an anti-formalin campaign in and around the capital to verify formalin in seasonal fruits and destroyed fruit tones, mainly mango and lychees. Joint BSTI team and irregularly shaped mobile cut. There are at least 30 chemicals used by immoral merchants in food products for food adulteration that need to be monitored. The use of adulterants was normal in our state with poor legal control over food quality and poor or non-existent monitoring by the authorities. Occasionally, this practice has spread to harmful chemicals and poisons. For example, color the cheese (s) with lead. The IPH systematic test also found a compromised quality in samples of mustard and soybean oil, noodles, seeds and ghee. Moisture and fatty levels of many edible oil samples have not reached the standard level. 465 samples, including aborigines, tomatoes, cauliflower, green peppers and field beans, were analyzed by microbiological examination. 55 noodle shops of different brands have been collected in Dhaka's markets and supermarkets. But the protein levels of 14 items were not standard, even the level was very low. The test was also found to be harmful in the test. The test detected a lower protein level than standard in 13 semi samples of different brands. Also, the iron level was found lower than the standard level.

## **10. Findings:**

In hotels and café, stale and rotten food are mixed with clean food and served to the consumers. Fish and vegetables are mixed by arrangement chemicals and other preservatives in order to make them look fresh. Bakery and confectionery foodstuffs are also mixed by adding toxic substances. Junk food contains harmful chemicals. Even fruits, milk and beverages are also mixed in our state. In fact, all kind of foods are mixed by untruthful and greedy businessmen. Food adulteration means all adding

with food items or subtracting from food items. Through the progress the food is lowering the nutritive value of food either by remove a vital component or by adding substance of inferior quality. The adulteration of food may be done intentionally or unintentionally. On reason adulteration of food is a illegal act and transportation a punishment of offense. The next topics have been found why foods are mixed:

In hotels and cafes, rancid and rotten foods are mixed with clean foods and served to consumers. Fish and vegetables are mixed with chemical preparations and other preservatives to make them fresh. Even bakery and pastry products are mixed by adding toxic substances. Junk food contains harmful chemicals. Even fruits, milk and drinks are mixed in our state. In fact, all kinds of food are mixed with fake and greedy businessmen. The adulteration of food means that all those who are added with food or are taken away from food. Through progress, foods are decreasing the nutritional value of foods, eliminating a vital component or adding substandard substances. The adulteration of food can be done intentionally or not. The reason why food adulteration is an illegal act and transportation is a punishment for the crime. The following topics have been found because food mixes:

- To earn more profits.
- To increase the weight adulterant is added.
- To increase volume of food by showing lower prices.
- At that time the deliver is less than market demand
- To build the product costs chief to meet the market competition.
- Shortage of authentic ingredient at reasonable prices.
- Shortage of quality and no up dation of processing technique.
- Inadequate knowledge on the significances and associated food safety risks.
- Lack of wakefulness and updating of the information on the adulteration connected food safety outbreaks.

## **11. Suggestion and Recommendations:**

There is no real initiative against food adulteration and the danger to health in our country. However, it is a serious crime. At times, the authority takes action against food adulteration and the danger to health and fined some traders. But there is no visible improvement. Businessmen of adulterated food start their business only after a few days of travel. Therefore, the unit must be performed regularly. Furthermore, for dishonest entrepreneurs it is necessary to take strict measures to abandon the illegal food industry. An exemplary punishment should be guaranteed against traders who walk with adulterated food.

Otherwise, this kind of crime will be impossible to control. New law can be enacted in this regard.

- Law enforcement strategies must be clearly defined for compliance, so that all instances of non-compliance can be easily identified and authority can act quickly.
- Each court of genuine food must have the power to hear and resolve any claim based on all food laws.
- The Clean Food Ordinance should be considered as the only main food business law in substance. The interference of BSTI in the establishment of a food standard certificate that violates the ordinance on pure food products must be closed.
- The 2013 Food Safety Act and the formalities management laws should be put into operation as soon as possible.
- Transparency and responsibility must be guaranteed in the inspection procedure, in the study of food and in the processing system. Criminals must be prosecuted. Credible laboratory services for food analysis and food inspection method based on the risk to be established.
- Well-equipped laboratories should be established for each type of food study, such as formalin, carbide, DDT, preservatives and color control tests, with qualified and personal cadres in each district of Bangladesh.

- It is our duty to save ourselves and our descendants. To do this, we must fight together with these ugly tendencies of adulteration. The management must act together with the law against these criminals.
- We must inform people in general about the serious health impact of adulterated food consumption. This struggle of society can change the scenario and now we want to do it correctly. Taking care of our food means taking care of our power.
- Feel an ethical and moral responsibility as a food business operator to deliver and serve whole foods that provide good health to people.
- Periodic update of epidemics related to development and allergens in the world.
- Risk assessment for all ingredients, additives, processing aids and processing techniques.
- Rapid and authentic testing procedures must be ensured for the scanning of ingredients, additives and processing aids for positive approval in order to increase simple validation and share knowledge with legal entities and industry.
- Measures must be taken to correctly understand adulteration problems.
- Measures should be taken to know the difference between the natural and aesthetic attributes of texture, appearance and taste of foods and to accept natural ones as much as possible.
- Avoid adulterated cold drinks; instead we can have any fresh fruit juice and soft coconut.
- Ensure that the food package has a certification mark for industrial products or labels before purchase.
- We should not buy food if the end date has been exceeded.

## **12. Conclusion**

The adulteration of food by chemicals and toxic substances has reached as an alarming level in Bangladesh, especially in hotels, shops and restaurants at low cost, which is probably the main source of health risks in Bangladesh. Carbide in fruits, formalin in fish, colors of fabric in sweets and baked goods, pesticides in raw

vegetables, etc., are used to increase the shelf life of food. The type of adulteration practices poses various health risks and serious threats to public health; particularly children are the most vulnerable to these risks. Due to a lack of health knowledge, a large number of people do not know how to store or store food properly. This can cause food poisoning and cholera. If this practice of adulteration continues for a long time, vital organs such as the liver and kidneys can be damaged, even causing cancer.

Even if we become more aware of the risks of food adulteration, we can not stop food adulteration. Compliance with these laws must be guaranteed with the highest penalty to avoid food adulteration and to keep us free from health risks. Awareness campaign on customer rights, as well as the advancement of ethical practices in the business community by business leaders and capacity building of public health laboratories through the training of multiple staff to test food products in an appropriate manner to detect adulteration in the place. We hope that the power in question will come to address these problems as soon as possible.

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