

Food Adulteration in Bangladesh: Pattern and Remedy

What is Food Adulteration?

Food is adulterated if its quality is lowered or affected by the addition of substances which are injurious to health or by the removal of substances which are nutritious.

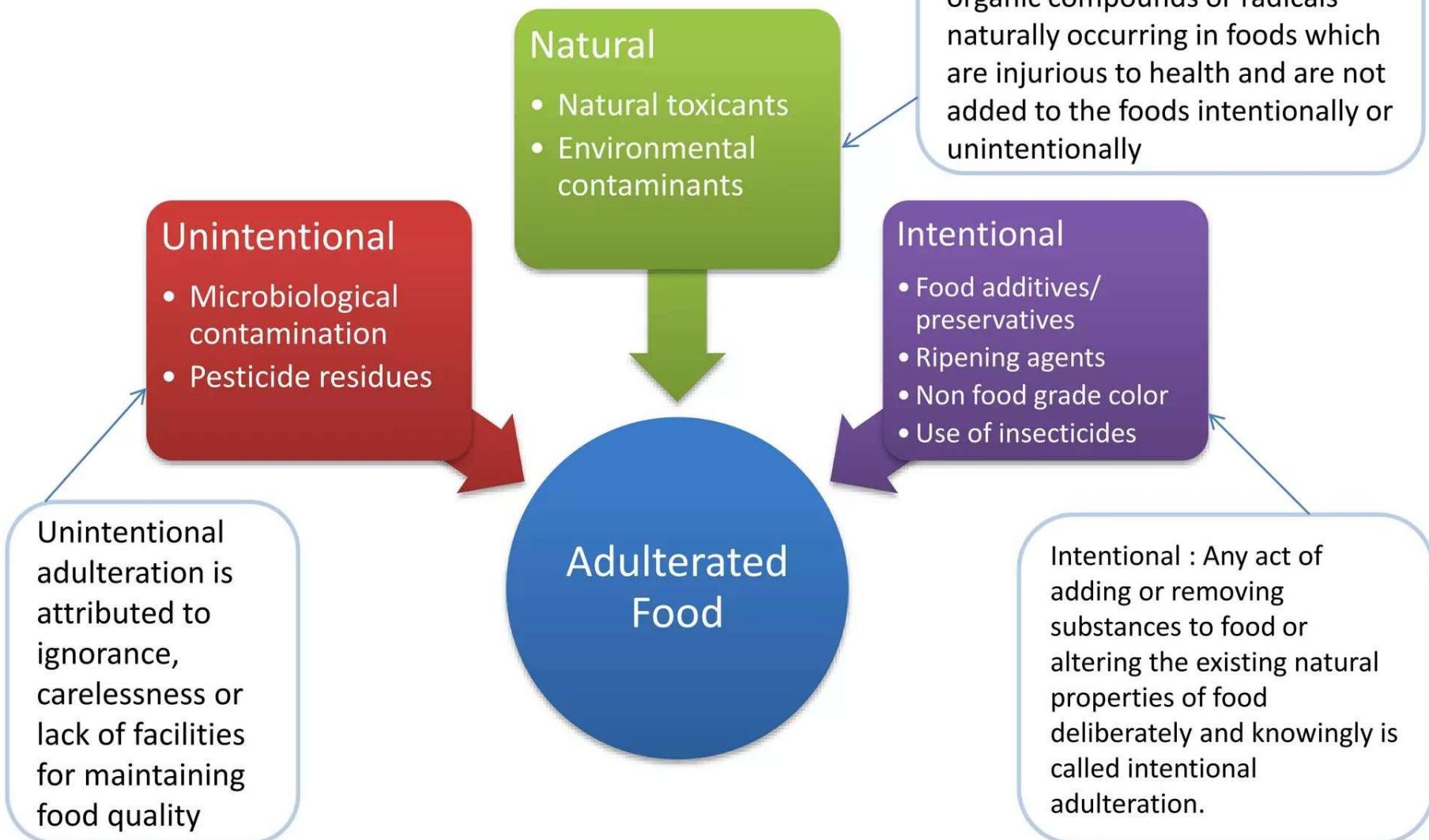
It is defined as the act of intentionally debasing the quality of food offered for sale either by the admixture or substitution of inferior substances or by the removal of some valuable ingredient.

What is Food Adulteration?

Food is declared adulterated if:

- A substance is added which depreciates or injuriously affects it.
- Cheaper or inferior substances are substituted wholly or in part.
- Any valuable or necessary constituent has been wholly or in part abstracted.
- It is an imitation.
- It is colored or otherwise treated, to improve its appearance or if it contains any added substance injurious to health.
- For whatever reasons its quality is below the Standard

Types of Adulteration



Press Coverage

Intentional Food Adulteration: Bangladesh Scenario

Banana often taste bland as they are artificially ripened with carcinogenic chemical



*The Daily Prothom-Alo
September 2, 2010*

Press Coverage

Intentional Food Adulteration: Bangladesh Scenario

Jilapi, Beguni and Piaju are laden with harmful color to make them attractive



*Star Weekend Magazine
volume 4, issue 20, November 5, 2004*

Press Coverage

Intentional Food Adulteration: Bangladesh Scenario

Formalin is often used on imported fish to give an appearance of freshness

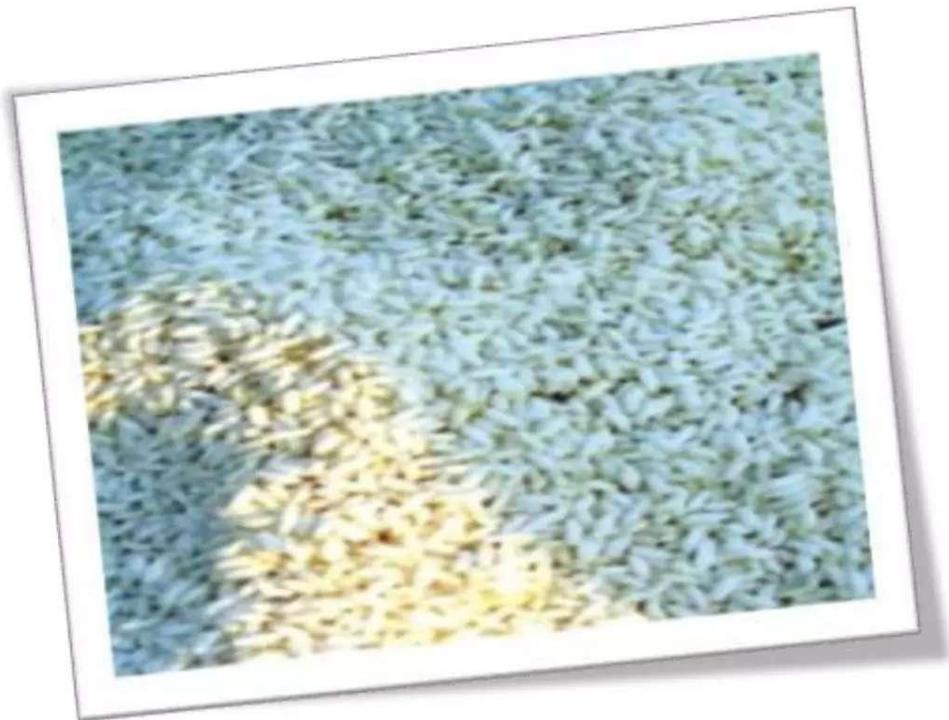


*Star Weekend Magazine
volume 4, issue 20, November 5, 2004*

Press Coverage

Intentional Food Adulteration: Bangladesh Scenario

Muri (puffed rice) is made white by using urea



*Star Weekend Magazine
volume 4, issue 20, November 5, 2004*

When Adulteration Caused?

- Directly to the hands of the consumers or
- First to retailers and then to consumers or
- First to wholesalers, then to retailers and at last to consumers or
- First to local agents or brokers then to manufacturers later on to wholesalers, then to retailers and at last to consumers

Causes of Food Adulteration

Adulterants are added to food or food adulteration may occur for the following reasons in a nutshell-

- To increase the bulk and reduce cost, with intent to defraud the consumer
- To increase the quantity and make more profit
- To increase the shelf life of food items
- To attract the consumers
- To increase the profit margin on the expense of the health of public or consumer

Nature of Food Adulteration in Bangladesh

Adulteration may occur in simple three following basic patterns-

- By adding anything (various kind of adulterants) with the food to deteriorate from the nature, substance and quality of the food desired by the purchaser
- By removing or reducing and substituting any element or ingredient from the food to deteriorate from the nature, substance and quality of the food desired by the purchaser
- By false representation of a completely different item to be a food of specific kind.

Some Common Adulterants

Name Of Adulterants	Why And Where Added	Health Effects
Formalin	Preservation of fish meat, milk etc.	Headaches, bronchitis, Asthma, liver injury
Urea	Enhancing brightness of rice, puppet rice, food additive for cow	Dermatitis, rash in the skin, kidney and liver damage
Amylum (polysaccharide carbohydrate)	Added to sausages as a thickening, stiffening or gluing agent	Liver disease
Sudan-1 Red color	Making brighter chili powder	Tumors in the liver and bladder
Rye flour	Added to barley, bread ,wheat flour to disguise the use of low-quality flour	Miscarriage, convulsions
All artificial colors	To soft and hard drinks to make them attractive	Can cause cancer
Lead chromate	Turmeric powder	This leads to paralysis, anemia, brain damage and abortion.
Sodium cyclamate (banned abroad)	Sweet meat (a hundred times sweeter than sugar)	Mostly bladder cancer

Bangladeshi Consumers: Why Worried?

- In Bangladesh, an estimated **45 million** people suffer from food poisoning and/or food borne diseases round the year.
- **60%** of vegetables in Dhaka city is mixed with toxic chemicals

The screenshot shows a news article from The Financial Express (FE) website. The header includes the FE logo, 'The Financial Express', and navigation links for 'HOME', 'POLITICS & POLICIES', 'METRO/COUNTRY', and 'EDITORIAL'. Below the header, it says 'VOL 18 NO -23 REGD NO DA 1589 | Dhaka, Tuesday June 1 2010'. The main title of the article is 'FE METRO/COUNTRY' followed by 'Food-borne diseases take heavy toll on 45m per year'. The article text states: 'An estimated 45 million people in Bangladesh suffer from food poisoning or some kind of food borne diseases round the year, a seminar was told in the city Monday, reports BSS.' To the right, there is a sidebar for 'Food Safety Consortium' with the text: 'UK & Global Food Safety Consultants Food Safety Auditing and Training www.thefsc.co.uk'.

The screenshot shows a news article from 'News From Bangladesh' website. The header features the title 'News From Bangladesh' and 'Daily News Monitoring Service', with a note 'Published Since September, 1996'. It also shows the ISSN number 'ISSN 1563-9304 | Agrahayon 29 1417 BS, Monday | December 13, 2010'. A 'Top Stories' section is visible with an image of various vegetables. The main headline of the article is '60 pc of Dhaka city consumed vegetables mixed with toxic chemicals'. Below the headline, a subtext states: 'Dhaka city have 50 tonnes vegetables every day. Of them, 30 tonnes vegetables are mixed with toxic pesticides'. The image in the 'Top Stories' section shows a variety of vegetables like carrots, onions, and bell peppers.

Impacts of Food Adulteration

Food adulteration is the violation of food safety laws & peoples right/freedom to have safe foods.

Adulteration & sequential relation to following terms-

1. Cause various type of diseases
2. Increase medical cost
3. Decrease life expectancy
4. Lessen the access of food purchase/nutritious food
5. Leads to malnutrition
6. Decrease Earning Capability

Country situation According to WHO



- The food contamination and food adulteration situation of Bangladesh is a serious public health concern. Unsafe/contaminated food causes many acute and life-long diseases, ranging from diarrhoeal diseases to various forms of cancer. However, in Bangladesh dependable assessment of the public health impact due to food contamination is not available due to absence of a regular monitoring system.
- There is also widespread evidence of food adulteration with harmful chemicals. Food contamination and consumers exposure to food hazards have major implication on the food security and consumers heath in Bangladesh. Low level of awareness and weakness in existing Food laws and regulation are also contributing to aggravating the country's food safety situation.

<http://www.whoban.org/en/Section3/Section40/Section104.htm>

Ways to prevent food adulteration

To overcome the existing situations, the following measures should be taken:

- ✓ Create awareness among the consumers through electronic and print media
- ✓ Arrange periodical training for government officials like food inspectors, analysts etc.
- ✓ Strengthening existing food quality control laboratory

Ways to prevent food adulteration

To overcome the existing situations, the following measures should be taken:

- ✓ Collaboration with international bodies like FAO, WHO, Codex etc.
- ✓ Establishing a separate food administration authority
- ✓ Updating the existing food related laws and their proper implementation
- ✓ Giving administrative/financial/technical support to existing Food Laboratories and Consumer organization

Laws and Regulations

Laws against food adulteration are-

- The Bangladesh Pure Food (Amendment) Act, 2005: This is an act to provide better control of the manufacture and sale of food for human consumption.
- The Bangladesh Pure Food Rules, 1967:.In this Rule, there are generic standards for 107 food products. Now, this 'Rules' is under revision.
- Consumers Rights Protection Act 2009
- The Special Power Act, 1974 (Act No XIV of 1974-as modified up to the 31st July, 1978)

Laws and Regulations

- The Food Grain Supply (Prevention of Prejudicial activity) Ordinance, 1956 (Ord. xxvi of 1979)
- The Bangladesh Standards and Testing Institution (Amendment) Act, 2003
- 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.
- The Iodine Deficiency Disorders Prevention Act, 1989
- Fish and Fish product (Inspection and Quality Control) Rules, 1997

Laws and Regulations

Other Laws and Regulations: In addition, a number of other Laws and Regulations are existed in the country to ensure the safe and quality food.

- The Animal Slaughter (Restriction) and Meat Control (Amendment) Ordinance, 1983 (it is under revision)
- The Pesticide Ordinance, 1971 & the Pesticides Rules, 1985
- Destructive Insects and Pests Rules (Plant Quarantine), 1966, amended up to 1989
- Agricultural Products Market Act, 1950 (revised in 1985)
- Fish Protection and Conservation Act, 1950 (amended in 1995)
- Marine Fisheries Ordinance 1983 and Rules, 1983
- Procurement Specifications, Ministry of Food, Rice Mill Control Order etc.

Food Safety Act-2013

The cabinet on July 1, 2013 approved in principle the draft of the Safe Food Law -2013 with a provision of 14-year imprisonment as the highest punishment for food adulterators.

Prohibitions related to Food Safety Management System-

1. Use of poisonous elements
2. Use of radioactive, heavy metals etc. in excess of acceptable limit
3. Production, import or marketing of adulterated food or food ingredient
4. Production of sub-standard food

Food Safety Act-2013

5. Uses of food additives or processing aids
6. Keeping of used industrial oil, industrial waste, adulterants, pollutants in food
7. Expired food or food ingredients
8. Uses of growth promoters, insecticides, pesticides or drug residues
9. Genetically modified food, organic food, functional food, proprietary food
10. Non food grade packaging

Food Safety Act-2013

Other prohibitions-

1. Production, sale of unhygienic food
2. Sale of diseased or decomposed fish, meat, milk
3. Manufacture of food by a disease affected person
4. Manufacture, sale of misbranded food
5. Production, sale of food without registration
6. Rendering cooperation to the Authority or any person authorized by it.
7. False or misleading information in advertisement
8. Making, printing or propagating of false advertisement

The Change Makers

- Farmers & Producers
- Distributors & Retailers
- Consumers Group
- Nutritionists
- Researchers
- The Government

Conclusion

Food safety program should be strengthened in Bangladesh and it is very much essential to improve existing food-testing laboratories as well as updating existing food safety related laws and regulations in the country including proper implementation.

Thank You