

Food Fraud and Safety: Tracing and Preventing Food Adulteration through Legal Measures

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Abstract

Food fraud poses a significant threat to public health, safety, and market integrity by the deliberate deception of consumers by the misrepresentation, adulteration, or fabrication of food products. This article examines how food fraud, including mislabeling, adulteration, counterfeiting, and replacement are sought to be controlled by legal framework of India as these behaviors undermine consumer trust and safety.

The legal framework for food fraud prevention is crucial for ensuring food safety, transparency, and accountability. This article will examine current food safety laws and regulatory entities concurrently. The authors will analyze and evaluate them to ascertain their positions, identify enforcement challenges, and determine areas requiring modification. The article finishes by emphasizing the need of robust legislative measures, innovative technology, and cooperation within the industry to mitigate the danger of food fraud and enhance global food integrity.

Keywords: Food Fraud, Food Safety, Adulteration Prevention, Food Law and Regulation.

Introduction:

Food is one of the essential prerequisites for sustaining life. It is essential for individuals' health to consume a food that is unadulterated, fresh, and healthy. The adage "community health is national wealth" is unsurprising. Food is essential for the functioning of human existence. Consumption of fresh, healthy food is reflected in individuals' physiques. Consuming the correct foods at suitable intervals is essential for a fulfilling life.

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To enhance output and profitability, food is often adulterated. Both the food and the soil in which it is grown are deficient in nutrients. Common examples include diluting milk with water, incorporating vanaspati into ghee for enhanced stability, and adding ergot to cereals for improved stability. Certain flours include chalk powder as an adulterant, while coffee incorporates chicory. Individuals use papaya seeds to counterfeit pepper. Chili powder may be composed of brick powder, turmeric powder may include coriander powder, and wood powder may be mixed with chili powder.¹

Food adulteration may lead to severe health and safety repercussions, often motivated by economic fraud or deliberate manipulation. An increasing number of individuals are aware of the dangers associated with food adulteration, prompting the implementation of new regulations that need more control from both businesses and government entities.

Due to the essential nature of food in modern society, food fraud is seen as a reprehensible and inexcusable social and economic offense. The Constitution of India categorizes "the adulteration of foodstuffs and other food" under the concurrent list.

Food Fraud:

When an individual modifies, eliminates, or substitutes a valuable element or segment of food, they are perpetrating food fraud, a kind of economically motivated adulteration. Any stage in the supply chain, from production to consumption, may be susceptible to food fraud if items are deliberately altered, misrepresented, mislabeled, substituted, or tampered with. The food supply chain is susceptible to fraud at every stage, from the basic ingredient to the final product or its packaging. "Food Fraud" is the intentional and deceitful manipulation of a food product or raw material—through the addition, dilution, or substitution of ingredients—or by misrepresenting the product or material to mislead consumers or reduce manufacturing expenses.

Examples of food fraud encompass:

- (a) substituting an unapproved product for another;
- (b) incorporating unauthorized additives or enhancements;
- (c) providing deceptive information regarding the food, including its country of origin;

- (d) employing misleading branding or counterfeiting;
- (e) misappropriating food shipments; and/or
- (f) deliberately contaminating food with harmful chemicals, biological agents, or other substances detrimental to public or private health.²

Legislative Framework:

India has many legislation and laws concerning food regulations. Multiple government entities supervised the execution of these laws and instructions. Historically, mandates and directives were implemented to regulate the food supply; these restrictions were industry-specific and intended to accomplish certain objectives. The legal framework before Food Safety and Standard Act included following laws:

1. Prevention of Food Adulteration Act, 1954
2. Fruit Products Order, 1955
3. Meat Food Products Order, 1973
4. Vegetable Oil Products (Control) Order, 1947
5. Edible Oils Packaging (Regulation) Order 1988
6. Solvent Extracted Oil, Deoiled Meal, and Edible Flour (Control) Order, 1967
7. Milk and Milk Products Order, 1992
8. Any other order concerning to food under the Essential Commodity Act, 1955

A food business operator (FBO) faced a substantial volume of documentation to comply with the restrictions established by these statutes. Moreover, it was unclear to whom one should report. The FSS Act was established to harmonize all system.

The primary objective was to remove regulatory layers in favor of a self-regulated framework that prioritizes compliance. The Food Safety and Standards Act of 2006 achieved this objective by unifying seven distinct rules and regulations into one comprehensive text. The Act was officially enacted on August 5, 2011.

This Act aimed to establish an independent statutory authority to address matters related to food safety and standards. This act established the foundation for India's current food

regulation system, the Food Safety and Standards Authority of India (FSSAI). The FSSAI has its headquarters in Delhi and regional offices in Mumbai, Kolkata, and Chennai.³

Food Safety and Standard Act, 2006:

In 2006, India enacted the Food Safety and Standards Act (FSSA) to consolidate food legislation, establish the Food Safety and Standards Authority of India (FSSAI), and ensure the availability of nutritious, safe food for consumers. The Act's essential elements include stringent protocols targeting adulteration, contamination, mislabeling, and incorrect manufacturing practices to fight food fraud and guarantee food safety.

Terms delineated in Section 3 pertinent to food fraud include "adulterant" and "unsafe food." Any substance that, when incorporated into food, degrades its quality, renders it hazardous, or conceals its inferiority is classified as an "adulterant" under the Act. This clause delineates the particular activities that define fraud, so establishing stringent boundaries for the food business.

Food sector proprietors are obligated, as outlined in Section 26, to ensure the safety of all consumable items. This section emphasizes the significance of quality control across the supply chain, establishing a clear link between accountability and businesses. Food sector operators incur severe fines if their incompetence results in dangerous food products reaching consumers.

Section 28 delineates "traceability" by requiring food firms to monitor the origins and destinations of their goods. This provision enables FSSAI to monitor food goods along the supply chain, facilitating swifter responses to food recalls or public health crises, and simplifying measures against food fraud or contamination.

Section 48 imposes restrictions which primarily focus on toxins, pesticides, and other potentially hazardous components in food, establishing maximum permissible quantities. This facilitates FSSAI in instituting rigorous regulations about permitted substances, hence averting food adulteration. Compliance with these rules is essential to protect consumer health and avoid penalties.

Violations and Sanctions (Sections 50–67): Numerous categories of food fraud have designated penalties specified in the Act. Under Section 59, the manufacture, storage, sale,

or distribution of food unfit for human consumption is subject to fines and incarceration. Deceptive advertising often misrepresents the quality of food; Section 52 addresses this concern. The severity of the infraction dictates the punishment, which may range from a monetary fine to incarceration.

Section 16: The Function of FSSAI: FSSAI, as a key body in combating fraud, with the ability to establish, evaluate, and enforce standards. It guarantees swift measures against violators via inspections, the issuance of safety directives, and the coordination of recall processes.⁴

This act is a crucial component of the FSSA's initiative to address food theft via detection, prevention, and penalization. The Act creates a robust framework to protect consumers from food fraud and adulteration by emphasizing accountability, traceability, and stringent penalties.

Functions and Role of FSSAI:

The Food Safety and Standards Authority of India (FSSAI), established by the Food Safety and Standards Act (FSA) of 2006, operates independently of the government. The FSSAI is supervised by the Ministry of Health and Family Welfare, Government of India.

The enforcement of this Act is the duty of the Food Safety and Standards Authority of India (FSSAI) and the corresponding state food safety bodies. These entities are tasked for monitoring the food business and ensuring that operators consistently adhere to all laws and regulations.

The FSSAI undertakes the following responsibilities to provide public access to healthy and safe food.

1. Formulating regulations to define requirements for food goods and implementing mechanisms to enforce the established standards.
2. The last phase involves the formulation of protocols and regulations for the certification of certifying bodies that validate food safety management systems for enterprises.
3. Third, inform accredited laboratories and define protocols and criteria for laboratory accreditation.

4. To counsel and support federal and state governments on scientific matters related to the development of laws and regulations concerning food safety and nutrition, either directly or indirectly.
5. Recognize emerging threats, implement an expedited alert system, collect data on dietary consumption, the prevalence and intensity of biological hazards, food contaminants, residues from various pollutants in food products, and other factors.
6. Establishing a comprehensive national information network to guarantee that panchayats, consumers, and the public get accurate, timely, and unbiased information about food safety and associated issues.
7. Conduct instructional seminars for those employed in or intending to enter the food sector.
8. Assist in the formulation of international standards for food safety, sanitation, and phyto-sanitary procedures.
9. Disseminate information on the significance of adhering to food safety regulations.⁵

Scientific Committees and Panels assist the Food Authority in establishing standards, whilst the Central Advisory Committee enhances communication between the authority and enforcement agencies. It is the solemn obligation of enforcement authorities to ensure that FBOs comply with the standards and regulations of the FSS Act. Officials from the food safety department do inspections, surveys, and random sampling of food products as a basis for enforcement.

The execution of the Food Safety and Standards Act, 2006 is the duty of the Food Safety and Standards Authority of India and the corresponding state food agencies. Section 29 of the FSS Act, 2006 delineates the information.

Throughout the whole food business process, the Food Authority and State Food Safety Authorities ensure that Food Business Operators comply with legal regulations. The authorities' control system include public education on food safety and risk, food safety surveillance, and other monitoring initiatives across the food business. State and union territory authorities enforce food safety standards locally, while the federal Food Authority intervenes, directs, and coordinates at the national level.

The states and Union Territories have primary responsibility for ensuring compliance with the regulations. To fulfill the many responsibilities specified in the Act, state and territorial governments have appointed persons to act as food safety officers, adjudicating officers, designated officers, and commissioners of food safety. All state and territorial food safety commissioners, together with appointed officials and food safety officers, primarily have the responsibility for enforcement. The enforcement actions are supported by the Adjudicating Officers and the Food Analyst, in addition to this.

Ways to prevent Food Fraud:

The researchers believe that many variables lead to food fraud. This industry faces many critical challenges and some possible remedies can be:

1. Augmented Warehouse Capacity:

The moist and filthy conditions in the warehouse often lead to bug infestations in food grains, legumes, and spices. Trained specialists are required to meticulously monitor the storage conditions of food grains as a solution. An opportunity exists to improve grain quality by documenting the dates of sample entry and departure, so facilitating the use of the "first in, first out" concept.

Enhanced measures must be implemented to prevent field-grown grains infested with insects from reaching the storage facility, since this might jeopardize the safety of the unaffected grains stored inside. It is crucial to prevent the spoilage of grains during the rainy season and in areas with elevated humidity.

2. Superior handling techniques:

To prevent damage or degradation of grains, food workers must have appropriate training in grain management.

3. Avoiding the use of fillers, oils, rice starch, and other components to provide inferior meals at an elevated price for profit maximization:

The prevalence of food fraud, motivated by monetary profit, is widespread in our country. Resolving this issue requires the collaboration of three parties: the consumer, the food supplier, and the government.

The first stage is to persuade them to exercise caution about the food they acquire and consume. Promotional advertisements for the DART book are essential to motivate women to do the tests. Individuals who encounter any degree of food fraud must get education. All of these activities will be unsuccessful unless people comprehend the repercussions of consuming adulterated food.

Moreover, it is essential to provide food vendors with FOSTAC training. This will explain the repercussions of selling tainted food, the penalties they may incur if convicted, and the need of equitable trading procedures.

The government may develop "adulteration awareness cells" as a third approach, allowing anyone to report cases of food fraud. The authorities may assess the conditions of food storage facilities via raids or unannounced inspections of godowns or other sites. Decisive measures must be implemented if a random sample of products from different suppliers is found to be tainted.

4. Implementing contemporary techniques for identifying food fraud:

Consumers should have the capability to easily report occurrences of food fraud via the creation of food apps. Future advancements may lead to the development of machines capable of detecting the extent of food adulteration in diverse food products. CSIR-CEERI developed the "Ksheer Scanner," capable of instantaneously detecting urea, salt, detergent, liquid soap, boric acid, caustic soda, soda, and hydrogen peroxide. The enhanced detection of food adulteration might benefit from such advanced equipment. Comprehensive detection methods for food adulteration can alone be realized with properly equipped laboratories.

5. Commendation for reputable food vendors:

To motivate other sellers to provide superior products, it is essential to acknowledge and express gratitude to those who supply exceptional cuisine. Positive incentives may prove to be more effective alternatives to punishment and legal action.

6. Educating food vendors and intermediaries:

It is essential that food sellers get training and are made aware of the detrimental effects of adulteration. They must understand that contaminated food might harm not only themselves but also their loved ones.⁶

Conclusion:

Ultimately, technological, legislative, and industry-driven measures must constitute an integrated approach to address food fraud and adulteration. The law must assume a vital albeit ancillary role in this approach. This initiative is founded on the Food Safety and Standards Act, 2006 (FSSA), the primary legislation governing food safety in India. The Act has conferred competence onto a central regulatory entity to oversee, regulate, and ensure compliance within India's food sector by establishing the Food Safety and Standards Authority of India (FSSAI). The FSSA classifies various types of food fraud, including adulteration and misrepresentation, and imposes a legal duty on food companies to uphold safety and integrity through clearly defined provisions, enabling the prosecution and punishment of violators.

To mitigate food fraud, provisions of the FSSA, including sections 26 and 28, emphasize the need of supply chain accountability and traceability. The rule mandates enterprises to maintain accurate records and enforce stringent quality control, facilitating the tracking of food origins, routes, and final destinations. This ability to trace goods facilitates the rapid identification of fraudulent or hazardous activity, safeguards clients, and averts widespread contamination. Penalties and incarceration for serious violations operate as further deterrents emphasizing the severe repercussions of food fraud on public health.

The essay examines supplementary measures that significantly enhance the efficacy of the FSSA. Unethical firms will have greater challenges in circumventing regulations due to current technology, which offers unparalleled levels of transparency and verification. The public must be equipped to identify, report, and evade counterfeit food products, achievable alone via improved awareness initiatives and consumer education.

Furthermore, for a globally linked food supply chain, collaboration across agencies and with international food safety organizations is crucial to exchange best practices and standardize protocols. A food culture founded on trust, accountability, and safety may be cultivated by collaboration among industry stakeholders, government representatives, and consumers within this framework. This approach also enhances compliance.

A comprehensive plan to prevent food fraud results from the integration of stringent regulatory frameworks, sophisticated monitoring technologies, and informed consumer

participation. The cumulative impact of these measures enhances public health and food safety by complicating the persistence of fraudulent operations.

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