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Food Safety in India: Challenges, Regulatory Framework and the Way Forward

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Recent Developments:

- **Large-scale food poisoning incidents** across India have renewed concerns over the effectiveness of the **Food Safety and Standards Act, 2006 (FSS Act, 2006)** and the country's food safety ecosystem.
- The **Food Safety and Standards (Licensing and Registration of Food Businesses) Amendment Regulations, 2026** introduced a **risk-based inspection framework**, under which inspection frequency depends on the risk profile and compliance history of **Food Business Operators (FBOs)**.
- **FSSAI** has also intensified action against **misleading food claims, deceptive labelling, and unsubstantiated health advertisements** made by food businesses.

Food Safety:

Meaning:

- **Food Safety** is the scientific discipline of ensuring that food is **handled, processed, stored, transported, and consumed** in a manner that prevents **foodborne illnesses**.
- It protects consumers from **biological, chemical, physical, and allergenic hazards** throughout the food supply chain.
- **Food Safety** primarily addresses accidental contamination, whereas **Food Defense** focuses on preventing intentional contamination or sabotage of the food supply.

Concerns Regarding Food Safety in India:

Rising Burden of Foodborne Diseases:

- The **ADSI Report 2024** recorded **1,122 deaths** due to food poisoning in India.
- According to the **WHO Foodborne Disease Estimates 2026**, unsafe food causes around **866 million illnesses** and **1.5 million deaths** globally every year.
- **Children below five years** bear nearly **30%** of the global disease burden from foodborne illnesses.
- Although the global burden has declined since 2000, **India ranks 15th worldwide in Years of Life Lost (YLL)** due to foodborne diseases.

Weak Food Safety Performance Across States:

- **FSSAI** publishes the **State Food Safety Index (SFSI)** based on:
- **Human resources, regulatory compliance, food testing and surveillance, training and capacity building, consumer empowerment.**
- Nearly **75% of States and Union Territories** scored below **50 out of 100** during **2023–24**, indicating weak enforcement capacity.
- States with poor scores, including **Jharkhand** and **Uttar Pradesh**, also reported a high incidence of food poisoning deaths.

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Weak Inspection and Surveillance Mechanism:

- The **FSS Act, 2006** mandates licensing of **Food Business Operators (FBOs)**, periodic inspections, and laboratory testing.
- Despite the introduction of **risk-based inspections**, implementation remains inadequate due to limited field inspections and low sample collection.
- In several states, only a small proportion of registered food businesses undergo regular inspection or laboratory testing.

Institutional and Human Resource Deficit:

- **FSSAI** continues to face a significant shortage of personnel at the central level.
- States face even greater shortages of **Food Safety Officers (FSOs)**, limiting inspection frequency, enforcement, and surveillance.
- Vacancy of sanctioned posts weakens the implementation of food safety regulations across the country.

Chemical and Environmental Hazards:

- **Heavy metals**, including **lead** and **inorganic arsenic**, contaminate food and groundwater, increasing risks of chronic diseases and cognitive impairment.
- Excessive use of **antibiotics** in livestock accelerates **Antimicrobial Resistance (AMR)**.
- Long-term exposure to excessive **pesticide residues** increases the risk of cancers, endocrine disorders, and reproductive abnormalities.
- Climate change, rising temperatures, and frequent heatwaves accelerate microbial growth and food spoilage, particularly where cold-chain infrastructure is inadequate.

Food Adulteration and Counterfeit Food Products:

- Food adulteration has become an organised economic activity, particularly in the **dairy** and **edible oil** sectors.
- Use of synthetic chemicals and toxic adulterants threatens consumer health.
- Counterfeit products such as **synthetic milk**, fake paneer, and substandard edible oils undermine food authenticity and consumer trust.

Misleading Food Marketing ("Health-Washing"):

- Some food manufacturers use exaggerated or scientifically unsupported claims such as "**100% Natural**", disease-curing claims, or misleading nutritional labels.
- Such practices distort consumer choices and encourage unhealthy consumption patterns.
- **FSSAI** has initiated regulatory action against misleading claims and strengthened scrutiny of product labelling.

Poor Hygiene and Sanitation Practices:

- Many food establishments lack access to safe drinking water, scientific waste disposal systems, and trained food handlers.
- Poor hygiene facilitates contamination by pathogens such as **Salmonella**, **E. coli**, and other foodborne microorganisms.

Institutional Framework for Food Safety in India:

Food Safety and Standards Authority of India (FSSAI):

- **FSSAI** is the apex statutory body established under the **Food Safety and Standards Act, 2006**.

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- It functions under the **Ministry of Health and Family Welfare**.
- It formulates food standards, conducts scientific risk assessment, regulates licensing, promotes food testing, and coordinates food safety enforcement.
- Major initiatives include:
 - **Eat Right India**
 - **State Food Safety Index**
 - **RUCO (Repurpose Used Cooking Oil)**
 - **Food Safety Mitra Scheme**
 - **FoSCoS (Food Safety Compliance System)** for digital licensing and compliance.
- The authority also notifies accredited laboratories, updates food standards, and periodically revises regulations relating to contaminants, labelling, packaging, and licensing.

State Food Safety Administration:

- State Governments implement the **FSS Act** through:
 - **Food Safety Commissioners**
 - **Designated Officers**
 - **Food Safety Officers (FSOs)**
- States are responsible for licensing, inspections, surveillance, sample collection, prosecution, and enforcement.

Measures Needed to Strengthen Food Safety:

Strengthen Regulatory Enforcement:

- Link penalties for food adulteration and unsafe food practices with the **annual turnover** of offending businesses to create stronger deterrence.
- Establish **dedicated Food Safety Tribunals** for faster adjudication of food safety violations.
- Increase recruitment of **Food Safety Officers**, laboratory personnel, and scientific experts.

Improve Food Testing and Surveillance:

- Expand accredited food testing laboratories across all states.
- Increase random sampling and surveillance of high-risk food categories.
- Develop **AI-enabled risk-based inspection systems** to prioritise high-risk establishments.

Strengthen Cold Chain Infrastructure:

- Mandate **IoT-enabled temperature and humidity monitoring** throughout storage and transportation.
- Improve cold-chain connectivity for perishable commodities to reduce microbial contamination and spoilage.

Enhance Traceability Across the Supply Chain:

- Develop an integrated "**Farm to Fork**" **digital traceability platform** connecting agriculture, food processing, logistics, and retail.
- Digitally track pesticide application, veterinary drug usage, storage conditions, and food movement across the supply chain.

Promote Safe Food Handling Practices:

- Integrate food safety certification with digital credit schemes such as **PM SVANidhi** to encourage compliance among street vendors.
- Expand hygiene training for food handlers, restaurants, street vendors, and small food enterprises.

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Strengthen Consumer Protection:

- Introduce prominent **Front-of-Pack (FOP)** warning labels for foods high in sugar, salt, and unhealthy fats.
- Strictly regulate misleading advertisements and unsupported health claims.
- Develop a unified **Food Watch** mobile platform for citizen reporting, geo-tagging violations, and real-time enforcement.

Adopt a One Health Approach:

- Integrate food safety with **human health, animal health, agriculture, and environmental management**.
- Reduce indiscriminate antibiotic use in livestock and strengthen monitoring of zoonotic diseases and antimicrobial resistance.

Importance for India:

Public Health:

- Reduces foodborne diseases, chronic illnesses, antimicrobial resistance, and healthcare expenditure.

Economic Growth:

- Improves productivity, strengthens consumer confidence, and enhances India's competitiveness in domestic and international food markets.

Agricultural Sustainability:

- Encourages safe agricultural practices, responsible pesticide use, and sustainable livestock management.

Export Competitiveness:

- Compliance with international food safety standards improves access to global agricultural and food markets.

Achievement of Sustainable Development Goals (SDGs):

- Supports **SDG 2 (Zero Hunger)**, **SDG 3 (Good Health and Well-being)**, **SDG 12 (Responsible Consumption and Production)**, and **SDG 6 (Clean Water and Sanitation)**.

Value Addition for UPSC:

Important Constitutional Provisions:

- **Article 21** – Right to Life includes the **Right to Safe and Wholesome Food** through judicial interpretation.
- **Article 47** – Duty of the State to improve **nutrition, public health**, and the standard of living.
- **Article 48** – Scientific organisation of agriculture and animal husbandry.
- **Article 51A(g)** – Fundamental duty to protect the natural environment, indirectly supporting food safety.

Important International Standards and Institutions:

- **Codex Alimentarius Commission (CAC)** – Global food standards jointly developed by **FAO** and **WHO**.
- **International Health Regulations (IHR)** – Support surveillance and response to foodborne public health emergencies.
- **One Health Approach** – Integrates human, animal, and environmental health to address emerging food safety risks