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Current Situation of Food Adulteration: Laws, policy and governance in India and remedies to the problems

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Abstract:- **India has modernized its food laws system from multilevel, multidepartment to the single, strong food law system. It is in 2006 by the establishment of FSSA 2006. Keeping in view the present food adulteration in India the task force had been set up to recommend changes in the Food Safety and Standards Act. The poor implementation of the existing Food Safety and Standards Act was also a problem, especially in state governments. Testing and analytical capacity among India's official food safety monitoring units is inadequate to manage a supply system that feeds nearly 1.3 billion people. Effective appropriation of resources to regulatory units, institutional strengthening and capacity building, tighter strategic and operational coordination among agencies, involvement of students in the fight against adulteration by adding the adulteration types and simple measures to find it out in their syllabus. Using student power to train adulterants about the ill effects of it and making them part of vigilance with total confidentiality to uproot the adulteration and problem associated with it from India.**

Key words: Adulteration, FSSA, WHO, Penalty, Food Testing Laboratories, Food Policy Reforms

INTRODUCTION

India has modernized its food laws system from multilevel, multidepartment to the single, strong food law system. It is in 2006 by the establishment of FSSA .i.e. Food Safety and Standards Act-2006. Over the period of more than 10 years the much progress occurred, but many things remain as it is. Reference [1] argues that legislation or government alone cannot tackle the problem of adulteration, corporate social responsibility and society at large needs to work towards its elimination. Economic development cannot be separated from the Social development of the country. He explains how food sellers and also reputed companies are taking advantage of weak regulations and even weaker enforcement [1].Union health minister J P Nadda said that Govt. is going to make food adulteration law more stringent on Dec 16, 2014. He said that a task force had been set up to recommend changes in the Food Safety and Standards Act. It is also proposed to revisit the punishment stipulated for milk adulteration and make it more stringent [2].

Amid concerns voiced by law-makers over the "slow poison" in the form of food adulteration, unregulated use of pesticides and antibiotics, especially in poultry products, Nadda termed it as a "serious health hazard" and said government will strengthen manpower and infrastructure to tackle the challenge . The poor implementation of the existing Food Safety and Standards Act was also a problem, Nadda said, blaming state governments for it [2].

Everything consumed by people from water to milk and food products were contaminated. They expressed concern over the use of oxytocin injection to make cows produce more milk and demanded swift action to curb the menace. Nadda said 13,571 out of 72,200 food samples analyzed in 2013-14 were adulterated, resulting in launch of 10,325 civil and criminal cases. A 2012 study conducted by the FSSAI across 33 states found that milk in India was adulterated with diluted water, detergent, fat and even urea. Some of the adulterants that are used in milk are water, chalk, urea, caustic soda and skimmed milk, while Khoya is adulterated with refined oil and skimmed milk powder [2].

Food adulteration incidences in India

Between June 2016 - February 2017 FSSAI has received as many as 1722 complaints, out of which the maximum number-1307 pertained to food packaging. Another 415 grievances were about parceled packages or takeaways, 98 were about food adulteration and 74 were on sale of expired food packages. In September 1998, the Canadian government warned its citizens not to consume any foodstuff cooked or processed in oil from India as it could be adulterated with argemone. Scores had died or were crippled in north India as unscrupulous traders mixed the fatal argemone oil to mustard oil to raise their profits [1].Jaggery syrup is added to honey. Mouthwatering barfis could have harmful dyes and colors that can cause cancer. Iron filings are being added to tea leaves. Colored sawdust is added to many food items like sooji. Now, fruits have also got added to the list. Reports had come in that traders

were injecting red colour into the watermelons to make them more attractive [1].

- Abid faheem et al., (2013) surveyed 75 families in selected village of Udipi Taluk in Kantaka State, India. The study findings showed that majority of the subjects had moderate knowledge on food adulteration. They found significant association of knowledge score on food adulteration with age and educational status of the respondents.
- Bhatt Shuchi et al., (2012) carried out a study on impact of media and evaluation on food practices in urban area of Varanasi, India. Results revealed that regardless of age, income and religion, all the groups under study were well aware about food adulteration and educated people were less prone to the effect. The study through light on the fact that there is lag in following the food practices by all the ages in spite of having good media awareness Programme and knowledge of food practices.
- Khapre et.al., (2011) analyzed loosely sold food items for adulteration in rural areas of Wardha district, Maharashtra State, India for prevalence of adulteration and stated that all the selected food items adulterated ranged from 11% to 76%.
- Misra et.al, (2010) carried out training Programme for housewives on detection of adulteration in food items which enhanced their awareness level, skill and knowledge. According to Nidhi Gupta and Priti Panchal (2009) education, family income and occupation are major factors that affect extent of awareness about food adulteration and overall education shows highest impact.

Attractive colored besan Laddoo or pakode may be added with “Metanil yellow” a non-permitted coal tar dye commonly known as ‘Kishori Rang’, “Rhodamin-B”, “Lead Chromate” or perhaps “Ultra Marine Blue”. These are all non-permissible and banned colours and they cause serious health hazards and may also cause cancer in the long run. They are carcinogenic [1]. Centre for Science and Environment (CSE) showed cold drink brands sold by the firms in India contained four toxic pesticides and insecticides: lindane, DDT, malathion and chlorpyrifos. The CSE said its tests, showed the amount of DDT in Pepsi was 16 times and in Coca-Cola 9 times higher than EU norms. The Indian government has ordered an investigation into why as many as12 brands of cold drinks owned and marketed by Coca-Cola and Pepsi allegedly found that they contained on average more than 30 times the EU legal limit for pesticides [1]. Milk is being adulterated with synthetic chemicals and detergent powder that could cause irreparable damage. It is another flourishing business. In the trade, it is known as synthetic milk. The Delhi police in May 2000 seized 76,000 liters of adulterated milk packed in pouches [1].

A maximum 4,119 samples were found adulterated and misbranded in Uttar Pradesh, followed by Punjab (1,458), Madhya Pradesh (1,412), Gujarat (1,243), Maharashtra (1,162) and Tamil Nadu (1,047). The penalty of Rs 10.93 crore has been imposed in 2,795 cases, and maximum fine of Rs 5.98 crore was imposed for cases reported in Uttar Pradesh [8]. Food frauds literally constitute a high tech industry because of the enormous economic gains inherent in adulteration. Interestingly costlier the food product, more incentive is available for evolving appropriate methods to mimic the original product with cheap alternatives. Here is a gist of the report that elaborates on economic frauds perpetrated in the US based on reliable data base [9]. We have heard of adulterated oils and vegetables, but it's news from Kerala that rice made of plastic is being sold in many parts of the state. The 'rice' is supposedly made in China by mixing potatoes, sweet potatoes and plastic [10].

We may be eating a dangerous dye, sawdust, soap stone, industrial starch, Aluminum foil and believe it, even cow-dung! Invite disease rather than good health. But where is the law enforcing authorities? What are they doing? Every adulteration case is discovered by social organizations, companies or individuals, other than the enforcing authorities? [1]

Highlights of the Food Safety and Standard Act, 2006

- Various central Acts like Prevention of Food Adulteration Act,1954,Fruit Products Order , 1955, Meat Food Products Order,1973,
- Vegetable Oil Products (Control) Order, 1947, Edible Oils Packaging (Regulation) Order 1988, Solvent Extracted Oil, De- Oiled Meal and Edible Flour (Control) Order, 1967, Milk and Milk Products Order, 1992 etc. will be repealed after commencement of FSS Act, 2006.

The Act also aims to establish a single reference point for all matters relating to food safety and standards, by moving from multi- level, multi- departmental control to a single line of command. To this effect, the Act establishes an independent statutory Authority – the Food Safety and Standards Authority of India with head office at Delhi. Food Safety and Standards Authority of India (FSSAI) and the State Food Safety Authorities shall enforce various provisions of the Act [12].

Provisions related to Adulteration in FSSA

Section 3 (a) of Food Safety and Standards Act 2006 defines "Adulterant" means any material which is or could be employed for making the food unsafe or sub-standard or mis-branded or containing extraneous matter and Section 3 (zf) defines misbranded food.

Section 65 of The Food Safety and Standards Act, 2006 mandates to pay. Compensation in case injury or death of consumer. Section 66 of The Food Safety and Standards Act, 2006 envisages about the liability of the Companies in the event of any offence of adulteration or misbranding.

Article 49. General provisions relating to penalty. While adjudging the quantum of penalty under this Chapter, the Adjudicating Officer or the Tribunal, as the case may be, shall have due regard to the following:- (a) The amount of gain or unfair advantage, wherever quantifiable, made as a result of the contravention, (b) The Amount of loss caused or likely to cause to any person as a result of the contravention, (c) The repetitive nature of the contravention, (d) Whether the contravention is without his knowledge, and (e) Any other relevant factor,

Article 50. Penalty for selling food not of the nature or substance or quality demanded. Any person who sells to the purchaser's prejudice any food which is not in compliance with the provisions of this Act or the regulations made thereunder, or of the nature or substance or quality demanded by the purchaser, shall be liable to a penalty not exceeding five lakh rupees. Provided that the persons covered under sub-section (2) of section 31, shall for such non-compliance be liable to a penalty not exceeding twenty five thousand rupees.

Article 51. Penalty for sub-standard food. Any person who whether by himself or by any other person on his behalf manufactures for sale or stores or sells or distributes or imports any article of food for human consumption which is sub-standard, shall be liable to a penalty which may extend to five lakh rupees.

Article 52. Penalty for misbranded food. (1) Any person who whether by himself or by any other person on his behalf manufactures for sale or stores or sells or distributes or imports any article of food for human consumption which is misbranded, shall be liable to a penalty which may extend to three lakh rupees. (2) The Adjudicating Officer may issue a direction to the person found guilty of an offence under this section, for taking corrective action to rectify the mistake or such article of food shall be destroyed.

Article 54. Penalty for food containing extraneous matter. Any person whether by himself or by any other person on his behalf manufactures for sale or stores or sells or distributes or imports any article of food for human consumption containing extraneous matter, shall be liable to a penalty which may extend to one lakh rupees.

Article 57. Penalty for possessing adulterant. (1) Subject to the provisions of this chapter, if any person who whether by himself or by any other person on his behalf, imports or manufactures for sale, or stores, sells or distribute any adulterant shall be liable – (i) where such adulterant is not injurious to health, to a penalty not exceeding two lakh rupees; (ii) where such adulterant is injurious to health, to a penalty not exceeding ten lakh rupees. (2) In a proceeding under sub-section (1), it shall not be a defense that the accused was holding such adulterant on behalf of any other person [13].

WHO's evaluation of Regional Food Safety Strategy in Asia

Food adulteration is still a problem in countries of the South-East Asia Region where informal food production and distribution systems are deeply entrenched at the community level. Examples of adulteration include the contamination of mustard oil with argemone oil in 1998 and of imported milk and infant formula with melamine in 2008. These events raised food safety concerns among consumers and policymakers [14]. WHO regional food strategy report says that Most of the food regulations and standards in the Asia region remain voluntary, with a generally low level of enforcement of regulations. Authorities responsible for the enforcement of food laws and regulations do not have clear identified scope of authority and operating procedures. Food safety systems and standards for manufacturing food for export are different from those for food for domestic consumption, with variable levels of enforcement. Attempts have been made to harmonize food regulations among the members of the South Asian Association for Regional Cooperation (SAARC) and the Association of Southeast Asian Nations (ASEAN) [14].

The concept of a "farm-to- table" approach has been adopted and implemented by several others. However, food control activities in many WHO Member States continue to rely on reactive procedures, with an emphasis on infrastructure and end-product analysis rather than preventive activities. The low level of enforcement is a persistent problem [14]. Food inspectors in several WHO

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Member States also lack sufficient training and are too few in number to make any real positive impact on monitoring. The human resources aspect of food inspection remains a neglected issue in most Member States. Community awareness of food safety and consumer protection acts has been established in some Member States. In India, consumers' organizations have participated in several technical subcommittees on food safety, and representatives from the Consumers' Protection Board attended the shadow national Codex Committee. The "Consumers' Complaint Service" was set up in Indonesia to handle consumer complaints and other issues regarding food quality and safety. As part of a collaborative venture between academia and consumers, Thailand's Consumer Foundation collected food samples from the market and sent these to the laboratories of the local universities for analysis. The mobile food courts in Bangladesh have often included the views and expectations of a consumers' consortium. Seen in total, however, the extent of participation of consumers as stakeholders in national food safety programs and in national Codex activities still remains minimal [14].

Major food safety activities in the WHO Regional Office for Member States India

- Establishment of the Food Safety and Standards Authority of India (FSSAI) under the Food Safety and Standards Act in 2006 and the Food Safety and Standards Regulations in 2011
- Strengthening of food safety regulations and surveillance at state level
- Development of the Strategic Plan of the National Codex Committee (2015–2019) [14].

Remedies on food adulteration by FSSAI

Six Initiatives of The Scheme FSSAI is committed in its endeavor to ensure science based standards for articles of food. Food testing becomes an integral part of Food Safety Regulation and Enforcement. A network of food testing laboratories (State Food Testing Labs, and Referral labs) has been established across the country. However, the testing facilities available in these laboratories are facing challenges in terms of - 1) availability of sophisticated analytical equipment and 2) trained scientific and technical manpower. In order to strengthen and develop a robust Food Testing Laboratory network in the country, FSSAI has formulated a scheme for Strengthening of Food Testing Laboratories (SOFTeL) in the country. The scheme consists of a bouquet of six initiatives.

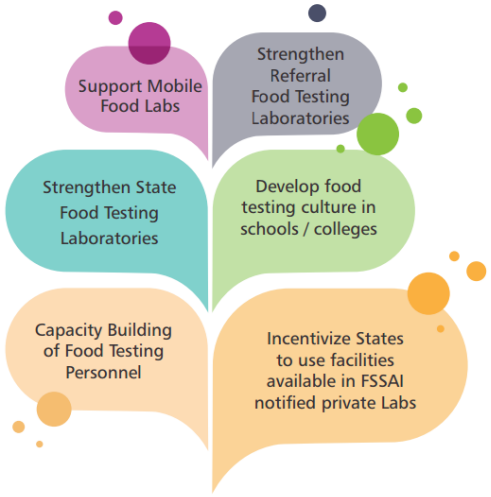

Fig.1 Six Initiatives of the (SOFTeL) Scheme FSSAI Source: FSSAI

The first priority in supply of safe food would be assured by testing the food items for the safety parameters such as Pesticide residues, Heavy metals, naturally occurring toxic substances (NOTS) and Microbiological parameters which have a direct impact on the human health.Fi

Pawan Agarwal, CEO FSSAI stated that as per the Good Regulatory Practices, international practices are required to be taken into account, while framing the national standards or guidelines [16].

Food Safety and Standard Authority of India (FSSAI) would henceforth get access to database of over 70,000 standards for food additives (e.g. colorants, flavours, sweeteners), food standards (e.g. beverages, cacao, dairy, health claims), food contact and contaminants (e.g. mycotoxins, heavy metals, pesticides, veterinary drugs, chemicals) from over 170 countries [16].arch Review

Food Policy Reforms

Following precautions needs to be taken to control the food adulterations in IIndi

1. In case of loose food – Bring balance between supply and demand. For loose food let the FBO, trader, stockiest, petty hawker should give the declaration in written that if intentionally or unintentionally my product is found adulterated ,it will be my ethical responsibility to close business of this food item forever and I will not eligible tobe in food business thereafter
2. Public Awareness Program through the inclusion of adulteration in syllabus and taking help of students for training FBOs by FSSAI.

3. For packaged food Let the labeling regulation add one clause in nutrition labeling and packaging regulation 2011. i. e. this article of food does not contain any adulterate added intentionally or unintentionally.

At the turn of the 20th century, industrialization in the United States led to a rise in adulteration which inspired some protest. Accounts of adulteration led the New York Evening Post to parody:

Mary had a little lamb,
And when she saw it sicken,
she shipped it off to Packingtown,
And now it's labeled chicken [17].

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