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GFSF FOCUS 2022
A New Stage in Food Safety

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Food Safety Developments in India, 2020-22

by Arjun Shanker

As the world grapples with the COVID-19 pandemic, the exact modalities of conducting business are transforming. Taking the case of the food sector, a greater sense of hygiene has prompted government authorities to ensure a revised approach toward food safety concerns. As a critical agrarian and food-producing country, India isn't far behind. The country's apex body – the Food Safety and Standards Authority of India (FSSAI) – has ushered in several changes to the food safety approach of the country. A few months into the pandemic, in September 2020, the Central Government amended¹ 70 parts of the Food Safety and Standards Act of 2006 to strengthen various food safety aspects and have FSSAI play a more significant role. The revision of several sections of the act, for instance, adding keywords such as “feed” with food (Section 3(1)); food deemed “injurious to health” along with only unsafe (Section 3(1)); the inclusion of “export” to list of aspects monitored and regulated by FSSAI (Section 16(1)); and revision of several other sections linked with regulation severity, indicates the growing importance of food safety standards in India.

Healthier consumption

In response to more nutritional and safe consumption in the future, in August 2021, India's Prime Minister announced² the compulsory fortification of rice provided through the public distribution system (PDS) and mid-day meal (MDM) schemes by 2024. FSSAI defines fortification as “deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health”³.

As per Table 1⁴ below, FSSAI states a kilogram (kg) of fortified rice should contain the following inputs:

Table 1: Inputs for fortified rice

Input	Quantity
Iron	28 to 42.5 milligrams (mg)
Folic acid	75 to 125 micrograms (µg)
Vitamin B-12	0.75 to 1.25 µg

¹ <https://main.mohfw.gov.in/sites/default/files/Meta%20date%20.pdf>

² <https://indianexpress.com/article/india/pm-announces-rice-fortification-plan-to-tackle-malnutrition-7455528/>

³ https://www.fssai.gov.in/upload/uploadfiles/files/Compendium_Food_Fortification_Regulations_04_09_2021.pdf

⁴ <https://indianexpress.com/article/india/pm-announces-rice-fortification-plan-to-tackle-malnutrition-7455528/>

In addition, micronutrient-fortification for one kg of rice would include the following inputs (as listed in Table 2⁵ below):

Table 2: Inputs for micronutrient-fortification of rice

Input	Quantity
Zinc	10 to 15 mg
Vitamin A	500 to 750 µg RE
Vitamin B-1	1 to 1.5 mg
Vitamin B-2	1.25 to 1.75 mg
Vitamin B-3	12.5 to 20 mg
Vitamin B-6	1.5 to 2.5 mg

Each of the listed micronutrients could be added singularly or in combination. The National Food Security Act 2013 (NFSA) proposes a distribution of 30 million tons (MMT) of rice through various schemes. For 2021-22, the Central Government allocated 32.8 MMT of rice for government-sponsored schemes such as Integrated Child Development Services, targeted PDS and MDM.

In 2019-20, the Government of India's Ministry of Consumer Affairs, Food and Public Distribution launched⁶ a pilot scheme titled *Fortification of Rice and its Distribution under PDS* for three years with a total budget outlay of INR 174.64 Crores (USD 22.9 million). The pilot project had covered 15 districts across 15 states in India: Southern states (Tamil Nadu, Andhra Pradesh, Telangana, Kerala, and Karnataka); Northern States (Punjab, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Jharkhand, and Chattisgarh); Eastern states (Odisha, Assam); and Western states (Gujarat, Maharashtra). As per government data, six out of the 15 states (including Gujarat and Maharashtra) distributed 0.203 MMT of fortified rice in June 2021, and four more states started in September 2021.

Re-thinking re-usable plastic

FSSAI, following the Plastic Waste Management (Amendment) Rules, 2021, has considered recycling PET bottles to food-grade PET resin material appropriate for bottling and packaging. Although the complete Food Safety and Standards (Packaging) Regulation guidelines⁷ are in the pipeline, this step could nudge the food industry toward a more circular economy-driven delivery system. The process involves a minimum quality

⁵ <https://indianexpress.com/article/india/pm-announces-rice-fortification-plan-to-tackle-malnutrition-7455528/>

⁶ http://mahafood.gov.in/website/PDF_files/Operational%20Guidelines_FINAL%20Rice%20Fortification.pdf

⁷ https://fssai.gov.in/upload/advisories/2022/01/61e7acd01a850Direction_Recycled_Plastics_19_01_2022.pdf

standard on food-grade PET flakes as per the initial notification. The validation stage includes checks throughout and at least one decontamination stage (preferably Super-Clean) specified by prescribed challenge tests (USDA or EU). ISO 13302 standards are applicable to monitoring and analyzing the processes. The output would be monitored and analyzed as per ISO 13302 or equivalent. Good Manufacturing Practices and quality assurance programs would ensure the overall recycling is of the highest quality. FSSAI would select operators running the FG-rPET (Food Grade recycled PET) equipment via a formal application process.

Raising consumer awareness

In February 2022, the FSSAI decided to bring in a Health Star Rating System⁸ for packaged food products. The system would display the number of stars on the packaged item, signifying a “healthy” or “unhealthy” status check (based on the quantity of sugar, salt and fat). As a first for India, this measure would be a part of FSSAI’s Front of Packaging Labelling (FoPL) policy – which already exists in countries like the United Kingdom, Chile, and Australia, to name a few. FSSAI has considered this measure from an Indian Institute of Management Ahmedabad (IIM-A) study. IIM-A conducted a survey to assess several FoPL models applicable to gauge India’s consumption patterns. India has information on the back of the package but none on the front. Therefore, the assessment proved fruitful in a recommendation – what could prove effective in a consumer making an informed choice in the future, with the Health Star Rating (HSR) system indicator most effective. As a post-pandemic response, the FSSAI also launched a mobile/web-based application called Food Safety Connect⁹ (downloadable on Google Play Store). The app intends to build better outreach with the consumers who can understand their legal rights to food safety, share their views, track the credibility of licenses provided to Food Business Operators (FBOs), and view related articles/videos on food safety.

Additionally, in September 2021, the FSSAI also launched¹⁰ an exclusive vegan logo. It is a green-colored ‘V’ letter inscribed in the middle of a square box, with a small plant on top and the word “vegan” written at the bottom. FSSAI conceptualized the new design in line with the present one – a dot in the middle of a square – differentiating vegetarian and non-vegetarian products.

Strengthening the food safety ecosystem

FSSAI signed a Memorandum of Understanding¹¹ with the Ministry of Food Processing Industries (MoFPI) in October 2021 to support the Micro Level of Food Entrepreneurs, Farmer Producer Organizations, Self Help Groups and Producers Cooperatives. The MoU involves two areas of collaboration. Firstly, a food safety

⁸ <https://www.foodinfotech.com/fssai-to-introduce-health-star-rating-for-packaged-foods/>

⁹ <https://fssai.gov.in/cms/food-safety-connect.php>

¹⁰ <https://indianexpress.com/article/lifestyle/food-wine/fssai-launches-vegan-logo-food-mansukh-mandaviya-label-crueltyfree-7526332/>

¹¹ https://fssai.gov.in/upload/press_release/2021/10/61586f422667bFSSAI_MoFPI_02_10_2021.pdf

training exercise for food handlers of micro-level food processing units towards good hygiene and manufacturing practices, food testing, process and other regulatory requirements. Upon completing training, the food handlers receive a 'Food Safety Supervisor' certificate from FSSAI. Second, the FSSAI and MoFPI would support the micro-enterprises in obtaining an FSSAI license and registration.

Overall, India has numerous food safety reforms under deliberation. For instance, several districts¹² (for example, the District of Kohima in the state of Nagaland) have reflected on having a testing process for the mid-day meal scheme conducted by the state public health laboratories. Although risk mitigation and quality assurance towards existing processes form the bedrock of food safety, a more comprehensive roadmap or framework can address the challenges of adhering to rules and preventing malpractices. Involving greater stakeholder participation and mandating food safety and training certification programs would go a long way in achieving the intended targets.

¹² <https://morungexpress.com/dlac-deliberates-on-testing-of-mid-day-meals-before-distribution-to-schools>

Food Safety Developments in the US, 2020-22

by Isha Patel

The year 2022 marks two years since the start of the Corona-Virus Pandemic. During all the lockdowns and quarantine regulations, many countries were forced to take control to limit the spread of the virus and keep in mind the health and safety of their citizens. Meanwhile, many businesses and operations suffered on the side, having to shut down, one of those industries being food production and safety. In an article about “Food Safety Priorities for 2022”¹ written by Dave Fusaro, the author reiterates the importance of food safety after another pandemic year of 2021. He breaks down what the FDA, USDA, and GFSI have on their agendas for 2022.

Fusaro called 2022 the “new era of smarter food safety,” saying the pandemic had an impact on inspectional work carried out by all major organizations. The industry overall started off the year dealing with supply chain pressures and workforce issues.

Food and Drug Administration

Starting with the FDA, they have officially included sesame in the list of allergens which already includes eggs, tree nuts, peanuts, cow’s milk, fish, shellfish, soy, and wheat. However, this new change will not be enforced until 2023. In December, the FDA also included acacia in the agency’s definition of dietary fiber. Issues of food fraud also came up because of the pandemic. The FDA said that any changes made to the supply chain can potentially increase the risk of food fraud on raw materials, ingredients, finished products, and even packaging, depending on how they are handled. The FDA has come up with four core elements to start fresh in this “new era of smarter food safety.” Those four core elements are tech-enabled traceability; smarter tools and approaches for prevention and outbreak response; new business models and retail modernizations; and food safety culture. Their plan outlines a partnership among government, industry, and public health.

4 Core Elements

Core element one², tech-enabled traceability, is to help protect consumers from contaminated products, by doing rapid tracebacks and identifying resources to help remove products fast from the market, if harmful. They want to implement an internal digital technology system to help conduct these tracebacks and help alert partners who use this technology. Core element two is smarter tools and approaches for prevention and outbreak response. This element’s goal is to strengthen predictive analytics. The outline of this element calls for root cause analysis protocols for food safety. The FDA also wants to expand use of artificial intelligence and machine learning tools to help process data and for screening of imported foods. Core element three focuses on new business models and retail modernization. Here, the FDA works to protect foods from

¹ Fusaro, Dave. “Food Safety Priorities for 2022.” *Foodprocessing.com*, <https://www.foodprocessing.com/articles/2022/food-safety-priorities/>.

² Center for Food Safety and Applied Nutrition, FDA. “New Era of Smarter Food Safety Blueprint.” *U.S. Food and Drug Administration*, FDA, <https://www.fda.gov/food/new-era-smarter-food-safety/new-era-smarter-food-safety-blueprint>.

contamination and new business models come up. They want to modernize traditional food safety approaches, including advancement of facility and equipment design, and increase nationwide adoption of FDA food code. Lastly the fourth core element is Food Safety Culture, which looks toward supporting and strengthening food safety cultures from the farm to the table. They would be encouraged through FDA education, training and inspection and finding the technology to enable advancements in food safety.

Technology and Food Safety

Technology assumed a bigger role in food safety since the pandemic. Many investments were made to implement non-traditional retail models like “direct-to-consumer and alternative delivery,”³ Most technological implementations, such as cloud-based technologies, give users/companies access to live updates of shipments, time, temperature, geo-location, light and pressure sensing, and historic shipments.⁴ The goal of the FDA’s New Era of Food Safety Plan is to have end-to-end traceability throughout the food system. This will happen through economic models that will be offered at an affordable price, from small and large business owners.⁵ The blueprint also calls for more data analysis to conduct predictions and mitigate risk. The FDA created a new data analysis tool called 21 Forward to help identify problems in food supply continuations due to employee absences as a result of the pandemic. Additionally, the plan called for finding alternative ways to conduct inspections, as all were halted for a period during the pandemic. These inspections were to be conducted virtually, and the Foreign Supplier Verifications Programs rule “allows the FDA to request records electronically from importers to help ensure that their foreign food suppliers are meeting US safety standards.”⁶

United States Department of Agriculture

In addition to the FDA is the USDA. January 1st was USDA’s deadline for a new labeling system for genetically modified-engineered foods which does not mention genetically engineered or GMO ingredients on food and beverage products.

The USDA is aiming their efforts this year toward paying more attention to their food and

³ Schneider, Jeremy. “The Role of Technology in Food Safety Culture.” *Food Logistics*, 22 Aug. 2021, <https://www.foodlogistics.com/safety-security/food-safety/article/21602829/controlant-the-role-of-technology-in-food-safety-culture>.

⁴ Schneider, Jeremy. “The Role of Technology in Food Safety Culture.” *Food Logistics*, 22 Aug. 2021, <https://www.foodlogistics.com/safety-security/food-safety/article/21602829/controlant-the-role-of-technology-in-food-safety-culture>.

⁵ Commissioner, Office of the. “New Era of Smarter Food Safety Blueprint Makes Inroads.” *U.S. Food and Drug Administration*, FDA, <https://www.fda.gov/news-events/fda-voices/one-year-later-new-era-smarter-food-safety-blueprint-makes-inroads-fdas-public-health-mission>.

⁶ Commissioner, Office of the. “New Era of Smarter Food Safety Blueprint Makes Inroads.” *U.S. Food and Drug Administration*, FDA, <https://www.fda.gov/news-events/fda-voices/one-year-later-new-era-smarter-food-safety-blueprint-makes-inroads-fdas-public-health-mission>.

safety inspection services to help reduce Salmonella in poultry products. Currently over 1 million consumer illnesses are due to Salmonella.⁷ USDA's goal is to reduce Salmonella illnesses by 25%. The USDA "intends to seek stakeholder feedback on specific Salmonella control and measurement strategies,"⁸ through pilot projects. By doing this, the FSIS⁹ is inviting poultry, slaughter, and processing organizations to submit proposals for pilot projects that will test different control strategies for Salmonella contamination on meat products. Proposals would need to include plans of action regarding experimental design, monitoring, and evaluation. They want to encourage preharvest controls to reduce Salmonella contamination in slaughterhouses.

All in all the impacts of the ongoing two-year pandemic created a pushback on the agriculture and food safety industries. The Food and Drug Administration originally released their blueprint prior to the peak of the pandemic and thus had to make alterations to the plan afterwards. The New Era of Food Safety Plan highlight four core elements in which the FDA wants to bring changes to the industry. Those areas are tech-enabled traceability, smarter tools and approaches for prevention and outbreak response, new business models and retail modernizations, and food safety culture. These changes will make the industry more technologically advanced and efficient.

⁷ "USDA Launches New Effort to Reduce Salmonella Illnesses Linked to Poultry." *USDA*, <https://www.usda.gov/media/press-releases/2021/10/19/usda-launches-new-effort-reduce-salmonella-illnesses-linked-poultry>.

⁸ "USDA Launches New Effort to Reduce Salmonella Illnesses Linked to Poultry." *USDA*, <https://www.usda.gov/media/press-releases/2021/10/19/usda-launches-new-effort-reduce-salmonella-illnesses-linked-poultry>.

⁹ "Food Safety and Inspection Service." *Pilot Projects: Salmonella Control Strategies | Food Safety and Inspection Service*, <https://www.fsis.usda.gov/inspection/inspection-programs/inspection-poultry-products/reducing-salmonella-poultry/pilot>.

