Proceedings of

FICCI Symposium - "Decoding the Science Behind UPF Hype"

FICCI Federation House, New Delhi

Friday, 13th March 2026

Executive Summary

The FICCI Symposium on "Decoding the Science Behind UPF Hype", held on 13 March 2026 at FICCI Federation House, New Delhi, convened policymakers, regulators, industry leaders, and scientific experts to deliberate on the evolving discourse around ultra-processed foods (UPFs). The discussions underscored the need for a balanced and evidence-based understanding of UPFs, noting that current debates are often polarized and tend to oversimplify the relationship between processed foods and rising lifestyle diseases such as obesity and diabetes.

It was emphasized that food processing plays a critical role in modern food systems by enhancing food safety, extending shelf life, improving accessibility, and enabling nutrient fortification. In the Indian context, processing was recognized as an essential tool for addressing food security and malnutrition, especially given the country's dual burden of undernutrition and overnutrition.

The symposium also highlighted the absence of a globally harmonized definition or regulatory framework for UPFs, with international approaches largely focusing on nutrient profiles and overall diet quality rather than processing levels.

Another critical theme was the growing challenge of consumer misinformation and confusion arising from inconsistent narratives around food. It was also recognized that public health outcomes are influenced by a broader set of factors beyond food, including sedentary lifestyles, stress, and environmental conditions, necessitating a more holistic approach to health and nutrition.

The discussions reinforced the principle that no food is inherently "good" or "bad," and that health outcomes are largely determined by overall dietary patterns, portion sizes, and frequency of consumption. In this regard, promoting moderation, dietary diversity, and balanced diets was identified as central to improving public health outcomes. The role of industry was also emphasized in driving product reformulation, enhancing nutritional quality, and ensuring transparent communication to build consumer trust.

In conclusion, the symposium highlighted the importance of multi-stakeholder collaboration among government, industry, academia, and research institutions to generate India-specific evidence, develop clear definitions and standards, and strengthen consumer awareness initiatives. It called for a shift away from simplistic classifications towards a more holistic, science-driven understanding of food systems, supported by evidence-based regulation, responsible innovation, and informed consumer engagement.

Welcome Address: Mr. Tarun Arora, President, CIFTI-FICCI

Mr. Tarun Arora welcomed distinguished guests, including policymakers, industry leaders, experts, and delegates, and set the context for the symposium. He highlighted that food today extends beyond basic sustenance and plays a significant role in health, environment, and lifestyle. He noted that ultra-processed foods have increasingly become a part of everyday diets, driven by urbanization, changing lifestyles, and rising incomes. He observed that while traditional dietary habits continue to exist, the Indian food landscape is evolving with greater adoption of packaged foods. These foods offer convenience, accessibility, variety, and improved food safety through better packaging and labelling.



At the same time, he acknowledged the growing dual burden of malnutrition and lifestyle diseases such as obesity and diabetes, emphasizing the need for balanced and informed discussions around modern food systems. Mr. Arora also addressed common misconceptions around packaged foods, noting that not all processed foods are unhealthy and that greater consumer awareness is required to enable informed dietary choices.

He emphasized the importance of promoting balanced diets, portion control, and physical activity, while recognizing the role of regulatory bodies such as FSSAI in ensuring food safety and driving awareness initiatives.

In conclusion, he expressed confidence that the symposium would facilitate meaningful dialogue, knowledge exchange, and collaborative efforts towards building healthier and more sustainable food systems.

Context Setting and Agenda for the Symposium: Mr. Siraj Hussain, Former Secretary, Ministry of Food Processing Industries and Ministry of Agriculture and Farmers Welfare, GOI. Advisor, Food Processing, FICCI

Mr. Siraj Hussain set the context for the symposium by emphasizing the need for balanced and evidence-based discussions on ultra-processed foods (UPFs), noting that the subject has often been debated with polarised views.

He highlighted that the food processing sector, particularly UPFs, has faced increasing criticism globally due to rising concerns around obesity, diabetes, and other lifestyle diseases. However, he stressed that it is important not to attribute health challenges solely to processed foods. He pointed out that processed foods play a practical role in modern lifestyles, especially for the elderly, working individuals, and households with limited support. He also noted that even commonly consumed foods such as bread and yoghurt fall within processed categories, reflecting the complexity of classification.

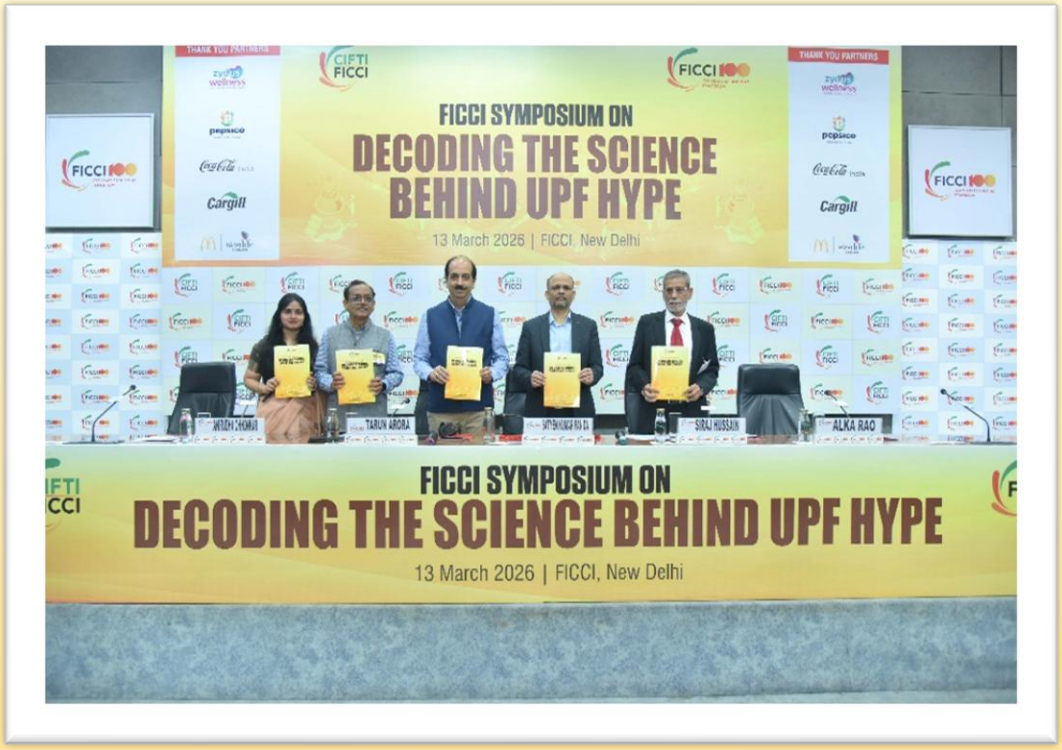


He emphasized that public health must be viewed holistically, considering factors such as urban stress, long commutes, job pressures, and air pollution, rather than focusing only on food. He further raised concerns about the regulatory imbalance, noting that while the packaged food industry is highly regulated, a large unorganized sector (such as local sweet and snack vendors) operates with relatively limited oversight. He highlighted the need for more uniform consumer awareness and accountability across all food segments.

He also referred to ongoing discussions around front-of-pack labelling and the need for clear, consistent information to help consumers make informed choices.

In conclusion, he expressed that such platforms are important for bringing clarity, encouraging dialogue among stakeholders, and developing a balanced approach towards understanding ultra-processed foods and their role in evolving food systems.

Release of FICCI Knowledge Paper on Understanding 'Sugar' and Sugars'



Dr. Satyen Kumar Panda, Advisor (Additional charge of Executive Director - Regulatory Compliance, Regional Office), Advisor (Quality Assurance), FSSAI, released the FICCI Knowledge Paper on Understanding 'Sugar' and Sugars'.

The symposium marked the release of the third in FICCI's consumer knowledge paper series "Understanding Sugar and Sugars". The paper addresses the often-misunderstood distinction between "sugar" and "sugars," demystifying the science behind sugar consumption and equipping consumers, practitioners, and industry stakeholders with accurate, actionable information.

Inaugural Address: Dr. Satyen Kumar Panda, Advisor (Additional charge of Executive Director - Regulatory Compliance, Regional Office), Advisor (Quality Assurance), FSSAI



Dr. Satyen Kumar Panda delivered the inaugural address, highlighting the increasing relevance of discussions on ultra-processed foods (UPFs) in the context of ongoing concerns around food safety, adulteration, and regulatory enforcement.

He noted that recent developments, including judicial interventions on issues such as front-of-pack labelling and concerns around packaging materials, have brought greater attention to the need for scientific clarity in food regulation. He emphasized that debates around raw, minimally processed, and ultra-processed foods often involve multiple claims and counterclaims, making it essential to rely on robust scientific evidence. From a regulatory perspective, he stated that FSSAI remains neutral and committed to science-based decision-making. He highlighted that regulatory conclusions are drawn based on the strength of evidence, including data from randomized controlled trials, observational studies, and risk assessments, and that consensus is built through scientific evaluation.

Dr. Panda emphasized that FSSAI aims to develop a structured, pragmatic, and science-driven regulatory framework that aligns with global best practices while considering India's diverse dietary habits. He also highlighted recent regulatory reforms aimed at improving ease of doing business, including revisions in licensing thresholds, introduction of a perpetual licensing system, and adoption of risk-based inspection mechanisms.

At the same time, he stressed that regulatory compliance alone is not sufficient and called upon stakeholders to work collectively towards broader solutions, particularly in addressing public concerns and perceptions around ultra-processed foods. He appreciated initiatives focused on building scientific understanding, including knowledge efforts around sugar and its role in food systems, noting that enhancing public awareness about the science behind food is critical.

In conclusion, he emphasized the importance of collaborative dialogue between industry, policymakers, and experts to address emerging challenges and develop balanced, evidence-based approaches to food regulation.

Technical Sessions

Presentation on "Sustainability, Processing, and Nutrition: The Triple Bottom Line" by Dr. Arpita Mukherjee, Professor, Indian Council for Research on International Economic Relations (ICRIER)



Dr. Arpita Mukherjee delivered a presentation on the interlinkages between sustainability, food processing, and nutrition, emphasizing the need to address these dimensions together within India's evolving food system.

She highlighted that India, as one of the fastest-growing economies with a large population, faces the dual challenge of ensuring nutrition security while meeting sustainability goals, including commitments under the UN Sustainable Development Goals. She noted that India has already taken multiple regulatory and policy initiatives across ministries to support sustainable food systems. She emphasized that food processing plays a critical role in reducing food loss, improving shelf life, and enhancing nutrient availability. She clarified that the discussion should not be framed as processed versus unprocessed food but rather focus on the level of processing and the nutritional composition of food products. She pointed out that there is no universally accepted definition of ultra-processed foods and stressed that consumer awareness should focus on intake of fat, sugar, and salt, rather than broad categorization of foods. She highlighted the importance of reading food labels and making informed dietary choices.

She also noted that India's food processing sector is still relatively small but rapidly growing and cautioned against over-regulation that could hinder industry development. Instead, she advocated for encouraging innovation, reformulation, and healthier product development. Dr. Mukherjee highlighted the importance of formalizing the food sector, particularly supporting MSMEs to transition from informal to formal markets, which would improve quality, safety, and traceability across the supply chain.

She emphasized that addressing nutrition challenges in India is complex, given the coexistence of undernutrition and overnutrition, and requires targeted, data-driven interventions. She also stressed the need for large-scale awareness campaigns to improve nutrition literacy among consumers. Further, she highlighted the role of food processing in fortification and improving nutrient intake, while also pointing out gaps in farm-level practices and supply chain traceability that impact overall food quality.

In conclusion, she emphasized the need for a holistic, data-driven policy approach that integrates sustainability, nutrition, and industry growth, supported by clear definitions, uniform regulations, and collaborative efforts between government, industry, and other stakeholders.

Presentation on "Global Perspective on Processed Foods in the Context of UPF Narrative" by Ms. Petia Nenova, IFBA (International Food & Beverage Alliance), Brussels, Belgium



Ms. Petia Nenova presented a global perspective on processed foods with a focus on the ongoing debate around ultra-processed foods (UPFs), highlighting international policy frameworks and scientific developments.

She referred to the United Nations Political Declaration on Non-Communicable Diseases (NCDs), which outlines global commitments to address diet-related health challenges. She noted that these frameworks consistently emphasize improving nutrient composition such as reducing salt, sugar, and unhealthy fats and encourage industry-led reformulation to provide healthier, affordable options. She highlighted that global policy approaches reconfirm the focus on nutrient content and overall diet quality. The recently adopted fourth UN Political Declaration on NCDs makes no reference to level of processing or "UPFs". .

Ms. Nenova discussed ongoing work by the World Health Organization (WHO) to develop a more objective, operational definition of UPFs, followed by guidelines on their consumption. She also noted that this process has generated significant debate within the scientific community, particularly around methodology, expert selection, and the use of existing classification systems such as NOVA. She emphasized that multiple national and regional scientific regulatory bodies have reviewed the available evidence and concluded that, while associations between UPFs and health outcomes exist, the evidence is not yet sufficient to establish causation or to form the sole basis for policy decisions.

She further highlighted key limitations of current classification systems, including inconsistencies in definitions, grouping of nutritionally diverse foods under the same category, and methodological challenges in research studies. Ms. Nenova stressed that there is strong well-established scientific consensus on the importance of dietary patterns, nutrient intake, and moderation, rather than focusing solely on processing levels. She noted that established risk factors such as high intake of sugar, salt, and unhealthy fats remain central to nutrition policy globally.

In conclusion, she emphasized that policymaking should be evidence-based, inclusive, and multi-stakeholder driven, integrating perspectives from nutrition, food technology, safety, and

sustainability. She underscored the need for a holistic approach that considers overall diets and food systems, rather than isolating individual product categories.

Panel Discussion: "The Purpose and Science Behind Food Processing to Drive Innovation and Consumer Trust"



Moderator: Mr. Sanjay Khajuria, Former President, CIFTI-FICCI

Panellist: Dr. Sridevi Annapurna Singh, Former Director, CFTRI

Question: From your perspective, what is the most important purpose that food processing serves in today's food system? How does this connect with building consumer trust?
Response: Dr. Sridevi Annapurna Singh emphasized that food processing is essential for enhancing shelf life, safety, palatability, and convenience. She explained that food technology operates through key principles such as control of moisture, temperature, pH, and the use of additives, which together help stabilize food products. She noted that processing exists on a continuum, and even basic activities such as cleaning, grading, and cutting are forms of processing. Therefore, the perception of processing as inherently negative overlooks its critical role in ensuring food safety and usability.

She highlighted that processing helps reduce microbial load, improve consistency in quality, and enable large-scale production. It also contributes to better digestibility and bioavailability of nutrients, while reducing anti-nutritional factors present in raw foods. At the same time, she

stressed the importance of optimal processing to ensure that nutritional value is preserved while maintaining safety and shelf life.

She concluded that food processing is fundamental to modern food systems and plays a key role in building consumer trust when guided by scientific principles and focused on delivering safe, nutritious, and high-quality products.



Question: What can we learn from traditional household food practices that can be applied at a larger scale?

Response: Dr. Sridevi Annapurna Singh highlighted that many traditional Indian food practices are rooted in scientific principles developed over generations and can offer valuable insights for modern food processing. She explained that common practices such as tempering with spices, soaking pulses, and controlled cooking methods help improve nutrient absorption, digestibility, and the reduction of anti-nutritional factors.

She also noted that traditional food preparation methods for infants and households are designed to suit specific nutritional needs, reflecting an inherent understanding of food functionality. She emphasized that cultural practices and dietary traditions promote dietary diversity, which is essential for balanced nutrition, as no single food can provide all required nutrients. She further highlighted the role of spices and ingredients such as onion and garlic in enhancing digestion and improving mineral absorption, which is now supported by scientific evidence.

In conclusion, she emphasized that traditional knowledge systems provide a strong foundation for modern food processing, and integrating these practices with scientific advancements can help improve nutrition and consumer acceptance.

Question: How can science ensure responsible and nutrition-focused food processing?

Response: Dr. Sridevi emphasized that science can play a key role by validating the health benefits of traditional foods and identifying bioactive components that contribute to improved health outcomes. She highlighted that India has a rich repository of underutilised foods with potential nutritional and functional benefits, which need to be scientifically studied to understand their mechanisms of action.

She stressed the importance of evidence generation, including determining appropriate consumption levels, studying the impact of processing and storage on nutrients, and conducting clinical validations to substantiate health claims. She also highlighted the opportunity for industry to leverage such scientific insights to develop nutrition-focused and targeted products, including those tailored to specific population groups based on age, health status, and nutritional requirements.

In conclusion, she emphasized that integrating traditional knowledge with scientific validation and product innovation can enable responsible, nutrition-driven food processing and support better consumer health outcomes.

Panellist: Ms. Parna Dasgupta, Country Head, Food Industry Asia (FIA)

Question: From your perspective, what is the most important purpose that food processing serves in today's food system? How does this connect with building consumer trust?

Response: Ms. Parna Dasgupta emphasized that the focus should not be on "building" trust but on strengthening the existing trust between consumers and the food industry. She noted that while there is increasing public discourse around processed foods, it has confused consumers more than eroding their trust. She highlighted that the key challenge lies in the lack of clear and consistent understanding as against multiple interpretations and informal definitions. She noted that categorizing foods based on arbitrary parameters, such as the number of ingredients or unfamiliar components, can be misleading.



She stressed that the real issue is not the classification of food as processed or ultra-processed, but whether the product is nutritionally appropriate and suitable for consumption. She emphasized that the industry has a responsibility to proactively communicate its role, practices, and contributions to consumers. She highlighted the need for stronger consumer engagement through accessible platforms, awareness initiatives, and educational efforts. She also referred to industry-led initiatives such as consumer awareness campaigns and knowledge publications on topics like food labelling, portion sizes, and sugar consumption, noting that the key next step is to ensure these insights effectively reach end consumers.

In conclusion, she emphasized that improving consumer understanding through clear communication and outreach is critical to strengthening trust and enabling informed choices.

Question: How can industry collaborate with regulators and multiple stakeholders to ensure effective science-based regulation in food processing?

Response: Ms. Parna emphasized that effective regulation requires collaboration among all stakeholders, including industry, regulators, and academia, noting that long-term outcomes can only be achieved through collective efforts.

She highlighted that consumers today are often confused due to multiple narratives around food, and stressed that the shared responsibility of stakeholders is to empower consumers with clear, science-based information rather than prescribing rigid choices. She noted that food,

unlike harmful products such as tobacco, cannot be categorized as entirely good or bad, and therefore communication should focus on informed decision-making rather than restriction. She emphasized the importance of transparency and consistent messaging, acknowledging that consumer interpretation of information can vary and requires continuous learning and adaptation from stakeholders. She also highlighted the role of existing platforms and initiatives in driving awareness and stressed the need to leverage these channels more effectively to reach consumers at scale. A key point of her response was the importance of portion control and balanced diets, noting that overconsumption, rather than individual food products, is a major contributor to poor health outcomes.

In conclusion, she emphasized that strengthening collaboration, improving communication, and focusing on consumer education are essential to ensuring effective science-based regulation and building long-term trust.

Question: Are there international best practices that India can learn from in this area?

Response: Ms. Parna highlighted that globally, while there is no universally accepted definition or regulation specifically for ultra-processed foods, several countries have introduced models to guide healthier food choices. She noted that successful approaches, particularly in Southeast Asia and countries like Australia and Singapore, have been based on extensive stakeholder consultation and gradual implementation. These models often began as voluntary systems, such as front-of-pack labelling or rating mechanisms and were progressively strengthened over time to encourage industry reformulation.

She emphasized that positive and nudging approaches, such as highlighting healthier choices rather than restricting products, have shown better acceptance and effectiveness. In contrast, she pointed out that rapid and less consultative regulatory approaches in some regions have not always achieved intended public health outcomes, indicating the importance of phased implementation and evidence-based policy design. She also highlighted that factors such as lifestyle, physical activity, and overall consumption patterns play a significant role in health outcomes, and food regulation alone may not address issues like obesity.

In conclusion, she emphasized that India has the opportunity to learn from global experiences by adopting a consultative, phased, and evidence-driven approach, supported by impact assessment and multi-stakeholder engagement.

Panellist: Dr. Heena Yadav, Assistant Professor, NIFTEM-K

Question: From your perspective, what is the most important purpose that food processing serves in today's food system? How does this connect with building consumer trust?

Response: Dr. Heena emphasized that food processing is not only about enhancing shelf life or convenience, but also about providing solutions to critical food system challenges, including food security, malnutrition, and accessibility. She highlighted that with a growing population, limited agricultural land, and changing lifestyles, food processing plays a vital role in ensuring availability of safe and nutritious food. She noted that addressing issues such as micronutrient deficiencies requires advanced processing techniques, including fortification and improved nutrient delivery methods. She cautioned against broadly labelling all ultra-processed foods as harmful, noting that such an approach can overlook the role of processing in tackling "hidden hunger" and improving public health outcomes.



She also emphasized that India faces a dual burden of undernutrition and overnutrition, making it necessary to adopt balanced, solution-oriented approaches rather than dismissing processing technologies. On consumer trust, she highlighted the importance of collaborative communication among stakeholders, including regulators, industry, and academia, to disseminate accurate, science-based information. She noted that in a diverse country like India, no single institution can address this challenge alone. She further stressed the need to counter misinformation, particularly on social media, by ensuring that credible, evidence-based content is accessible to consumers through trusted platforms.

In conclusion, she emphasized that strengthening consumer trust requires a unified effort to communicate the scientific basis of food processing while addressing misconceptions and improving public awareness.

Question: How can research institutions like NIFTEM play a role in bridging science and consumer understanding?

Response: Dr. Heena highlighted that research institutions like NIFTEM are uniquely positioned to act as a bridge between industry, regulators, and consumers by generating and disseminating science-based evidence. She emphasized the importance of providing uniform, research-backed information to both policymakers and industry, ensuring that communication to consumers is consistent and credible. She noted that NIFTEM is actively working towards supporting communication with detailed scientific backing.

She also pointed out the need for India-specific research, particularly in understanding the impact of dietary patterns, HFSS foods, and ultra-processed foods in the context of local

lifestyles and environmental factors, rather than relying heavily on global data. She further emphasized the role of research in addressing gaps such as the health impact of food additives and their combinations, as well as improving product formulations. She highlighted that institutions can also contribute by working closely with industry to identify practical challenges and develop solutions, including innovations in areas such as waste reduction and circular economy.

In conclusion, she emphasized that research institutions must play a central role in generating evidence, guiding policy, supporting industry innovation, and improving consumer awareness through science-based communication.

Question: Are there specific areas in food science where more research is required?

Response: Dr. Heena emphasized that food science is a continuously evolving field where research is ongoing and essential, given its fundamental role in human health and nutrition. She highlighted emerging areas such as personalized nutrition and the impact of food on genetic and metabolic responses, noting that scientific understanding in these areas is still developing. In the context of the current discussion, she stressed the need for greater research on ultra-processed foods, particularly to establish clear definitions and understand what aspects such as ingredients, processing methods, or outcomes actually influence health. She emphasized that it is not processing alone, but the composition and nutritional impact of food, that should be the focus of scientific evaluation.

In conclusion, she highlighted the need for robust, evidence-based research to support informed decision-making, policy development, and clearer communication around food processing and nutrition.

Panellist: Ms. Apoorva Sharma, Assistant Director (Science and Standards), FSSAI

Question: From your perspective, what is the most important purpose that food processing serves in today's food system? How does this connect with building consumer trust?



Response: Ms. Apoorva Sharma highlighted that food processing is essential in addressing practical challenges such as food security and food wastage, particularly in a country like India. She noted that most foods consumed today undergo some level of processing, ranging from minimal to more advanced forms.

She emphasized that while processing is necessary, the extent and outcome of processing are critical considerations. From a regulatory perspective, the primary focus remains on ensuring food safety, accuracy of product claims, and protection of consumers from

misleading information. She underscored that consumer trust is built when food products are safe, transparent, and deliver what is promised on the label.

In conclusion, she emphasized that effective regulation plays a key role in maintaining trust by ensuring that processed foods meet safety standards and uphold consumer interests.

Question: How can science-based regulation ensure both consumer protection and innovation?

Response: Ms. Apoorva emphasized that science-based regulation, innovation, and consumer protection are interconnected and mutually reinforcing. She noted that when regulation is grounded in scientific principles, it enables both consumer trust and innovation to coexist rather than conflict.

She explained that innovation is often driven by consumer needs, such as demand for better shelf life, improved functionality, and customized products. Once such products are developed, science-based regulation plays a critical role in evaluating them through data-driven, transparent, and verifiable processes. She highlighted that regulatory evaluation focuses on ensuring product safety, quality, and accuracy of claims, thereby safeguarding consumer interests. When these parameters are met, consumer protection is inherently ensured. She also noted that innovation often progresses faster than regulatory frameworks, making continuous dialogue between industry and regulators essential. She highlighted that efforts are being made to strengthen consultations and information exchange to support timely and effective decision-making.

In conclusion, she emphasized that a collaborative and science-driven regulatory approach can effectively balance innovation with consumer protection.

Question: What role do labelling and standards play in improving consumer understanding?

Response: Ms. Apoorva highlighted that food labels serve as the primary source of information for consumers, providing details on ingredients, nutritional composition, and product claims. She noted that while labels can be comprehensive, their effectiveness depends on the consumer's ability to interpret the information correctly. Factors such as limited awareness, time constraints, and purchase priorities like cost and convenience often influence how consumers engage with labels.

She emphasized that simply providing detailed information is not sufficient, and there is a need for simpler, more intuitive labelling formats, such as visual cues, to support quick and informed decision-making. On standards, she highlighted that they play a critical role in regulating claims and ensuring accuracy, preventing labels from becoming purely marketing tools. Standards ensure that any claim made on a product is backed by appropriate evidence, thereby protecting consumers from misleading information.

In conclusion, she emphasized that effective labelling and robust standards, combined with consumer education, are essential for enabling informed choices and strengthening consumer trust.

Panellist: Dr. Deepti Gulati, Senior Advisor, TechnoServe and Former Industry Chair Professor NIFTEM-K

Question: From your perspective, what is the most important purpose that food processing serves in today's food system? How does this connect with building consumer trust?

Response: Dr. Deepti emphasized that food processing must evolve to align with changing lifestyles and consumption patterns, where eating outside the home is becoming increasingly common. She highlighted that instead of discouraging such foods, the focus should be on improving their nutritional quality.



She illustrated how commonly consumed processed foods can be reformulated to become healthier by reducing salt, sugar, and unhealthy fats, and by incorporating more nutritious ingredients such as whole grains and fibre. She emphasized that food processing is an integral part of the food system and cannot be eliminated. Instead, efforts should be directed toward making processed foods better in terms of ingredient quality and nutritional composition. She also highlighted the importance of promoting the idea of balanced consumption, noting that no food is inherently "good" or "bad," but should be consumed in appropriate quantities. On consumer trust, she stressed the need for credible, science-based communication to counter misinformation, particularly through mechanisms such as fact-checking platforms for nutrition-related claims.

In conclusion, she emphasized that improving the nutritional quality of processed foods, combined with better consumer awareness and responsible communication, can help build trust while meeting evolving dietary preferences.

Question: From your perspective, what are the real challenges in improving nutrition outcomes, particularly in the context of fortification and public health?

Response: Dr. Deepti highlighted that the challenge is not only dietary but also lifestyle-driven, with increasing sedentary habits and frequent consumption of energy-dense foods contributing to poor health outcomes. She emphasized that even minimally processed foods can be unhealthy if consumed in excess, underlining the importance of quantity control and balanced diets. She pointed out that a major gap lies in nutritional insecurity, where food may be calorie-sufficient but lacks essential nutrients. In this context, she emphasized the importance of food fortification as a practical and scalable solution to address micronutrient deficiencies.

She noted that demand plays a key role in driving industry action and encouraged greater consumer awareness and demand for fortified products. She also highlighted ongoing efforts to promote voluntary fortification in staple foods such as wheat flour, rice, and edible oil. She

further observed that the high cost of nutritious foods, such as fruits and vegetables, limits their consumption, making fortification an important strategy to improve nutrition at scale.

In conclusion, she emphasized that improving nutrition outcomes requires a combination of lifestyle changes, increased awareness, and wider adoption of fortified foods to ensure both calorie and nutrient adequacy.

Question: How can communication to consumers become more balanced and evidence-based? Is there a gap?

Response: Dr. Deepti highlighted that there is a significant gap in providing accurate and balanced nutrition information to consumers. She noted that social media is flooded with conflicting advice, often promoting expensive or impractical food choices, which can create confusion and unrealistic expectations. She emphasized that no single food provides complete nutrition, and traditional dietary patterns such as cereal-pulse combinations offer balanced nutrition when consumed appropriately. She also pointed out that cultural practices historically supported healthy eating patterns, but are sometimes being misinterpreted or commercialized, leading to deviation from their original purpose. She stressed the need for fact-based communication and credible information sources to counter misinformation. She highlighted that messaging should be engaging, simple, and relatable, rather than overly technical or prescriptive.

In conclusion, she emphasized that stakeholders must collaborate to provide scientifically accurate, accessible, and engaging content that encourages moderation and balanced diets, thereby improving consumer understanding and trust.

Fireside Chat on "Is Processing Level an Indicator for Nutrition and Health?"



Moderator: Dr Eram Rao, Professor of Food Technology, Bhaskaracharya College of Applied Sciences, University of Delhi

Panellist: Dr. Subbarao M. G, Scientist – F & Head, Nutrition Information, Communication & Health Education (NICHE), ICMR - National Institute of Nutrition

Question: What are the common misconceptions consumers have about processed foods?

Response: Dr. Subbarao clarified that the views presented were solely his own and requested that they not be quoted as representing the views of ICMR.

Dr. Subbarao highlighted that one of the most common misconceptions is that all processed foods are inherently harmful, whereas in reality, some level of processing is essential and part of everyday food preparation. He explained that basic activities such as cleaning, cooking, and peeling also constitute forms of processing, and therefore, it is incorrect to view processing as entirely negative.

He also pointed out the misconception that all natural or home-cooked foods are automatically healthier, noting that nutritional quality depends on ingredients, preparation methods, and portion sizes. Another misconception he highlighted was the assumption that fortified or enriched foods are always superior, emphasizing that their relevance depends on individual

nutritional needs and overall diet. He stressed that much of the confusion arises from misinformation and fragmented narratives, often influenced by multiple stakeholders and amplified through media and public discourse.

In conclusion, he emphasized the need for balanced, science-based communication to address misconceptions and help consumers make informed dietary choices.

Question: How can consumers understand the level of processing and distinguish between healthier and less healthy foods?



Response: Dr. Subbarao emphasized that the debate is not merely about processing, but about how the level of processing impacts the nutritional quality of food. He noted that while processing level can sometimes act as an indicator, it should be assessed alongside how it affects the final composition of the product, particularly whether it reduces beneficial nutrients or increases components of concern such as sugar, salt, and unhealthy fats.

He highlighted that the focus should be on identifying when processing leads to foods becoming high in fat, sugar, and salt (HFSS), rather than judging foods based solely on processing level. He further emphasized that there is a need for clear, standardized definitions and consensus on both levels of processing and ingredients of public health concern to guide consumers effectively. He reiterated that moderation remains key, noting that no single food is inherently unhealthy if consumed appropriately, but overconsumption can lead to adverse health outcomes.

In conclusion, he emphasized that helping consumers requires a balanced, dual approach, understanding both the degree of processing and its nutritional impact supported by clear communication and scientific consensus.

Question: Scientifically, have we been able to establish a link between processing level and adverse health outcomes?

Response: Dr. Subbarao highlighted that current scientific evidence linking ultra-processed foods (UPFs) to health outcomes is largely observational, with limited evidence from controlled trials.

He noted that while observational studies indicate associations between higher consumption of such foods and adverse health outcomes, causal relationships have not yet been conclusively established. He referred to controlled experimental evidence suggesting that diets categorized as UPFs may lead to higher calorie intake, potentially due to factors such as lower satiety, faster eating rates, and increased palatability.

He emphasized that characteristics such as hyper-palatability and food design, often involving higher levels of fat, sugar, and salt, may contribute to increased consumption rather than processing alone being the determining factor. He further highlighted that current scientific understanding is still evolving, with mechanisms not fully established and definitions of UPFs lacking clarity and consensus.

In conclusion, he emphasized that while existing evidence provides important signals, further research, including controlled and long-term studies, is required to establish definitive causal links between processing levels and health outcomes.

Question: Which metric should guide consumers more effectively nutrient profile or degree of processing?

Response: Dr. Subbarao emphasized that it is not appropriate to rely on a single metric, as both the degree of processing and nutritional quality are interconnected. He noted that the key consideration is how processing affects the final composition of food, particularly whether it reduces desirable nutrients or increases less desirable components.

He highlighted that current consensus leans towards focusing on the nutritional outcome of processing, rather than processing level alone. In the absence of a single clear metric, he stressed the importance of following core dietary principles such as moderation, dietary diversity, and adequacy, along with maintaining overall healthy lifestyle practices.

He also emphasized the need for improving food literacy, which includes understanding food sources, processing, selection, and consumption in a holistic manner. Further, he highlighted the importance of stronger communication and alignment among stakeholders, particularly at policy and institutional levels, to ensure consistent and effective messaging for consumers.

In conclusion, he emphasized that guiding consumers requires a combined approach supported by better communication, policy environment, and food literacy, rather than dependence on any single indicator.

Panellist: Dr. Seema Puri, Former Professor, Institute of Home Economics, University of Delhi

Question: From a nutrition science perspective, is the level of processing a reliable indicator of healthfulness?

Response: Dr. Seema emphasized that the level of processing is not a definitive or one-size-fits-all indicator of healthfulness, although it can sometimes act as a proxy for identifying foods that may be energy-dense and lower in certain nutrients.

She noted that as processing increases, foods may become more energy-dense and palatable, which can lead to higher consumption. At the same time, such foods may contain added ingredients such as preservatives, colours, or additives. However, she highlighted that not all processed foods are unhealthy, citing examples such as frozen vegetables and packaged dairy products that offer convenience and accessibility. She also noted that certain processed foods are specifically designed to deliver nutritional benefits, such as fortified products.

She further emphasized that the assumption that all home-cooked food is inherently healthier is not always accurate, as nutritional quality depends on ingredients and preparation methods. Dr. Puri also pointed out that processing can sometimes enhance digestibility and bioavailability of nutrients, making it beneficial in certain contexts.



In conclusion, she emphasized that while minimally processed foods should be prioritized, processed foods can also form part of a balanced diet, and their healthfulness should be assessed based on overall nutritional quality rather than processing level alone.

Question: How can nutrition education help create healthier food environments, especially when traditional diets are often idealized?

Response: Dr. Seema highlighted that while traditional diets are often viewed positively, they are not inherently free from health risks, as many traditional foods can be high in salt, sugar, and fat. She emphasized that dietary patterns in India are highly diverse and context-specific, and therefore, it is important to avoid generalizing traditional diets as universally healthy. She also pointed out that changing lifestyles and reduced physical activity have altered nutritional needs, making some traditionally energy-dense foods less suitable in current contexts. Dr. Puri stressed that the focus should shift from categorizing foods as traditional or processed to promoting overall healthy and balanced diets.

She highlighted the importance of nutrition education and awareness initiatives, including campaigns, school programs, and public messaging, to help consumers make informed choices. She also suggested the use of simple, practical communication tools, such as on-site messages in food outlets promoting portion control and balanced meal combinations, to influence consumer behaviour effectively.

In conclusion, she emphasized that nutrition education can play a transformative role by promoting balanced diets, improving awareness, and enabling consumers to make healthier choices in everyday settings.

Question: Which metric should guide consumers more effectively nutrient profile or degree of processing?

Response: Dr. Seema Puri emphasized that beyond metrics such as nutrient profile or level of processing, portion control is a critical and often overlooked factor in guiding consumer choices.

She highlighted that foods are often designed to maximize taste and satisfaction, but consumption beyond the optimal portion does not add further benefit and may contribute to overconsumption. She noted that understanding appropriate serving sizes can help consumers enjoy a variety of foods, including indulgent items, without negatively impacting health. She also suggested that industry can play a role by designing appropriate portion sizes and packaging, which can help nudge consumers towards healthier consumption patterns.

In conclusion, she emphasized that effective consumer guidance should combine nutritional awareness with portion control and mindful consumption, rather than relying solely on a single metric such as processing level or nutrient profile.


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