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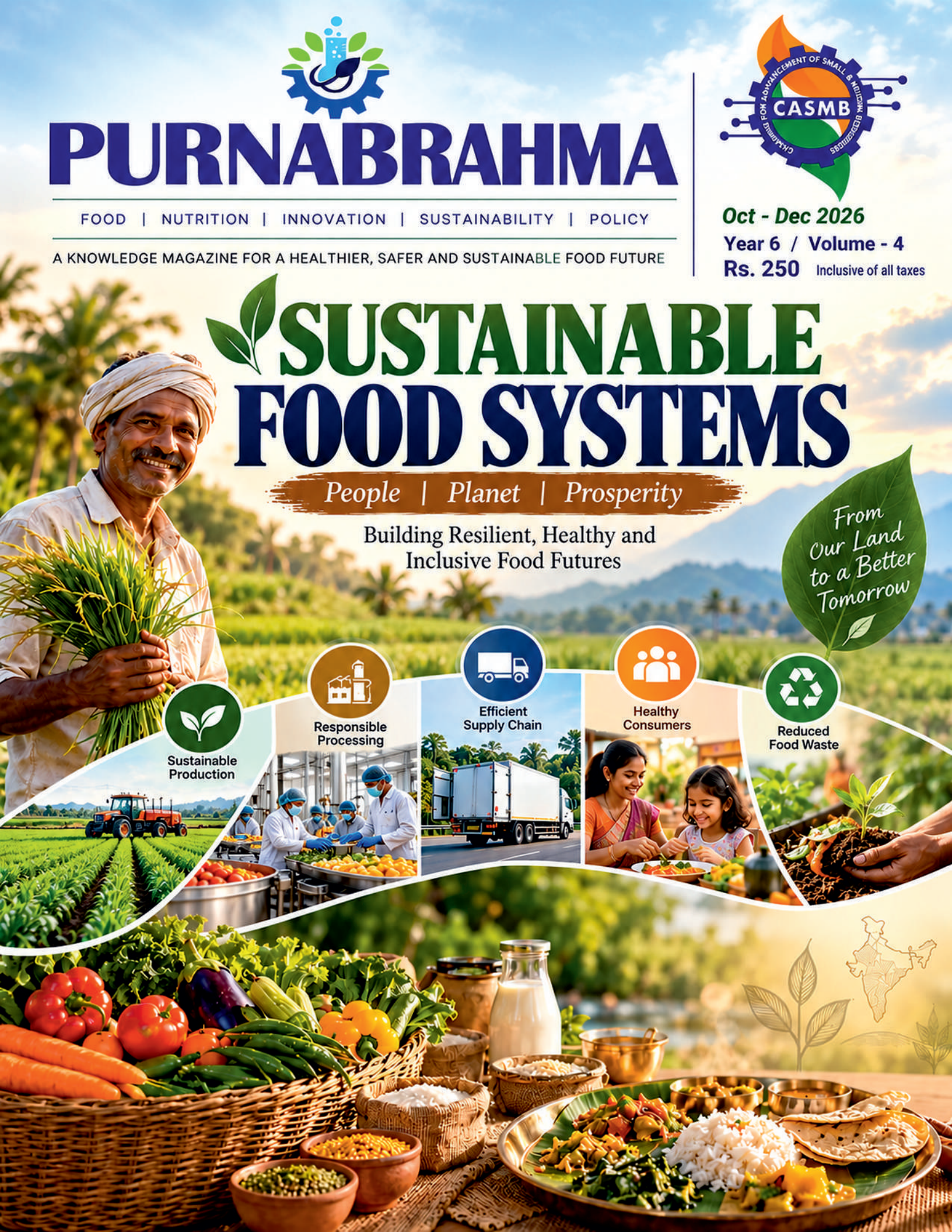
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CONTENTS

1 **Management Committee**

4 **CASMB Activities**

7 **Chairman's Message -** Dr. Prabodh Halde

8 **President's Desk -** Mr. Nilesh Lele

9 **Editor's Desk -** Nidhi Godbole Deshpande

10 **Secretary's Desk -** Dr. Umesh Kamble

11 **Advisor's Note -** Dr. Prakash Kondekar

TECHNICAL ARTICLE



12 The Sustainable Food Systems: Preserving Tradition, Protecting the Future - Chef Sumit Ghadiyali

14 Techno-Marketing for Sustainable Food Systems: An Indian Perspective - Dr. Y. Lakshman Kumar



17 Food for the Future: The Journey towards Sustainability - Dr. Rupa Manoj Rawal

20 Role of Regulations in Sustainable Food Systems in India - Vikas Talwar





23 All India Institute of Local Self Government (AIILSG) - Dr Prakash Kondekar



25 Innovations in the food sector - Dr Prakash Kondekar



28 Interview - Mr. Milind Dixit



30 Interview - Mr. Lakshya Dwivedi

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CASMB ACTIVITIES



CASMB at Bharat Food Expo, Jaipur

The CASMB participated in the Bharat Food Expo in Jaipur, engaging with stakeholders from the food processing and allied industries. The event provided a platform to connect with entrepreneurs, manufacturers, and industry representatives, while highlighting opportunities for business development, market linkages, and growth within the food sector. The participation also contributed to strengthening industry engagement and promoting initiatives aimed at supporting micro, small, and medium enterprises.

CASMB at Indusfood, Ahmedabad

CASMB participated in Indusfood in Ahmedabad, connecting with stakeholders across the food processing, manufacturing, and allied sectors. The event provided a valuable platform to explore emerging industry trends, facilitate business networking, and identify opportunities for market expansion. Through its participation, CASMB strengthened its engagement with industry players and highlighted the potential for collaboration, enterprise development, and growth among micro, small, and medium enterprises (MSMEs).





CASMB at Fi India 2026

CASMB participated in Fi India 2026, a prominent platform for the food ingredients, processing, and allied industries. The event brought together industry professionals, manufacturers, suppliers, and innovators, providing opportunities to explore emerging trends, technological advancements, and business collaborations. CASMB's participation supported industry engagement, encouraged networking, and highlighted avenues for innovation, market development, and growth among micro, small, and medium enterprises (MSMEs).

Strengthening Collaboration with ProPak Asia

CASMB strengthened its collaboration with ProPak Asia, laying the groundwork for future engagement and industry partnerships. The initiative focused on exploring opportunities for knowledge exchange, technology advancement, and business networking in the food processing and packaging sectors. The collaboration aimed to create greater exposure for Indian enterprises to international industry practices, emerging technologies, and global market opportunities.



CASMB ACTIVITIES



CASMB at Anuga Select India 2026

CASMB participated in Anuga Select India 2026, engaging with key stakeholders from the food and beverage industry. The event provided a platform to explore emerging market trends, strengthen business networks, and identify opportunities for collaboration across the food value chain. Through its participation, CASMB supported industry engagement and promoted avenues for enterprise development, innovation, and market expansion for micro, small, and medium enterprises (MSMEs).

CASMB Collaborated with TAITRA to Strengthen India–Taiwan Trade

CASMB collaborated with the Taiwan External Trade Development Council (TAITRA) to strengthen trade relations between India and Taiwan, with a focus on creating opportunities for Indian MSMEs. The initiative aimed to facilitate business networking, encourage cross-border partnerships, and improve access to international markets. Through this collaboration, CASMB worked towards building stronger trade linkages, promoting knowledge exchange, and enabling Indian enterprises to explore new avenues for global business growth..





CASMB Hosted Buyer Delegation at Hong Kong Food Expo

CASMB hosted a buyer delegation at the Hong Kong Food Expo, facilitating engagement between international buyers and stakeholders from the food industry. The initiative provided a platform to explore business opportunities, strengthen trade relationships, and promote market linkages. Through this engagement, CASMB supported efforts to expand international outreach, encourage cross-border collaboration, and create new avenues for Indian food businesses to connect with global markets.

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Dr. Prabodh Halde

Chairman
Chamber for Advancement of Small and Medium Businesses, CASMB

Sustainability: Not a New Concept, but an Indian Way of Life

Sustainability is a word we hear everywhere today. But for India, sustainability is not a new concept or a fashionable expression. **It has always been a way of life.**

I still remember my grandmother keeping **one extra roti every day**, in case an unexpected guest came home. If nobody came, that roti was never wasted. It went to a cow, a dog or another living being. Nothing was considered waste. There was respect for food, nature and every resource.

Even today, our traditions teach us the same philosophy. In villages, festivals and rituals, food is served on **banana leaves**, a simple and natural practice. The traditional Indian **thali** serves food in appropriate portions and encourages us to value every morsel. Our elders taught us to take only what we need and never waste *anna*.

That wisdom is beautifully reflected in Mahatma Gandhi's famous thought:**"Earth provides enough to satisfy every man's needs, but not every man's greed."**

And this wisdom is becoming even more relevant today. External Affairs Minister Dr. S. Jaishankar recently warned of the possibility of a **"major food crisis"** amid pressure on grain shipments, fertilisers and the economies of the Global South. It reminds us that food cannot be taken for granted.

Food safety is important. Nutrition is important. But without food security, both lose their meaning. And we cannot talk about food security while continuing to waste food.

My simple appeal to everyone associated with the food ecosystem is this: **make sustainability part of every step, not merely part of your sustainability report.** From farm to factory, factory to market, restaurant to dining table and, most importantly, in our own homes, let us **produce responsibly, consume mindfully and waste as little as possible.**

Sustainable food systems are not only about protecting the environment. They are about respecting food, protecting resources and ensuring that future generations also have enough.

I congratulate the **Purnabrahma editorial team** for selecting such a timely and meaningful theme. Through this issue, let us remind ourselves that perhaps the future of sustainable food does not require us only to discover something new. **Sometimes, we simply need to rediscover the wisdom we already have.**

Let us make "No Food Waste" not a campaign, but a culture.

Warm regards,

Dr. Prabodh S. Halde
Chairman, CASMB

CHAMBER FOR ADVANCEMENT
OF SMALL & MEDIUM BUSINESSES

Nilesh Lele

President,
Chamber for Advancement of Small & Medium Business (CASMB)



Innovation and Technology for Sustainable Food Processing

The future of the food industry lies in embracing innovation and technology to build a sustainable, efficient, and inclusive food system. As India strengthens its position as a global food processing hub, adopting modern technologies, promoting value addition, and reducing food loss and waste are essential for long-term growth.

Innovations in food processing, energy-efficient machinery, improved storage, smart packaging, and digital traceability can enhance food safety, extend shelf life, and minimise environmental impact. Equally important is the concept of a circular economy, where agricultural by-products and food processing waste are transformed into valuable resources, creating new business opportunities and supporting the principle of *waste to wealth*.

Government policies, research institutions, industry collaboration, and investment in technology must work together to empower MSMEs, farmers, and food entrepreneurs to adopt sustainable practices. By combining traditional food wisdom with modern scientific advancements, we can improve resource efficiency, strengthen rural livelihoods, and ensure access to safe, nutritious, and affordable food.

Let us collectively work towards a food processing ecosystem where innovation drives sustainability, waste becomes a resource and economic growth goes hand in hand with environmental responsibility.

A sustainable food future begins with responsible innovation today.

Warm regards,

Nilesh Lele

President,
Chamber for Advancement of Small & Medium Business (CASMB)

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PURNABRAHMA

Nidhi Godbole Deshpande

Editor Purnabrahma
Senior Food Consultant
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Dear Readers,

It gives me immense pleasure to present our upcoming edition of Purnabrahma, dedicated to the theme **"Sustainable Food Systems",** a subject that is vital for the future of our food industry, environment, and economy.

A sustainable food system goes beyond producing safe and nutritious food. It involves responsible sourcing, efficient processing, reducing food waste, conserving natural resources, and adopting innovative technologies.

India's food industry is witnessing significant transformation through sustainable packaging, waste-to-wealth initiatives, energy-efficient processing, and government policies encouraging responsible food production. These developments are creating new opportunities for farmers, entrepreneurs, and the entire food value chain.

Through this edition, we aim to highlight innovative practices, industry perspectives, and practical solutions that can contribute to a more sustainable and resilient food ecosystem.

Sustainability is not just an environmental responsibility; it is an opportunity for innovation, economic growth, and a healthier future.

I sincerely thank our contributors, industry experts, and readers for their continued support.

Let us work together towards **a food system that nourishes people, protects the planet, and supports prosperity.**

Nidhi Godbole Deshpande

Editor Purnabrahma
Senior Food Consultant
Farm to Fork Solutions

PURNABRAHMA

Dr. Umesh Kamble

Secretary
Chamber for Advancement of Small & Medium Businesses (CASMB)



India's food industry is emerging as a powerful driver of economic growth, employment generation, and rural development. Sustainability is no longer limited to environmental protection; it has become an essential business strategy that integrates resource efficiency, technological innovation, and economic prosperity.

Recent developments in the Indian food industry demonstrate this transformation. Companies are adopting recyclable and paper-based packaging solutions and advancing renewable energy, responsible sourcing, and circular economy practices. These initiatives demonstrate how environmental responsibility and industrial growth can progress together.

Government initiatives such as the **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY), PM Formalisation of Micro Food Processing Enterprises (PMFME), Production Linked Incentive (PLI) Scheme, and One District One Product (ODOP)** are strengthening food processing infrastructure, encouraging value addition, reducing post-harvest losses, and creating opportunities for MSMEs and rural entrepreneurs.

The economic impact is significant. India's food processing sector contributed approximately **Rs. 2.24 lakh crore in Gross Value Added in 2023–24,** while the share of processed food in agri-food exports reached **20.4% in 2024–25.** These achievements highlight the sector's growing contribution to India's economy and global competitiveness.

At **CASMB,** we believe that MSMEs must remain at the centre of this transformation. Through industry-government collaboration, food safety awareness, skill development, entrepreneurship promotion, and knowledge-sharing initiatives, we are committed to supporting a responsible, competitive, and sustainable food ecosystem.

A sustainable food system is not merely about producing more food; it is about creating greater value with fewer resources while ensuring prosperity for farmers, businesses, consumers, and future generations.

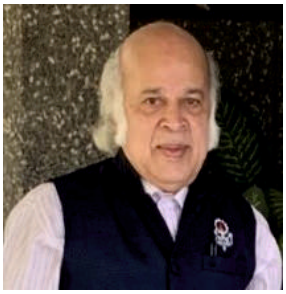
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Environment and Healthy Human

The future of human health depends not only on what we eat but also on **how our food is produced and how we protect the environment. Environment and human foods are closely interconnected.** The environment provides the air, water, soil, sunlight and natural resources required for food production. At the same time, agriculture, food processing, packaging, transportation and food consumption can significantly affect the environment.

Soil quality determines the availability of nutrients in crops. Clean and adequate water is essential for growing crops and producing safe food. Temperature, rainfall, humidity, and seasonal changes influence crop yield and food quality. Air pollution can contaminate crops and affect food safety. Biodiversity is also important factor. Diverse plants, animals, insects and microorganisms support healthy food ecosystems.

Food production modernization can be responsible for, Greenhouse-gas emissions, Deforestation and loss of biodiversity, Soil degradation and erosion, Excessive water consumption, Water pollution from fertilizers and pesticides and Food and packaging waste. The fact remains that the quality of human food depends greatly on natural conditions. Contaminated soil, water or air may be harmful substances when human foods are considered. Heavy metals, pesticides, microorganisms are hurdles for human health.

A healthy diet has to include: Whole grains and cereals, Fruits and vegetables, Pulses and legumes, Nuts and seeds, Appropriate sources of protein, Milk and dairy products or suitable alternatives and Adequate clean water. **Natural foods** are foods obtained mainly from natural sources and consumed with minimal processing. They include fresh fruits, vegetables, whole grains, pulses, nuts, seeds, milk, and other traditionally prepared foods. A diet rich in natural foods can play an important role in maintaining health and reducing the risk of many lifestyle-related diseases.

A **sustainable food system** aims to provide nutritious and safe food while protecting natural resources for future generations. Important approaches include: Organic and regenerative farming, efficient irrigation and water conservation, reduced use of chemical fertilizers and pesticides, Renewable energy in agriculture and food processing, Reduction of food loss and waste, environmentally friendly packaging, Local and seasonal food production and Recycling and circular-economy practice. "Healthy environment lead to healthy food & healthy food lead to healthy people."

The Sustainable Food Systems: Preserving Tradition, Protecting the Future

Chef Sumit Ghadiyali

Brand Consultant and Executive Chef, (Pune)
Co-Owner @Gujarati Thecha
www.gujaratithecha.in



As the world faces climate change, food waste, and increasing pressure on natural resources, the need for sustainable food systems has never been greater. A sustainable food system ensures that nutritious food is produced, processed, distributed, and consumed in ways that protect the environment, support local communities, and remain economically viable for future generations. It is not just about what we eat, but also about how our food reaches our plate.

One of the key principles of sustainable food systems is supporting local agriculture. Buying ingredients from nearby farmers reduces transportation, lowers carbon emissions, and strengthens rural economies. Local produce is often fresher, requires fewer preservatives, and retains more nutritional value. Traditional crops that are naturally suited to local climates also require less water and fewer chemical inputs, making them environmentally friendly.

Another important aspect is reducing food waste. Millions of tonnes of edible food are wasted every year while many people still struggle with hunger. Sustainable food practices encourage careful meal planning, responsible purchasing, proper storage, and creative use of leftovers. Restaurants and food businesses can contribute by maintaining efficient inventory systems, using seasonal ingredients, and adopting eco-friendly packaging solutions.



Traditional Indian cuisine offers valuable lessons in sustainability. Many regional recipes were developed over generations using locally available grains, vegetables, pulses, and spices. These recipes are naturally balanced, nutritious, and make efficient use of seasonal ingredients. Gujarati cuisine, in particular, reflects this philosophy by combining taste, nutrition, and minimal wastage through thoughtful cooking methods.

This is where brands like Gujarati Thecha demonstrate how traditional food can support modern sustainability goals. By celebrating authentic Gujarati and Maharashtrian recipes, Gujarati Thecha encourages the use of locally sourced ingredients, wholesome grains, fresh vegetables, and time-tested cooking techniques. Dishes such as thepla, handvo, khaman, dhokla, and thalipeeth are not only delicious but also rely on ingredients that are widely cultivated in India, reducing dependence on imported or heavily processed foods.

Sustainability also extends beyond food preparation. Gujarati Thecha promotes responsible packaging by adopting practical, eco-conscious solutions that minimise environmental impact while ensuring food quality. Encouraging reusable bags, reducing single-use plastics where possible, and choosing recyclable packaging materials are small steps that collectively make a significant difference.



Healthy eating is another pillar of sustainable food systems. Foods prepared from whole grains, lentils, fresh vegetables, and natural spices provide balanced nutrition while requiring fewer industrial processes. Traditional recipes often contain fewer artificial additives and preservatives

compared to highly processed fast foods. Choosing such meals supports personal health and reduces the environmental footprint associated with large-scale food manufacturing.

Consumers also play an essential role in creating sustainable food systems. Simple habits such as ordering only what is needed, supporting local food businesses, carrying reusable containers, and appreciating seasonal menus contribute to a healthier planet. Every purchasing decision sends a message about the kind of food system we want to encourage.

Businesses have an equal responsibility. By sourcing responsibly, reducing waste, treating employees fairly, and educating customers about sustainable choices, food entrepreneurs can become leaders in positive environmental change. Sustainable practices not only benefit nature but also build customer trust and long-term business success.

In conclusion, sustainable food systems are essential for ensuring food security, environmental protection, and community well-being. They combine traditional knowledge with modern innovation to create a healthier future for everyone. Brands such as Gujarati Thecha show that authentic regional cuisine can be both delicious and environmentally responsible. By supporting local farmers, preserving traditional recipes, minimising waste, and promoting mindful eating, we can all contribute to a food system that nourishes people while protecting the planet. Every meal we choose has the power to make a positive difference for future generations. ❐

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Techno-Marketing for Sustainable Food Systems: An Indian Perspective

Dr. Y. Lakshman Kumar

Director & Professor of Marketing



Abstract

India's food system stands at an interesting crossroads: it must feed a growing, increasingly aspirational population while doing far less damage to soil, water, and climate than it has so far. This piece argues that getting there is not only an agronomic problem but a marketing one — sustainability has to be seen, trusted, and paid for, not just produced. Drawing on Indian examples ranging from block chain-verified spice trails to app-based farmer marketplaces, the article looks at how technology is quietly changing what "sustainable" marketing can credibly claim, and proposes a simple four-part lens — Evidence, Efficiency, Ease, and Engagement — for thinking about it.

Keywords: sustainable food systems, techno-marketing, agri-tech, traceability, D2C, ONDC, India

Introduction

Ask most people what a "sustainable food system" means and you'll probably get an answer about organic farming or reducing plastic packaging. It's a fair starting point, but it undersells how large the idea really is. A sustainable food system is meant to feed people well, today and decades from now, without quietly running down the soil, water, and climate stability that food production depends on. For a country like India — over 140 crore people, farm holdings that keep getting smaller, and monsoons that are becoming harder to predict — this isn't an abstract policy goal. It plays out in very concrete decisions: what a farmer sows, what a retailer stocks, and what a consumer is willing to pay a little extra for. And that last part is where marketing quietly enters the picture. Getting people across this chain to actually choose the sustainable option, not just approve of it in principle, turns out to be as much a communication and trust problem as a technical one. That's the gap techno-marketing is starting to fill.

What Do We Mean by Techno-Marketing?

Put simply, techno-marketing is what happens when technologies like AI, IoT sensors, blockchain, and mobile platforms stop being back-end tools and start doing marketing's job — building trust, cutting through scepticism, and making a brand's claims checkable rather than just believable. Traditional green marketing has always leaned heavily on messaging: a leaf on the label, a line about "eco-friendly sourcing." The trouble is that consumers have grown wary of exactly this kind of language, often for good reason, since it's cheap to print and hard to verify. Techno-marketing tries to close that credibility gap by putting real infrastructure behind the claim. In India's food sector specifically, this shows up in a handful of recognisable ways, each worth looking at on its own.

1. When Traceability Becomes the Pitch

There was a time when "farm fresh" on a label was taken at face value. That's changing. FSSAI has been actively exploring blockchain for food surveillance and traceability, and companies such as TraceX Technologies, Cropin, and Source Trace already run blockchain-backed, batch-coded systems that can track a product from field to shelf. What's interesting from a marketing standpoint is how this flips the usual order of things: instead of a company telling consumers a product is authentic, the technology lets consumers check for themselves. Scan a QR code on a pack of turmeric or millet and see which farm cluster it came from — suddenly the traceability system isn't just a supply-chain control, it's the advertisement. That matters a great deal in categories like spices and dairy, where adulteration scares have made Indian consumers understandably sceptical.

2. Cutting out the Middle — and Marketing That Fact

Direct-to-consumer food-tech may be the most visible face of this trend. Apps like Agro Star connect farmers

straight to agronomic advice and inputs, while D2C organic brands — Two Brothers Organic Farms, Organic India, Naario, Conscious Foods, among others — build their entire pitch around one idea: fewer hands between the farm and your kitchen. It's working; India's organic food sector turned over roughly USD 2 billion in FY 2024–25, which suggests consumers are genuinely paying a premium for this shortened, more visible chain. The logic isn't new, either — ITC's e-Choupal proved the model years ago, and newer platforms like DeHaat and Ninjacart have simply digitised it further, using apps and local kiosks to shrink both the distance and the wastage between producer and buyer.

3. Precision Farming as a Sustainability Story

It's easy to think of precision agriculture as purely an efficiency play, but there's a marketing dimension hiding in there too. Tata Group's Digital Agriculture Ecosystem Platform — IoT sensors, drone imagery, AI-driven analytics — now reaches an estimated 30 million-plus farmers with real-time soil moisture readings, weather alerts, and pest warnings. Given that India loses somewhere between 30 and 40 percent of its annual crop yield to pests, technology that prevents even a fraction of that loss isn't just saving money; it's a resource-conservation story a company can tell honestly to retailers and export buyers who care about their supply chain's footprint. And the market clearly senses the opportunity here — India's agritech platform space, worth around USD 878 million in 2024, is projected to grow several times over by the early 2030s.

4. Turning Waste into a Brand Story

A sustainable food system isn't only about producing more responsibly — it's also about not throwing away what's already been produced. Start-ups such as Wastelink, which collects surplus or unsold produce and converts it into bio-ingredients and animal feed through data-driven logistics, show how technology can create entirely new marketing categories out of what used to be simply written off. But there's a catch worth flagging: calling something "rescued" or "upcycled" only means anything if there's a traceable system behind the collection and processing. Otherwise it's just another word on a label, back to square one.

5. ONDC and the Democratisation of Digital Shelf Space

One thing that makes India's story a little different from other markets is the role of public digital infrastructure. The Open Network for Digital Commerce (ONDC), alongside the government's broader Digital Agriculture Mission, gives even small farmer-producer organisations a way to list and sell sustainably grown food without needing to strike a deal with a single dominant private platform first. In effect, it hands techno-marketing capability itself to smaller players — the kind of digital visibility that, until recently, only large, well-capitalised brands could really afford.

A Simple Framework: The Four E's

Taken together, these examples point toward a fairly intuitive way of organising the thinking: Evidence — technology that makes a sustainability claim checkable rather than just stated, as with blockchain traceability; Efficiency — technology that cuts resource waste at the source, as in precision farming; Ease — technology that removes friction for both the producer and the buyer, as D2C and ONDC platforms do; and Engagement — technology that sustains an on-going relationship narrative around origin and circularity, rather than a one-time claim. None of these four is new by itself. What's changed is that they're now backed by real, checkable systems rather than good intentions and a nicely designed label.

Where It Gets Difficult

None of this is as smooth in practice as it sounds on paper. Land holdings in India are small and scattered, rural connectivity is patchy, and cold-chain infrastructure is still thin in many regions — all of which limit how far digital traceability can realistically reach. Smallholder farmers frequently lack either the digital literacy or the bargaining leverage to capture the full benefit of D2C disintermediation, even when the platform itself is well designed. And unlike some Western markets, India has no single national mandate requiring food traceability, so adoption stays voluntary and patchy, currently concentrated in states like Maharashtra, Punjab, and Karnataka rather than spread evenly across the country.

Conclusion

Building a genuinely sustainable food system in India is going to take as much marketing imagination as

agronomic effort. Trust doesn't build itself, no matter how good the underlying farming practice is — someone still has to convince a busy, sceptical consumer to choose it, and increasingly, that convincing has to be backed by something more solid than a claim on a label. Techno-marketing, whether through verified traceability, transparent D2C models, precision-farming credentials, circular-economy positioning, or open digital infrastructure like ONDC, offers a credible route to that trust. With India's food demand expected to touch 400 million tonnes by 2050, the businesses and institutions that manage to pair real technology with honest communication are likely to be the ones that end up leading this shift, rather than merely talking about it.

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Food for the Future: The Journey towards Sustainability

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Introduction:

Food is much more than a basic human necessity it is the foundation of health, culture, livelihoods, and economic development. Every meal we consume represents a journey that begins on farms, moves through processing, transportation, markets, and finally reaches our plates. However, this journey is becoming increasingly complex due to rapid population growth, urbanization, climate change, declining natural resources, changing food habits, and rising food waste. These challenges threaten not only food security but also the health of our planet.

According to the Food and Agriculture Organization (FAO), transforming the way food is produced and consumed is essential to ensure that future generations have access to safe, nutritious, and affordable food. The future of food therefore depends not only on increasing production but also on making food systems more sustainable, resilient, and inclusive.

The Need for a Sustainable Food System:

Over the past few decades, food systems have brought remarkable progress. Advances in agriculture, food processing, transportation, and technology have increased food availability, created employment opportunities, and provided consumers with greater food choices throughout the year.

Despite these achievements, today's food systems face serious challenges. Climate change has made agriculture more vulnerable to droughts, floods, and unpredictable weather. Excessive use of chemical fertilizers, pesticides, and water has degraded soil and depleted natural resources. At the same time, millions of people continue to suffer from hunger and malnutrition, while others consume highly processed foods that contribute to obesity and lifestyle diseases.

The FAO and the High-Level Panel of Experts (HLPE) emphasize that transforming food systems is critical for achieving global food security, improving nutrition, and protecting the environment.

The Journey Begins: Understanding Sustainable Food Systems:

A food system includes every stage of the food journey from growing crops and raising livestock to processing, packaging, transportation, marketing, consumption, and food waste management. According to the FAO, a sustainable food system delivers safe, nutritious, and affordable food while ensuring environmental protection, economic prosperity, and social well-being for present and future generations.

A sustainable food system is built on four interconnected pillars:

Environmental Sustainability: Conserving soil, water, forests, biodiversity, and reducing greenhouse gas emissions.Economic Sustainability: Ensuring fair incomes for farmers, profitable agricultural enterprises, and affordable food for consumers.

Social Sustainability: Promoting fair labour practices, gender equality, food accessibility, and stronger rural communities.

Health and Nutrition: Encouraging balanced diets, food safety, and reducing dependence on highly processed foods.

As highlighted by the EAT–Lancet Commission (Willett et al., 2019), healthy diets and sustainable food production must go hand in hand to improve both human and planetary health.

Steps towards a Sustainable Food Future:

The journey towards sustainability requires collective action from governments, businesses, farmers, researchers, educational institutions, and consumers.

Climate-Smart Agriculture:

Climate-smart agriculture promotes farming practices that increase productivity while reducing environmental impacts. Techniques such as crop rotation, precision farming, organic manure, drip irrigation, integrated

pest management, and agroforestry help conserve natural resources and improve resilience against climate change.

Reducing Food Loss and Food Waste:

The United Nations Environment Programme (UNEP) reports that millions of tons of food are wasted every year while millions of people remain undernourished. Reducing food waste through better storage, efficient transportation, responsible purchasing, composting, and food redistribution can significantly improve food security and reduce environmental pressure.

Sustainable Consumption:

Consumers influence food systems through their daily choices. Choosing seasonal fruits and vegetables, supporting local farmers, reducing unnecessary food waste, and including more plant-based foods in diets contribute to a healthier environment and improved public health. Sustainable eating is not about perfection but about making informed and consistent choices.

Technology and Innovation:

Modern technologies are transforming agriculture. Artificial Intelligence (AI), drones, satellite imaging, Internet of Things (IoT), precision agriculture, blockchain, and digital marketplaces help farmers optimize water use, monitor crop health, reduce input costs, and improve supply chain transparency. These innovations increase productivity while minimizing environmental impacts.

Circular Economy in Food Systems:

A circular food economy focuses on minimizing waste by reusing and recycling resources. Food waste can be converted into compost, biogas, or animal feed, while agricultural residuescan be utilized for renewable energy and bio-based products. Such practices reduce pollution and improve resource efficiency.

India's Journey towards Sustainable Food Systems

India has taken several important steps towards building sustainable food systems. Programmes such as the National Mission for Sustainable Agriculture (NMSA), Paramparagat Krishi Vikas Yojana (PKVY) for organic farming, PM-KUSUM for solar-powered irrigation, Soil Health Card Scheme, and the National Food Security Mission (NFSM) encourage sustainable agricultural practices, improve productivity, and strengthen food security.

The promotion of millets as "Shree Anna," natural farming initiatives, digital agriculture, and the celebration of the International Year of Millets (2023) have further highlighted India's commitment to climate-resilient and nutritious food systems.

Educational institutions, research organizations, start-ups, and agribusinesses are also contributing by developing innovative technologies, promoting entrepreneurship, and encouraging sustainable food practices among young people.

Every Individual Matters

Building sustainable food systems is not solely the responsibility of governments or farmers. Every individual can contribute by:

- Reducing food waste.
- Buying seasonal and locally produced foods whenever possible.
- Supporting sustainable farming practices.
- Choosing nutritious and balanced diets.
- Conserving water and energy during food preparation.
- Spreading awareness about responsible food consumption.

Small actions, when practiced consistently by millions of people, create a significant positive impact on society and the environment.



https://www.orfonline.org/expert-speak/de-weaponising-food-transnational-corridors-for-global-food-security

Conclusion

The journey towards a sustainable food future is both a challenge and an opportunity. It requires balancing economic growth with environmental conservation, ensuring food security while protecting natural resources, and promoting healthy diets without compromising future generations' needs.

As emphasized by the United Nations Sustainable Development Goals (SDGs 2 and 12), sustainable food systems are essential for ending hunger, promoting responsible consumption, and protecting the planet. Governments, industries, farmers, researchers, educational institutions, and consumers must work together to create food systems that are resilient, inclusive, and environmentally responsible.

Every meal we choose is more than nourishment it is a decision that shapes the future of agriculture, public health, and the environment. By embracing sustainable practices today, we can ensure that future generations inherit a healthier planet and a more secure food system. The journey towards sustainability begins with informed choices, collective responsibility, and a shared commitment to nourishing both people and the planet.

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Role of Regulations in Sustainable Food Systems in India

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Introduction

Food and Agriculture Organization of UNO (FAO) captured a fundamental principle of food regulation in the title of a 2019 article: **"If it isn't safe, it isn't food."** This simple proposition has important implications for the emerging debate on sustainable food systems. [fao.org]

Food safety and sustainability can no longer be considered entirely separate regulatory objectives. If the systems through which food is produced, processed, packaged, distributed and disposed of progressively compromise the resources on which food production depends, their long-term resilience will inevitably come under pressure.

UN's characterises sustainable food systems as encompassing economic, social and environmental sustainability while delivering food security and nutrition. The concept extends across the value chain, including processing, packaging and transportation.

For India, the regulatory challenge is complex. The system must protect a large and diverse population, address nutritional priorities, facilitate innovation, accommodate businesses of different scales & respond to environmental concerns. Food safety must remain non-negotiable starting point but the emerging question is broader: **how can regulation ensure safety while enabling a food system that remains nutritious, affordable, innovative and sustainable over the long term?**

This requires thinking beyond individual regulations towards an **integrated food-system regulatory framework**.

From prevention of adulteration to food-system regulation

India's regulatory journey provides an important context. The contemporary framework is founded on the Food Safety and Standards Act, 2006 which established the Food Safety and Standards Authority of India (FSSAI) and provides for science-based food standards and regulation of manufacture, storage, distribution, sale and import to ensure safe and wholesome food. [fssai.gov.in],

Today's regulatory architecture encompasses licensing, product standards, contaminants, imports, organic foods, fortification, packaging, advertising and claims, recalls, nutraceuticals and novel foods.

Viewed against the historical framework of the Prevention of Food Adulteration Act, 1954, this represents an important evolution in regulatory philosophy. Modern regulation must increasingly consider not merely the conformity of the finished product but the broader system through which food reaches consumers. This provides the foundation for the next transition: **from food-product regulation towards integrated food-system regulation.**

Food safety remains the foundation

Sustainability should never become a rationale for relaxing food-safety requirements. Environmentally preferable packaging is not an improvement if it compromises food integrity. Similarly, reducing food waste cannot be considered sustainable if it introduces microbiological or chemical risks.

At the same time, standards cannot remain static. FSSAI notes that standards are reviewed taking account of developments in food science, consumption patterns, new products, processing technologies and analytical methods. [stg-old.fssai.gov.in]

This capacity to evolve is essential. Regulation should remain rigorous but proportionate to risk. Excessive complexity may increase costs, especially for smaller operators while inadequate regulation can undermine safety and consumer confidence. The desirable direction, can be towards **science-based, risk-proportionate & outcome-oriented regulation,** where regulators establish clear safety thresholds but allow

different scientifically supported technological means of achieving them.

Nutrition & sustainability

Food availability should not be confused with nutritional adequacy. The United Nations' Sustainable Development Goal 2 connects food security with improved nutrition & sustainable agriculture. India similarly recognises nutrition within its regulatory architecture through FSS (Fortification of Foods) Regulations, 2018.

Fortification demonstrates regulation can act positively rather than merely prohibitively. It establishes technical standards that can enable interventions directed towards nutritional outcomes.

The contribution of regulation should therefore not be judged only by the hazards it prevents, it should also be examined in terms of beneficial outcomes it enables without compromising safety.

Sustainability claims require regulatory credibility

Sustainability also creates challenges around consumer information. Organic food provides a useful example. India's FSStandards (Organic Foods) Regulations, 2017 establish a specific regulatory framework for organic foods.

Consumers cannot readily verify many production-related characteristics simply by examining finished food. Certification & standards therefore help address the information asymmetry between producers & consumers.

This principle will become increasingly relevant as environmental & sustainability claims develop. Such claims have value only if consumers can trust the evidence behind them. Regulation has a dual role: **prevent misleading claims while enabling businesses genuinely investing in sustainable practices to communicate those improvements credibly.** This is an area where regulatory science, consumer protection & sustainability clearly converge.

Packaging demonstrates the need for an integrated regulatory framework

Packaging illustrates why sustainability cannot be regulated in isolation. Less packaging may intuitively appear preferable, yet packaging protects food, contributes to shelf life and safeguards against contamination. Reducing packaging in a manner that increases food deterioration may simply transfer environmental impact from packaging waste to food waste.

India's FSStandards (Packaging) Regulations, 2018 provide the food-safety framework while FSSAI has also published guidance regarding recycled PET as food-contact material. This is particularly significant because it illustrates how regulation can enable circularity while maintaining safety requirements.

Environmental regulation introduces another dimension. India's Plastic Waste Management framework incorporates measures including source segregation & Extended Producer Responsibility. [moef.gov.in]

Food packaging intersects with both food-safety & environmental policy. Food-contact safety, material efficiency, recyclability, protection of shelf life & end-of-life management should increasingly be considered together rather than through regulatory silos.

From food waste to food recovery

Food waste represents an obvious inefficiency in an unsustainable food system. Water, energy, agricultural inputs, packaging, transportation & labour have already been invested by the time food reaches disposal.

India's FSStandards (Recovery & Distribution of Surplus Food) Regulations, 2019 provide a regulatory framework for surplus-food recovery. FSSAI's Indian Food Sharing Alliance similarly seeks to recover surplus food, reduce waste & facilitate safe food donation.

This represents a significant evolution in regulatory philosophy. Regulation does not merely determine whether food may enter the market; it can also establish conditions under which suitable surplus food remains safely within the consumption system.

Lifecycle responsibility continues when food can no longer be recovered. A November 2025 FSSAI advisory addresses environmentally compliant disposal of seized, rejected & expired foods & prohibits disposal into rivers, lakes, natural water bodies or open land. [fssai.gov.in]

The regulatory horizon is consequently expanding:

Production → Market → Consumption → Recovery → Disposal

Innovation-Regulation dilemma

Sustainable food systems require innovation. New ingredients, preservation techniques, processing technologies and packaging systems may reduce resource use or food waste. Yet innovation creates uncertainty, while consumer protection remains the regulator's fundamental responsibility.

India already provides regulatory pathways for nutraceuticals, functional foods, novel foods and non-specified foods or ingredients. The objective should therefore not be deregulation but **adaptive regulation.** [fssai.gov.in]

Consider shelf life. Extending shelf life may reduce food waste but require new processing or packaging technologies. Recycled packaging may provide environmental benefits but must continue to satisfy food-contact safety requirements.

Neither innovation nor sustainability should override the food safety. Equally, safety regulations should not unnecessarily prevent scientifically supported technologies capable of achieving better overall outcomes for consumers as well as the environment.

Towards an integrated regulatory framework

In my view, India's next stage of food regulation should be guided by three principles:

1. **Lifecycle thinking:** Regulatory assessment should increasingly consider impacts across production, processing, packaging, distribution, consumption, recovery and disposal.
2. **Science-**, risk- and proportionality-based regulation: Safety must remain non-negotiable, but regulatory requirements should correspond to actual risk while taking account of affordability and economic viability.
3. **Innovation-compatible and adaptive regulation:** Regulation should establish safety boundaries, desired outcomes and evidence requirements without unnecessarily prescribing how those outcomes must technologically be achieved.

The United Nations Sustainable Development Group has similarly highlighted environmental, economic and social linkages within food systems and the enabling role of government policy and legislation. [unsdg.un.org], [unsdg.un.org]

Integration also requires recognition that no single regulator can address the entire challenge. Food safety, environmental protection, agriculture, waste management and consumer protection inevitably intersect.

In Short…. India has travelled considerable distance from an approach principally focused on adulteration towards a science-based food regulatory architecture. The next evolution may be equally important.

Food safety, nutrition, environmental protection, affordability and innovation cannot operate indefinitely as separate regulatory conversations. Decisions taken in one area frequently create consequences in another.

The principle “If it isn't safe, it isn't food” must remain unchanged. But it can now be complemented by a broader proposition:

Safe food is the starting point and a sustainable food system is what enables society to continue providing safe, nutritious and accessible food for generations to come.

Regulation should therefore be viewed not only as a mechanism for controlling what businesses can or cannot do. At its best, it establishes credible boundaries for responsible innovation, protects consumers & enables industry & society to pursue better outcomes.

For India, the next regulatory transition should therefore be **from regulating individual food products towards enabling an integrated, safe and sustainable food system.**

Author's Note

The views expressed in this article are those of the author & are intended for academic and professional discussion. They do not necessarily represent the views or official positions of the organisations with which the author is affiliated. ❐

All India Institute of Local Self Government (AIILSG)







Dr Prakash Kondekar with Director General, AIILSG Prof (Dr) J M Phatak IAS (Retd)

All India Institute of Local Self Government (AIILSG), established in 1926, is a premier Government, recognized institution focused on empowering local governance across India. It offers various courses in urban governance, education and research, and has trained over 1.5 million stakeholders in urban services delivery. AIILSG operates 30 regional centers and conducts seminars and conferences to promote urban development and governance practices. For more information, one can visit their official website at aiilsg.org....

I had occasion to meet Dr JM Phatak (Dr JMP) in office in Bandra, recently. AIILSG is a prestigious institute in India...Dr Prakash Kondekar (Dr PK).

Q. Dr PK... Prof, can you tell us about the various courses, the institute conducts? ANS.DrJMP.....All India Institute of Local Self Government provides UG, PG and after 10th courses in both full Time and Part Time modes. It provides 13 courses across specialisation such as Medical Laboratory Technology. Some of the courses offered at this institute include UG Diploma, B.Sc., PG Diploma and After 10th Diploma. Institute has organised several tailor-made capacity building programmes for various countries in South Asia, viz, Bangladesh, Nepal, Sri Lanka and in other regions, including South Africa, Ethiopia, Indonesia, Malaysia, China, etc. The Institute has linkages with renowned international organizations including UNCHS (Habitat), UNDP, UNICEF, UNFPA, WHO, DFID, CITYNET, CLGF, US-AEP and the Ford Foundation. It is the anchor institution for Urban Management Programme (UMP – UNCHS – Habitat) for South Asia.

Q. Dr PK..... Prof, your institute conducts many training programmes, can you tell us about, key achievements of the Trainings programmes conducted?

ANS. Dr JMP...Sure. It has enabled 4200 Health Care Volunteers who supported existing Health Care Team in current pandemic situations & are ready for any future situations and emergencies in PCMC *300 Volunteers took part in My Family My Responsibility theme of Government and help literate PCMC population on how to take care of themselves in Covid-19 ,like situations. *Volunteers took part in Covid-19 Vaccination awareness camp which have helped spread awareness and benefits of vaccination *70% of the domestic workers who got trained got their jobs back and residence of PCMC welcomed them as they were trained and certified domestic workers *Job Opportunities given to women's in various sectors, who started earning for themselves and support the family *Women's in PCMC, have started their own business which has given them opportunity to be self-reliant and can support their family financially *Positive feedback from the residence of PCMC was received on all the trainings conducted and where happy for such trainings getting implemented in their areas.....



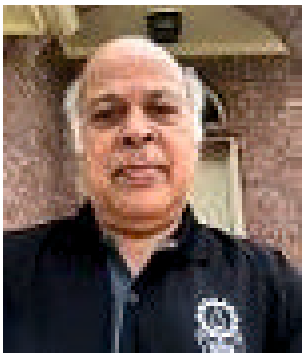




A few publications of AIILSG

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Innovations in the food sector

Padmavibhushan Dr R A Mashelkar, speaks to Dr Prakash Kondekar

Q. Dr PK …Sir, in your book "More from Less for More" along with with Shri Sushil Borde, you have introduced the concept of inclusive innovation as a solution to grand challenges in India.For 2026,World Food Day, theme "Innovate today. Nourish Tomorrow", can you give your guidance to our Food Technology fraternity?

Ans..Dr RAM…Sure. Innovation in the food sector is fundamentally about doing things differently in order to make a meaningful difference. It is not limited to introducing new products or technologies; it also involves rethinking how food is produced, processed, distributed, consumed, and valued. The most important innovations are those that create greater benefits for more people while using fewer resources and generating less waste. In this context, "More from Less for More" (MLM) represents one of the most practical and powerful approaches to innovation in the food sector.

MLM is a framework for designing and strengthening food systems that deliver more food, better nutrition, greater economic value, and wider accessibility while consuming fewer natural resources and producing less waste. Its relevance is increasing as population growth, climate change, resource constraints, rising production costs, and changing consumer expectations place growing pressure on the entire food value chain, from primary production and processing to distribution and consumption.

The central idea of MLM is to move beyond the conventional assumption that greater output must require greater resource use. Instead, it encourages producers, processors, entrepreneurs, institutions, and consumers to question existing practices and identify better ways of achieving results. Innovation, in this sense, means producing more with less, creating value from what was previously discarded, improving access through new organizational models, and ensuring that the benefits reach farmers, industries, consumers, and society as a whole.

MLM therefore provides a systems-oriented approach to innovation. It combines efficiency, sustainability, inclusiveness, and resilience across the food system. It seeks to improve farmers' incomes, strengthen value creation throughout food-related industries, expand access to healthier and more affordable products, and promote the responsible management of land, water, energy, and raw materials. These objectives can be advanced through seven interrelated and innovative strategies.

1. More production with fewer resources. Innovation begins with changing the way food is produced. Precision agriculture, drip irrigation, soil testing, improved seed varieties, protected cultivation, and climate-informed decision-making enable farmers to produce more while using less water, land, fertilizers, pesticides, and other inputs. These approaches demonstrate that higher productivity does not necessarily require higher resource consumption.

   By improving input-use efficiency and reducing production risks, such innovations can strengthen farm incomes while reducing pressure on natural-resource systems. The MLM approach encourages farmers and agricultural enterprises to replace traditional, resource-intensive practices with smarter, more precise, and more sustainable methods.

2. Greater availability through the reduction of food loss and waste…A major innovation opportunity lies not only in producing more food but also in ensuring that more of what is produced reaches consumers. Significant quantities of food are lost between production and market access because of inadequate storage, transportation, handling, and

processing infrastructure.

Cold-chain systems, improved storage facilities, primary processing, appropriate packaging, and digital marketplaces can transform this situation. These innovations increase the proportion of food that reaches consumers without requiring a proportional increase in agricultural production or resource use. In this way, reducing loss becomes an innovative form of increasing supply.

3. Greater value creation from by-products…Innovation also means seeing value where others see waste. Agricultural and food-processing by-products—including grain husks, fruit peels, vegetable residues, sugarcane bagasse, and dairy-processing residues—can be converted into animal feed, biofuels, natural colorants, dietary fibers, nutritional ingredients, and biodegradable packaging materials.

   Such applications turn discarded materials into new products, revenue streams, and employment opportunities. They support resource efficiency and circularity while reducing waste and environmental impacts. The MLM approach therefore encourages food businesses to redesign their processes so that by-products become inputs for new activities rather than burdens requiring disposal.

4. Improved nutrition with a lower environmental burden…Innovation in food processing must also address the dual challenge of improving nutrition and reducing environmental impact. Technologies and business models should be developed to preserve or enhance nutritional quality while minimizing energy use, waste, packaging, and emissions.

   The development of nutritious, affordable, and minimally processed products based on locally available pulses, millets, vegetables, and fruits can contribute to healthier diets and more sustainable production systems. Such innovations can strengthen local food economies, support small producers, and reduce the environmental costs associated with long-distance supply chains.

5. More efficient use of energy and water…The food-processing sector can innovate by producing the same or greater output with lower energy and water consumption. Renewable energy sources, including solar and bioenergy, energy-efficient machinery, water-reuse systems, and effective wastewater-treatment technologies can significantly reduce resource intensity.

   Improving energy and water productivity is central to the MLM framework. These measures not only reduce environmental impacts but also lower operating costs and improve the long-term competitiveness of food-processing enterprises. Innovation thus becomes both an environmental responsibility and a sound economic strategy.

6. Greater benefits for farmers, industry, and consumers….Innovation are not limited to technology; it also includes new institutional, organizational, and business models. Farmer-producer companies, cooperatives, local processing centers, digital platforms, shared infrastructure, and direct-marketing channels can shorten value chains and reduce unnecessary intermediation.

   These arrangements can enable farmers to obtain more equitable returns, provide industries with more reliable supplies of raw materials, and improve consumer access to fresher, higher-quality, and more affordable food. By changing how value-chain actors connect and collaborate, such innovations ensure that the benefits of food-sector growth are distributed more equitably.

7. Improved health and reduced waste through responsible consumption…Consumers are also important participants in food-sector innovation. New approaches to purchasing, storage, preparation, packaging, and reuse can reduce household-level waste and improve resource efficiency.

   Purchasing food in quantities appropriate to actual needs, selecting local and seasonal products, storing food correctly, and reusing leftovers are simple but effective innovations in everyday behavior. Reusable or refillable packaging systems, together with the conversion of unavoidable food waste into compost or bioenergy, can generate wider social, economic, and environmental benefits.

   Taken together, these seven strategies demonstrate

that innovation is not merely about doing something new; it is about doing things differently to create a better outcome. The MLM framework provides a practical way to apply this principle across the food system. It encourages a shift from a predominantly linear and volume-oriented model toward a more efficient, circular, inclusive, and resilient system centered on value creation.

The importance of MLM lies in its ability to connect innovation with real-world impact. It seeks to increase food availability, improve nutritional outcomes, raise incomes, strengthen local economies, and promote broad-based development while reducing the consumption of land, water, energy, and raw materials and minimizing waste generation.

Thus, "More from Less for More" should be understood not simply as a subclass of innovative approaches, but as one of the most important ways of innovating in the food sector. It provides a clear direction for doing things differently—producing more with fewer resources, creating more value from existing materials, delivering greater benefits to more people, and making the food system more sustainable, inclusive and resilient. ❐



DECLARATION

PURNABRAHMA

- The contents of this issue is referred and compiled from various sources and Purnabrahma doesn't claim it's authenticity.
- The contents given in the article are the views of the respective authors.



ANUGA 2026
(Koelnmesse)



During ANUGA 2026, by **Koelnmesse** in Mumbai, I had an occasion to talk to **Mr. Milind Dixit,** Managing Director of the Board of Koelnmesse Pvt. Ltd… Mumbai, Maharashtra, India……

Dr Prakash Kondekar

Q. Dr PK.. How has Koelnmesse evolved from its inception to become one of the world's leading trade fair companies?

ANS… Milind Dixit… Koelnmesse's evolution over the past 100 years is a fascinating story of growth and adaptation. The success of our early fairs laid a strong foundation for future expansion. As we grew, we did not just stick to Europe. We took our expertise to international markets, tailoring our events to meet the unique needs of each region. Today, we are proud to host trade fairs in all major growth regions worldwide, making Koelnmesse a truly global player. Technological advancements have played a crucial role in our evolution. The creation of a dedicated digital division during the pandemic was a game-changer. It helped us stay relevant and connected, enhancing the experience for both visitors and exhibitors. Plus, our continuous investment in infrastructure, like the Confex, shows our commitment to providing state-of-the-art facilities and services. This transformation from a traditional trade fair organizer to a comprehensive solution provider reflects our dedication to meeting the ever-changing needs of our clients and staying ahead in the industry.

Q… Dr PK.. Reflecting on Koelnmesse's 100-year history, what do you believe have been the core values that have sustained the company over the decades?

ANS.. Milind Dixit… Looking back on our 100-year journey, several core values have truly stood the test of time and helped sustain Koelnmesse. First and foremost is adaptability. Our CEO, Gerald Böse, often emphasizes that our ability to embrace change has been crucial. Whether it is navigating through geopolitical shifts or overcoming the challenges posed by the pandemic, adaptability has been our driving force. Innovation is another key value. We have always sought to embrace new technologies and approaches to improve our offerings. The launch of our digital division and the development of the Confex are perfect examples of how we continually innovate to meet modern demands. We also place a high value on quality. From the very beginning, we have been committed to delivering high-quality events that meet the needs of our exhibitors and visitors. This commitment has built a strong reputation and trust among our stakeholders. Lastly, customer-centricity has been at the heart of everything we do. We strive to understand and anticipate the needs of our customers, providing tailored solutions and top-notch services. This focus on our customers has helped us build strong, lasting relationships and maintain our leading position in the industry.

Q.. DR PK.. What message does Koelnmesse India hope to convey through its participation in the EEA2024 as a Celebration partner?

ANS.. Milind Dixit… Koelnmesse India's participation in the EEA2024 as a Celebration partner marks a significant milestone, celebrating its 100-year legacy of commitment in fostering innovation, sustainability, and excellence within the events and exhibitions industry. Through this participation, Koelnmesse India aims to highlight its dedication to supporting industry growth, facilitating networking opportunities, and promoting cutting-edge developments. This partnership underscores its leadership role in driving forward-thinking initiatives and contributing to the industry's

future success and resilience. By aligning with the EEA2024, Koelnmesse India emphasizes its ongoing efforts to enhance international collaboration and showcase its expertise in organizing world-class events that inspire and connect professionals globally.

Q... Dr PK... Dixit sahib, please take us through the journey of Koelnmesse in the India region and what have been the key highlights so far.

ANS.. Milind Dixit... Koelnmesse's journey in the India region has been marked by significant milestones and continuous growth, reflecting its commitment to building industry-leading platforms that foster innovation, enhance business opportunities, and create excellence within the industry. Since its entry into the Indian market in 2006, Koelnmesse has proven its market leadership with key trade fairs such as Anuga Select India, Anuga FoodTec India, and International Hardware Fair India, while aiming to enhance its presence in multiple other segments. Strategic partnerships with industry associations and government bodies have enhanced our event offerings, and digital transformation and sustainability initiatives have kept our events cutting-edge and eco-friendly.

Q.. Dr PK.. What are some of the key metrics or indicators that Koelnmesse India has used to measure its success in India?

ANS.. Milind Dixit. Koelnmesse India measures its success using key metrics such as the growth in exhibitor and visitor numbers, the expansion of exhibition space, and the volume of business transactions and deals made during events. The double-digit growth of its food portfolio in last couple of years testifies to its industry leadership. Additionally, track participant satisfaction through surveys and Net Promoter Scores, media coverage, and industry recognition. Strategic partnerships, implementation of sustainable practices and financial performance indicators like revenue growth and profit margins are also crucial metrics for assessing our success in the Indian market. ❐







Interview with Mr. Lakshya Dwivedi, Food Technologist and KBC Hot Seat Contestant

Interview Theme: Food Processing, Science, Startups and the Future of Indian Food Industry



Lakshya Dwivedi, a food technologist from NIFTEM, recently got an opportunity to sit on the hot seat at Kaun Banega Crorepati (KBC) and interact with Shri Amitabh Bachchan Ji. During the interaction, he spoke about positive role of food processing and its importance for India.

Q. How was your experience of sitting on the hot seat of Kaun Banega Crorepati? How did this opportunity come your way, what went through your mind when you first met Shri Amitabh Bachchan, and was there any special moment during the show that you will cherish forever?

A. I consider myself to be incredibly fortunate for having an opportunity to reach the final stage of a national quiz show, that carries great legacy. Being heated on the 'hotseat' was truly a dream come true moment for me! I have been trying since very long; this year the stars were aligned, I guess… Hahaha

Meeting Amitabh Bachchan sir for first time was a real fanboy moment for me. I admire him for many qualities – his acting, charisma, dedication and my favourite – his vocabulary. Through-out the game week, I kept waiting for 3 days to grab a win at Fastest Finger's First (FFF), finally when I made it thru the FFF on final day and my name announced - I was witnessing a rollercoaster of emotions running across my mind.

Sir & I, we both belong from Prayagraj *(formerly Allahabad)*, having a conversation with him on a very popular delicacy - *dahi jalebi* was something I enjoyed the most and will always cherish.

Q. You are a food technologist from NIFTEM. Please tell us about your educational background and your journey into food technology.

A. I did my schooling from Mumbai and completed my HSC (+2) from St. Xavier's College, Fort – this is where the turning point came in my life. While studying in Class 12th and preparing for my Engineering Entrance simultaneously – I came across a unique and niche branch of food technology. I was fascinated by the structure, scope and other nuances offered in this course.

Also, having my father who has his academic background in agriculture gave me an early exposure to this domain of plants, crops and food. I had certain fundamental idea about pre harvest processes and now it was an opportunity to know what happens after it.

Q. What inspired you to choose food technology as a career?

A. Since my schooling days, I always had one thing in my mind that I want to become an engineer and the main driving force behind this ambition was innovation.

Across any sector or industry, Innovation is not just a mere word. It is a medium that brings change and help us evolve. A right innovation can enable things to perform in fraction of time which conventionally would have consumed comparatively higher amount of time.

Be it green revolution, white revolution, minimising a large CPUS's to small compact and fast laptops, obtaining an image of what is actually inside a body without even making an incision or talking to a person in any corner of world – all these possibilities were achieved because people always strived for innovation which contributed towards betterment of mankind.

With increasing population, extreme climate change, limited land for agriculture and high post-harvest loss, I thought this as a field which aligns with my vision and there is a huge scope of improvement and innovation.

Q. We saw you speaking to Shri Amitabh Bachchan about the positive aspects of food processing. What exact message were you trying to convey?

A. Sir was himself amazed upon realizing that there exists an engineering focusing on food technology. He even confused the scope with that of culinary science, but I was grateful to clear his misconception.

People typically don't invest time in understanding – how the food that we consume reaches till us.

And a national platform like KBC was a perfect stage for me to make people aware and convey viewers what set of activities we perform.

Q. Many consumers believe that processed food is always unhealthy. As a food technologist, how would you address this misconception?

A. It entirely depends on what one consumes.

If we peek into our country's history – goitre was a disease which was increasing in numbers due to severe iodine deficiency among Indian population. Innovators figured out a way and designed processed salt which was iodised and that drastically helped to contain the disease. So, an affordable processed salt worked no less than a medicine here.

Big cities where population didn't have access to dairies are able to consume milk on daily basis. This ecosystem was enabled due to processing of milk, which thereby increased shelf life, less susceptible to microbials

When a food is processed, it also implies it has undergone strict quality controls, antimicrobial processes to prevent diseases. Nowadays, there are various food products coming up which are fortified with vitamins, essential ions, protein etc which aids in achieving nutritional requirements and at same time fulfil palette.

Q. What message would you give to young food technologists who are entering the industry today?

A. Focus on structural problem-solving and societal benefit. Develop products that address specific nutritional deficits or supply chain bottlenecks. The industry rewards scalable, value-driven solutions. When you prioritize the end-consumer's well-being and operational efficiency, commercial success follows naturally.

Q. CASMB supports food startups and small businesses through guidance and mentoring. Would you be interested in joining CASMB as a mentor and sharing your knowledge with emerging entrepreneurs?

A. To be very honest, I am myself trying to navigate the nitty-gritties of our industry. At all junctures I have been privileged to receive guidance from my mentors.

I believe, joining CASMB will be a symbiotic opportunity – while I might prove to be of support to someone, I will always have a scope to learn along the process.

Q. If you could communicate one message about food science and food processing to every Indian household, what would it be?

A. Consumers must critically read product labels, specifically evaluating ingredient lists, nutritional panels, and allergy warnings before consumption. We must rely on established scientific principles rather than food-related superstitions – such as avoiding yellow foods during jaundice. Human health and disease prevention depend directly on the quality, safety, and nutritional density of our food intake.

Q. Lakshya, if you get another opportunity to sit on the KBC hot seat and speak to Shri Amitabh Bachchan, what would you like to tell him about the future of India's food processing industry?

A. I would definitely begin with – *"picture abhi baaki hai sir.."* hahaha.

The current progress which everyone is witnessing in our sector is just a tip of an iceberg, there is still a lot to come. India has the capacity to establish global market leadership by optimizing agricultural supply chains and scaling manufacturing capabilities. ❐

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