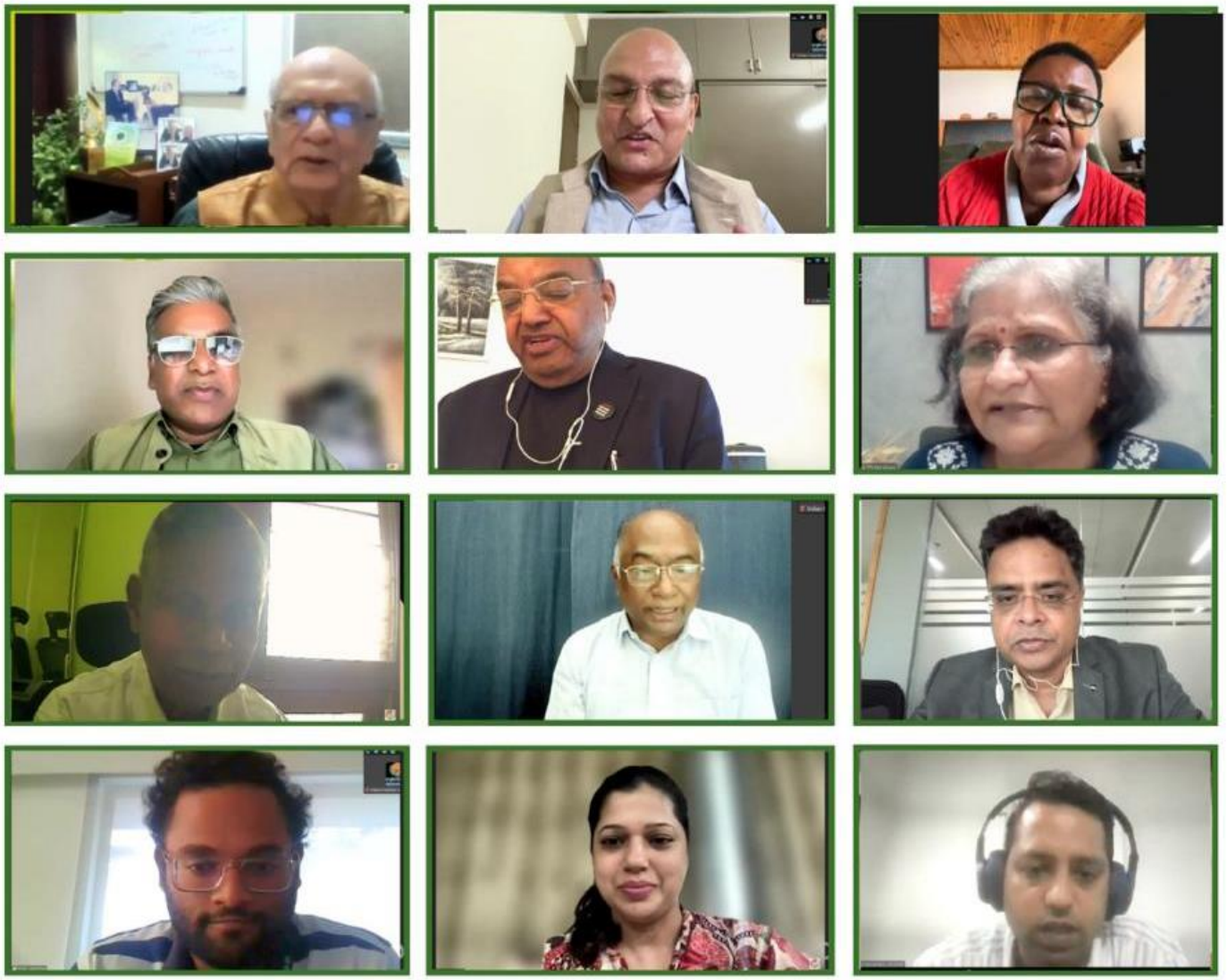
ICFA
भारतीय कृषि एवं खाद्य परिषद्
INDIAN CHAMBER OF FOOD AND AGRICULTURE

ECO AGRICULTURE INITIATIVE

VIRTUAL ROUNDTABLE
POST-EVENT SOUVENIR

Thursday | 5 June 2025 | World Environment Day

Theme: Ending Plastic Pollution Globally

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The Indian Chamber of Food and Agriculture (ICFA) serves as the apex national platform working at the confluence of industry, government, and farming communities to advance the country's food and agriculture agenda. With a mandate to function as a think tank, policy research and advocacy institution, ICFA facilitates global partnerships, technology transfer, trade, and investments across the agri-food value chain. By addressing critical policy challenges, enhancing productivity and profitability of farmers, and promoting sustainable agribusiness development, ICFA plays a pivotal role in accelerating agricultural growth and rural transformation in India.

To mark World Environment Day 2025, ICFA organized a virtual roundtable under its Eco Agriculture Initiative, chaired by Dr. M.H. Mehta and Dr. Tarun Shridhar. Aligned with this year's global theme, '***Ending Plastic Pollution,'*** the roundtable explored pathways for transitioning towards sustainable, regenerative farming. Discussions were anchored around three core themes:

1. **Integrating Eco-Agriculture with Plastic Reduction:** Advancing sustainable farming practices that reduce pollution of soil, water, and ecosystems.
2. **Crop Waste to Wealth:** Addressing stubble burning and promoting circular bioeconomy through valorization of crop residues into biodegradable alternatives.
3. **Bio-based Packaging & Plastic Substitutes:** Promoting bamboo, banana fibre, and other natural materials as scalable alternatives to plastic in agri-food packaging and utensils.
4.

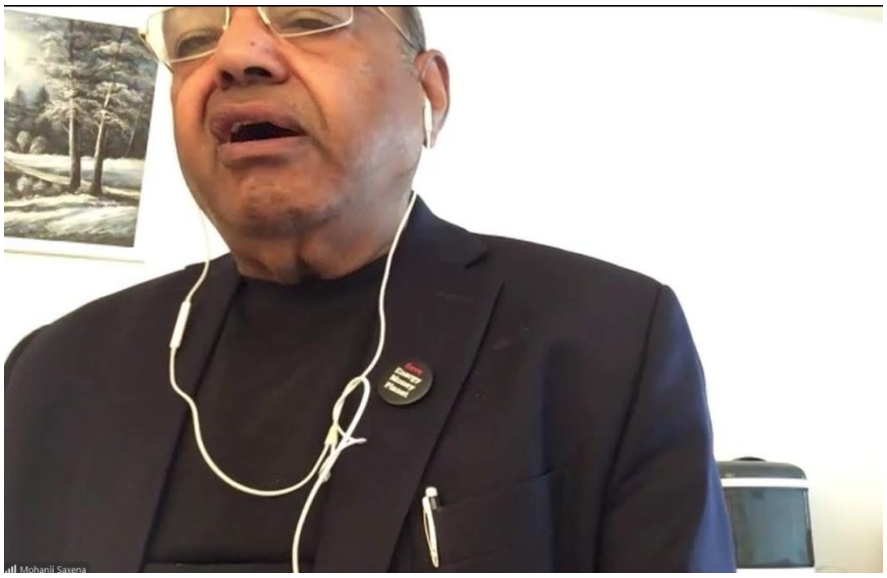
Inaugural Session:

The roundtable commenced with warm greetings and introductions, led by **Ms. Shreyasi Agarwal, CEO of the Indian Chamber of Food and Agriculture (ICFA).** Welcoming participants on the occasion of World Environment Day, she underscored the significance of the day in advancing discussions around sustainable agriculture. She elaborated on the core themes of the event, as they are central to building resilient and environmentally sound farming systems.

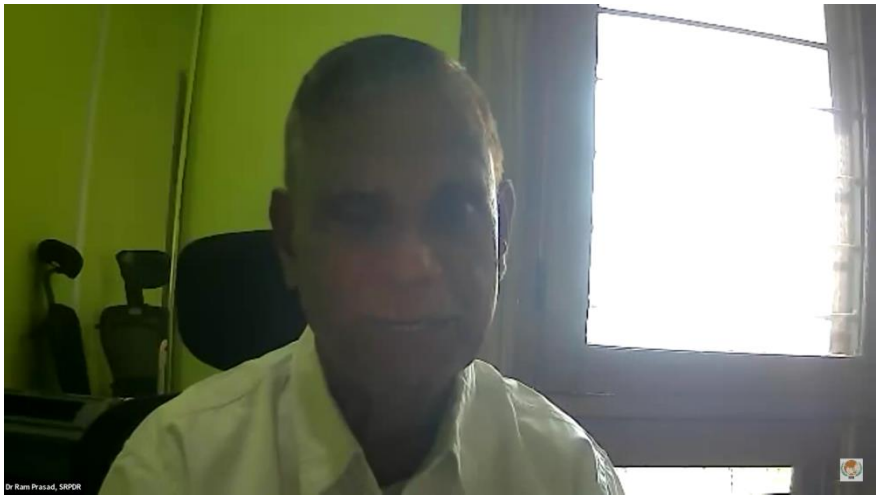
The session was then handed over to **Dr. Tarun Shridhar, Director General, ICFA** extended a warm welcome to all participants and emphasized the critical importance of environmental conservation, particularly within the agriculture and livestock sectors, for achieving long-term sustainability. He addressed the growing concern around plastic waste in agriculture, highlighting the challenges associated with its disposal and the urgent need for sustainable alternatives. He also expressed his keen interest in the perspectives of the invited speakers and conveyed his anticipation for their valuable insights.

Dr. M.H. Mehta, Chairman of Eco Agri Revolution Working Group, ICFA, highlighted the urgent need for eco-friendly crop residue management to reverse the alarming decline in soil organic carbon—a critical factor influencing soil health, water efficiency, and agricultural productivity. He presented field-level success stories, most notably the deployment of the microbial solution “eLife” across 350 acres in Punjab, implemented in collaboration with the IPS Foundation, Punjab Pollution Control Board (PPCB), and the Confederation of Indian Industry (CII). The initiative demonstrated significant improvements in soil organic carbon, nutrient recycling, and water retention, offering a scalable model for sustainable agriculture. Dr. Mehta advocated for a shift from the Green Revolution to an “Eco-Agriculture Evergreen Revolution,” rooted in regenerative practices, biodegradable alternatives, and robust community participation. He concluded by calling for a coordinated national effort, supported by enabling policies and institutional leadership, to replicate and scale such innovations across the country and beyond.

Professor Lindiwe Majele Sibanda, Africa Food Systems Expert, emphasized the relevance of India's crop residue-to-compost model for African nations, highlighting the shared agricultural histories of smallholder farming and development challenges. She underscored the need for farmer-led demonstrations, supportive policy environments, and farmer-to-farmer knowledge exchange to successfully transfer such technologies. Stressing affordability, accessibility, and adaptability, she called for collaborative action between policymakers, farmers, and the private sector to enable a shift towards cost-effective and eco-friendly agricultural practices across the Global South.



Dr. Mohanji Saxena, Managing Trustee of Agriliv Research Foundation, explained the critical role of bioplastics in combating plastic pollution. He highlighted the need to transition from fossil fuel-based plastics to biodegradable alternatives derived from renewable sources, he advocated for greater R&D support and policy incentives to enable large-scale adoption. Dr. Saxena proposed drafting a national status paper on bioplastics in India, outlining technologies, applications, and a roadmap for scaling. His call for collaborative action among research institutions, industry, and policymakers underscored the urgent need to mainstream bioplastics as an eco-friendly alternative across sectors.



Dr. Ram Prasad, Executive Director of Forest Environment and Climate Change Management Consultancy (FECCM) Pvt Ltd., highlighted the critical role of traditional organic practices in tribal farming communities, emphasizing their natural aversion to chemical fertilizers due to cultural and infrastructural constraints. He discussed the challenges and opportunities associated with cow dung utilization for organic farming, stressing the need for better collection, transport, and composting mechanisms. Dr. Prasad also raised important concerns regarding policy hurdles in agroforestry, particularly the restrictions on tree harvesting despite farmers cultivating trees on private land. He called for pragmatic policy reforms to support sustainable agroforestry, improve organic residue decomposition technologies, and integrate farmer perspectives in policy discourse.

Mr. Satish Babu Gadde, National Award-Winning Farmer, raised critical concerns over the unregulated use of plastic mulching in agriculture, which often results in harmful plastic residues being ploughed back into the soil. He urged for a deeper, more inclusive policymaking process that accounts for long-term environmental implications and involves farmers directly. Emphasizing the ecological importance of cattle in Indian agriculture, he cautioned against the rapid decline in draft animal populations. Dr. Gadde stressed that blanket technological or policy solutions are ineffective in India due to its diverse agro-climatic and soil conditions, and advocated for region-specific, farmer-inclusive approaches to agricultural development.

Dr. Chandrashekhar Biradar, CMD, GGGC & CEO, Grow Better India, advocated for a paradigm shift from monitoring plastic pollution in agriculture to eliminating its use entirely. He highlighted the challenges of plastic mulch in vegetable cultivation, including soil contamination and recycling difficulties. Drawing from extensive field experience, he presented viable alternatives such as bioplastics, natural and living mulches, and region-specific agroecological practices. Additionally, he emphasized the importance of redefining agroforestry beyond timber to include fruit, fiber, and medicinal species, underlining the need for policy reforms, farmer-centric nursery systems, and increased awareness among forest officials to scale sustainable agroforestry and plastic-free farming.

Dr. PVSM Gouri, Executive Director & CEO of Association of Indian Organic Industry, emphasized the dual realities of plastic use in agriculture, mainly its utility in practices such as mulching and input packaging, and its environmental repercussions when improperly disposed. She highlighted that while states like Karnataka have made significant strides in curbing plastic use in retail, agriculture still lags behind, particularly due to the widespread use of non-biodegradable plastic containers and mulching sheets. Dr. Gouri advocated for organic and natural farming approaches as practical alternatives to reduce plastic dependency, underlining the need for better education, awareness, and promotion of biodegradable packaging solutions to align sustainability with productivity in agriculture.

Dr. N. Barathi, Director of Cluster of Handicrafts in Bamboo Value Addition and Research (CHIVAR), highlighted the immense potential of bamboo as a sustainable resource for energy and material innovation. He explained how cultivated bamboo, under agroforestry models, is already being used as a replacement for coal, and in the production of ethanol, bio-CNG, and even controlled diesel and aviation fuels, which are all carbon-neutral or carbon-negative alternatives. While bamboo's potential for bioplastics remains largely untapped, its high cellulose content presents strong prospects. He further noted that the reclassification of bamboo from a tree to grass has eased its cultivation and harvesting, offering new opportunities for integrating bamboo into plastic-free agricultural systems.

Mr. Mitanshu Choudary, **Founder & Partner of Ecopack**, shared insights into the development of certified compostable packaging solutions using PLA, recently enhanced with wood sugar to improve material strength. He emphasized the importance of not only substituting plastic with sustainable materials but also rethinking conventional packaging designs. In a notable pilot project involving grape exports, Ecopak's redesigned pallet system increased shipment volume per container, reducing the number of containers required, cutting transport costs, and lowering food wastage from 5% to under 1%. The pilot's success demonstrates strong potential for semi-commercial scaling.

Mr. Rajarshi Banerjee, Vice President, BL Agro / Banking at LeadsConnect Services Pvt. Ltd., shared their impactful initiatives aimed at advancing eco-friendly agricultural systems. He highlighted the group's integrated milk value chain model, which includes dairy, processing, cattle feed, and a biogas plant. Then he explained how agricultural residues and agro-industrial waste are converted into clean energy, helping to prevent stubble burning and significantly reduce carbon emissions. He also spoke about ongoing efforts to replace plastic with biodegradable packaging and the provision of climate-smart agronomic advisory services to farmers through data-driven platforms.

Mr. Arjun Mohan, R&D Lead of Bambrew, spoke about his company’s innovations in compostable packaging as scalable and sustainable alternatives to conventional plastic. He introduced “biofilm,” a plant-based polymer developed into composite materials capable of replacing traditional modular and aluminum-based packaging. A key element in his delivery was the compatibility of these materials with existing plastic processing infrastructure, ensuring ease of adoption. Emphasizing affordability and environmental impact, Mr. Mohan underscored the company's ongoing efforts to bring costs closer to traditional plastics while ensuring centralized compostability of their products.

Mr. Parmeet Singh, Operations head and chief administration officer, Raheja Solar Food processing pvt. ltd., highlighted his organization's efforts in reducing post-harvest losses of fruits and vegetables caused by inadequate storage and supply chain systems. He discussed the use of decentralized technologies such as solar dryers to extend shelf life and minimize waste at the farm level. He put forth the point that by educating and mobilizing farmers and collectives to adopt preservation methods, the initiative not only curtails organic waste but also reduces dependency on plastic packaging. He placed a key emphasis on providing market linkages to ensure fair returns and sustained farmer motivation.

In his concluding remarks, **Dr. Tarun Shridhar** emphasized the need to view plastic pollution in agriculture as part of a broader goal of achieving environmentally sustainable and inclusive agriculture. While acknowledging the ambition of eliminating plastic use entirely, he underscored the importance of practical, scalable solutions that balance environmental responsibility with food and nutrition security. He cautioned against getting entangled in terminological debates around farming systems and instead urged collective focus on outcomes. Dr. Shridhar appreciated the technical insights shared by participants and advocated for strengthening policy frameworks, ensuring affordability of technologies, and promoting farmer engagement for effective implementation. His remarks set the tone for action-oriented follow-up and policy formulation.

Recommendations:

1. Draft a National Bioplastics Roadmap – Develop a status paper outlining current technologies, sectoral applications, and a scaling strategy to mainstream biodegradable plastics in agriculture.
2. Replicate Microbial Solutions for Stubble Management – Expand successful models like “eLife” to promote eco-friendly crop residue decomposition and enhance soil health across regions.
3. Promote Plastic-Free Farming Alternatives – Support adoption of compostable mulches, biodegradable containers, and natural packaging materials to reduce plastic pollution in agriculture.
4. Position Bamboo as a Green Industrial Resour**ce** – Strengthen bamboo-based agroforestry for clean energy, biofuels, and future bioplastics, leveraging its carbon-negative potential.
5. Support Circular Bioenergy Models – Encourage integrated systems converting agri-waste into clean energy through biogas and compost, reducing emissions and stubble burning.
6. Incentivize Sustainable Packaging Innovations – Promote pilots like Ecopak's compostable packaging and efficient pallet systems to cut food waste and improve logistics.
7. Deploy Decentralized Solar Preservation Units – Facilitate access to solar dryers and small-scale processing technologies to reduce farm-level spoilage and minimize plastic use.
8. Ensure Farmer-Centric Policy Implementation – Embed participatory approaches and digital advisories in eco-agriculture policies to drive local adoption and long-term sustainability.

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