

INDIA'S ETHANOL PUSH: A PATH TO ENERGY SECURITY

India, one of the world's fastest-growing economies, faces significant challenges in energy security. As the nation strives to meet its growing energy demands while combating environmental issues, the government has turned to ethanol as a viable solution. This initiative not only aims to reduce dependence on fossil fuels but also seeks to boost agricultural incomes and foster rural development.

India's energy consumption has surged in recent years, primarily due to industrial growth and urbanization. The country relies heavily on fossil fuels, particularly oil and coal, for energy production. As a result, fluctuations in global oil prices pose a significant threat to economic stability. In 2020, India was the third-largest oil importer in the world, leading to a substantial trade deficit and increasing vulnerability to geopolitical tensions.

To mitigate these challenges, the Indian government has recognized the need to diversify its energy sources. The shift towards renewable energy is part of a broader strategy to achieve sustainability and energy security. Among these alternatives, ethanol has emerged as a key player.

Ethanol is a renewable fuel made primarily from sugarcane, corn, and other biomass materials. It can be blended with gasoline to power vehicles, reducing the carbon footprint and contributing to cleaner air. The use of ethanol not only provides a sustainable alternative to fossil fuels but also helps in reducing greenhouse gas emissions, aligning with India's commitments under the Paris Agreement.

Ethanol can be produced from various feedstocks, making it a versatile option. In India, sugarcane has been the primary source, thanks to the country's established sugar industry. This synergy between the ethanol and sugar sectors creates a win-win situation: sugar mills can diversify their operations while farmers gain additional revenue through the sale of surplus sugarcane.

To promote the production and use of ethanol, the Indian government has implemented several initiatives. The National Policy on Biofuels (2018) aims to achieve a blending target of 20% ethanol in petrol by 2025, up from the current levels of around 10%. This ambitious goal is supported by a variety of incentives, including price mechanisms, subsidies, and infrastructure development.

The introduction of the E20 fuel (20% ethanol blended petrol) marks a significant step toward achieving this target. Several states have already begun pilot projects to test the feasibility of higher ethanol blends. Furthermore, the government has encouraged private sector investment in ethanol production facilities, which has led to a significant increase in ethanol manufacturing capacity across the country.

The push for ethanol production holds substantial economic promise. It can potentially reduce the import bill for crude oil by billions of dollars, providing a more stable economic environment. Moreover, increasing ethanol production can stimulate rural economies by creating jobs in agriculture and processing. Farmers can benefit from higher crop prices and increased demand for sugarcane, thus improving their livelihoods.

Additionally, the establishment of distilleries and processing plants can lead to rural industrialization, creating employment opportunities in regions that have traditionally relied on agriculture. This multifaceted approach not only bolsters the economy but also enhances energy security by promoting local production of fuels.

Transitioning to ethanol has clear environmental advantages. It can significantly reduce vehicular emissions, contributing to better air quality and improved public health. The use of renewable sources for energy also aids in combating climate change, as it reduces dependence on fossil fuels, which are major contributors to greenhouse gas emissions.

However, the production of ethanol must be managed sustainably. Overreliance on certain feedstocks could lead to land-use changes and food security concerns. It is crucial to adopt an integrated approach that balances food production and biofuel generation. Research into second and third-generation biofuels, which utilize non-food crops and agricultural waste, can further enhance the sustainability of ethanol production.

Despite the promising outlook for ethanol in India, several challenges remain. Infrastructure for transportation and storage of ethanol needs significant enhancement to support large-scale adoption. Additionally, there is a need for consistent policy frameworks to ensure investor confidence and stable growth in the sector.

Public awareness and acceptance of ethanol-blended fuels also play a critical role in the success of this initiative. Efforts must be made to educate consumers about the benefits of using ethanol, which could aid in increasing demand.

Agriculture and Sustainable Rural Transformation

■ DR. BANARSI LAL

The term rural transformation has multi-dimensional connotations and it has been interpreted from the different aspects. Rural transformation in general has been conceptualized as modernisation, rural development, changes in economic structure and the migration of the population from farming to non-farming sectors of the economy. Rural transformation signifies the comprehensive changes in rural economies, aiming to enhance resilience, diversify income sources and elevate overall socio-economic status. Agriculture and rural development covers various issues related to agricultural and rural development. Agriculture is the largest sector of the Indian economy. Presently this sector contributes about 17.0 per cent to the overall Gross Domestic Product (GDP). This sector is very important for the social security in terms of food, nutrition and employment. This sector employs the largest workforce although there is less income as compared to the services and industries. The farm sector is often confronted with the crops productivity shocks. The climate change has adverse impact on the farm sector and the farmers do not get adequate support. Extreme climatic events are on rise and there is need of strenuous efforts for the well-being of the farmers. Several reforms are needed for the technology generation and technology dissemination so that the income of the farmers can be increased. The rising demand of food grain production and other commodities should also be kept in mind. Food grains production in 2023-24 was 332.29 million tonnes. With the present status of food grain production, the demand of food grains is likely to be met except some deficiency in pulses, but a major deficiency is expected in edible oils and vegetables. In order to increase the crops productivity development efforts are needed. Agricultural efficiency and occupational diversification should be promoted. Special efforts are needed to build institutions and delivery system to develop different states as the food grain bowls. The farmers should be supported to miti-

gate the agricultural risks by diversifying the agriculture. The government of India has started innovative solutions to mitigate the problems of farmers. Government has included better production avenues with more area under irrigation and availability of quality agro-inputs. The focus has been given on farmers' empowerment against risks of crops failure and price fluctuation with more incentives for crops insurance and national agriculture market. The diversification of agriculture with high value organic farming and natural farming, livestock, fishing and poultry farming is also on top priority of the government. Kisan TV Channel has been launched by the government of India to update the farmers with the latest agricultural technologies. During the last two years' various new schemes have been launched by the government of India for the betterment of the millions of the farmers of the country.

The Government of India launched Pashu Mantri Fasal Bima Yojana in Kharif 2016 by replacing the National Agricultural Insurance Scheme (NAIS) and Modified National Agricultural Insurance Scheme (MNAIS). In this scheme 2 per cent premium has been fixed for the Kharif food grains, pulses and oilseed crops, 1.5 per cent has been fixed for the Rabi food grain crops, pulses and oilseed crops and 5 per cent for the horticultural and commercial crops. All the states have been instructed to implement these schemes for the insurance of different crops so that the farmers can be benefited. This scheme is bringing relief to the farmers whose crops are damaged due to the natural calamities. In India 55 per cent of the area is under rainfed conditions. The farmers well-being can be achieved by more Crop Per Drop and Har Khet Ko Pani. Recently government has launched a scheme known as Pashu Mantri Krishi Sinchai Yojana (PMKSY). It is estimated that around 28.5 lakh area of the country will be covered by this scheme. The priorities have been set up for the PMKSY. Implementation of 89 irrigation projects which have been languishing are to be fast tracked to irrigate 80.6 lakh hectares

of agricultural land across the nation. Many states have started innovative practices for water conservation and harvesting. Maharashtra government has started Jayukta Shivar Scheme which channelizes the funds of Corporate Social Responsibility for the creation and restoration of water bodies. Karnataka government has increased the subsidy on micro-irrigation by topping up the central subsidy to make it 100 per cent for the drip and sprinkler systems. Gujarat government has also institutionalized a unique system of hand holding with the farmers for micro-irrigation. Various other states have also implemented many innovative practices for water conservation, water harvesting and efficient use of water.

After Green Revolution the farmers across the nation indiscriminately used the chemical fertilizers. In the early 70 s, the average proportion of N, P and K was 6:1.9:1 and in 1996 it was 10:2.9:1. With the excessive use of fertilizers the soil health has been deteriorated. Soil health card helps to inform the farmers about nutrient level of his/her farm so that he/she can make the judicious use of the fertilizers. In order to increase the yield in rainfed areas now government is promoting organic farming and natural farming. For this purpose, government has launched two important schemes. First is Pamparagat Krishi Vikas Yojana which will bring 5 lakhs acres' area under organic farming in three years and second is Organic Value Chain Development. Special thrust is given to natural farming to produce the quality food with minimum costs. The agricultural marketing systems suffers because of various distortions in the market. These markets are not transparent and uniform across the nation. There remain some serious restrictions on the movement of agricultural commodities. Karnataka government has developed a model which integrates a number of markets into a single licensing system with a joint venture of state government agency and NCDEX spot exchange which offers automated auction and post auction facilities. Considering this model as a base, the government has

launched a scheme known as National Agricultural Market (NAM) scheme through Agri-Tech Infrastructure Fund. This scheme provides the scope for a Pan-India Electronic Trading Portal which will network selected Agricultural Produce Marketing Committees market yards to create Unified National Market for Agricultural Commodities. The e-platform will be implemented in selected 585 regulated whole sale markets across the nation. Agricultural prices are not stabilized. Price Stabilization Fund (PSF) scheme has been launched for the procurement and distribution of perishable agriculture and horticultural commodities.

Livestock contributes 25 per cent of Gross Value Added in agriculture sector and provides employment to about 21 millions of people. It is one of the fastest growing sector of agriculture. Rashtriya Gokul Mission was launched by the government in 2014-15 for the conservation of indigenous breeds. The mission envisages establishment of Integrated Cattle Development centres to develop indigenous breeds. National Kamdhenu Breeding Centres for development, conservation and preservation of indigenous breeds are being set up in India to develop and conserve indigenous breeds in holistic manner. A nucleus herd of all the indigenous bovine breeds, Mithun and Yak will be conserved and developed with the objective of enhancing their productivity and upgrading genetic merit. The centre being a repository of indigenous germ-plasm will also be source of certified germ-plasm. Elite certified germplasm for artificial insemination and natural service, heifers, male and female calves, semen doses and embryos will be made available to farmers and breeding organizations. Keeping the scope of fisheries in view the scheme on Integrated Development of Fisheries has been launched under blue revolution. It is hoped that all these schemes will help in rural transformation and bring prosperity among the farmers.

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Enchanting Dudu Valley

about the hefty invested money on yoga ashram together with allied developments to warrant their up keep, preservation and further enhancement to restore the beauty of the spot by bringing it under Patnitop Development Authority (PDA) but nothing concrete has so far been materialized.

The writer was posted as a Forest Officer (Headquarter Chenani) had occasionally deliberations with yog guru who used to tell that he had taken up the issue with Hilton Group Of Hotels for the further development of this picturesque spot but unfortunately no head way could be made. (For the visual illustration the photographs of the time) are within this write up.

It would be incomplete to make a mention about the legendary multistarrer movie 'Jani Dushman' by R K Kohli, most part of the movie was shot at Chenani and its mesmerizing spots of this area. Sh Dharendra Bharmehari was forest conscious and as requested, he raised a nursery with around one lakh seedling in poly parts which were afterwards were planted out in the vicinity of the area. Apart from that he was a socially very affectionate as he provided employment to the locals of the area who still remember him whole heartedly.

Now, onwards from Mantalai the road

winds through various hamlets viz Bap, Srara, Marothi, Koi, Latti, Dhoona, Jakhed and finally Dudu valley. However this road has further extension to seri the main base camping point. And uphill there is suzdhar and further trekking the suzdhar is hazardous. Sauz Dhar forms the northern aspect of the dudu valley.

It will be most interesting and enchanting to make a mention that while the writer with his staff was conducting markings in the dudu valley on the southern aspect, the most of the time stayed at chari forest rest house. It was to my astonishment while viewing northern aspect of the dudu valley where there were twinkling's like glow worms. And on enquiry from the locals, I came to know that there is a vast potential of multi medicinal herbs. Also they told that one can conveniently trek from base camp chari during the day. But with the sunset, the herbs emit fragrance which makes one drowsy and it becomes cumbersome to cross the area.

The top of the Sauz Dhar is just like a small plateau and on the other side there are lush green forests of deodar, kail, coniferous and spruce with broad leaved trees such as maple, rhododendron. And descending down one lands in charming Chenab Valley. So, descending down from the top of Sauz Dhar

means to land into Bhadharwah Valley which is still more thrilling and enchanting. One is though indeed lucky to have a view of the valley to have a closed look of the natural bounty.

Concluding, therefore, it is prudent to mention here that nature has all along been worshipped across the globe for its timelessness. The mesmerizing meadows and mountains make for a great home. Everyone experiences richness of nature and all its bounty at least ones in lifetime. Light amongst stars and the open sky, the green grass and towering trees that give us shade, a lake are snow capped mountain all make breath taking moments of feeling of being one with nature.

And William Blake says trees which move some to tears of Joy is in the eyes of others, only a green thing that stands in the way. Some see nature in all ridicule and deformity and small sears see at all. But to the eyes of the man of imagination, nature is imaginative itself.

Let we, there, spend time with nature, accepting the diversity and brilliance of what is really a gift to mankind. Let us learn to revere and preserve nature at all costs and at all times.

(The author is Former Dy. Conservator of forest, J&K).

Festival Celebrations From Traditional to Digital

■ VIJAY GARG

Festivals have always been a cornerstone of human culture, serving as moments of joy, reflection, and community bonding. Traditionally, these celebrations have been marked by rituals, gatherings, and age-old customs passed down through generations. However, as the digital age dawned, the way we celebrate festivals has undergone a significant transformation. This blog explores the journey of festivals from their traditional roots to their current digital incarnations, shedding light on how technology has redefined our festive experiences.

The Traditional Essence of Festivals: Historically, festivals were deeply intertwined with religious, agricultural, or cultural practices. Whether it was the lighting of lamps during Diwali in India, the grand parades of Carnival in Brazil, or the quiet reflection of Thanksgiving in the United States, festivals were characterized by physical gatherings, shared meals, and communal participation.

Cultural Significance: Festivals were a means of preserving cultural identity. Rituals, traditional attire, music, and dance were integral parts of these celebrations, serving as a bridge between generations.

Community Bonding: Festivals brought communities together, fostering a sense of belonging and shared identity. They were often the backdrop for strengthening familial ties and renewing friendships.

Physical Participation: From decorating homes to participating in processions, the physical involvement in festivals was seen as an essential part of the celebration.

The Advent of Technology: With the rise of the internet and digital

technologies, the landscape of festival celebrations began to shift. The convenience, connectivity, and creativity enabled by digital platforms have introduced new ways to celebrate, particularly in an increasingly globalized and tech-savvy world.

Virtual Gatherings: One of the most significant changes has been the shift from physical gatherings to virtual ones. Social media platforms like Facebook, Zoom, and Instagram have become popular venues for hosting virtual festival celebrations, allowing people to connect with loved ones across the globe in real-time.

Digital Decorations: Traditional decorations have also seen a digital makeover: Augmented Reality (AR) and virtual design tools allow individuals to create festive atmospheres in their homes with minimal physical effort. Apps now offer everything from virtual Diwali lamps to customizable Christmas trees.

Online Shopping and Gifting: The rise of e-commerce has revolutionized how we shop for festivals. Instead of bustling markets, people now browse online stores for decorations, gifts, and festive attire. Digital gift cards and virtual presents have also become common, catering to the needs of a fast-paced, digital-first world.

The Impact of Social Media: Social media has not only changed how we celebrate but also how we share our celebrations. Platforms like Instagram and TikTok have turned festivals into global events, where trends can go viral and cross-cultural exchanges are the norm.

Hashtag Holidays: Hashtags like MerryChristmas or Diwali2024 have become a way for people to share their festive experiences with a global audience. These digital footprints

create a sense of a worldwide community celebrating together.

Influencer Culture: Influencers play a significant role in shaping modern festival celebrations. From fashion tips for Eid to innovative Diwali recipes, influencers provide inspiration and set trends that resonate with their followers.

Virtual Challenges and Contests: Social media has also introduced interactive elements to festivals. Virtual challenges, such as decorating contests or dance-offs, engage users and create a participatory culture around the celebration.

The Role of Digital in Preserving Traditions: Interestingly, while digital platforms have introduced new ways of celebrating, they have also played a crucial role in preserving and reviving traditional practices. Online tutorials, virtual workshops, and cultural apps have made it easier for younger generations to learn about and participate in traditional rituals.

Educational Content: YouTube channels and blogs dedicated to traditional crafts, recipes, and rituals have ensured that cultural knowledge is not lost but rather adapted to modern contexts.

Global Accessibility: Digital platforms have made it possible for diaspora communities to stay connected to their cultural roots. Livestreams of temple ceremonies, virtual Seder dinners, or online cultural festivals allow people to participate in traditional celebrations regardless of their location.

Challenges and Criticisms: Despite the many benefits, the digitalization of festivals has its challenges. The shift to virtual celebrations can sometimes lead to a loss of the personal touch and emotional connec-

tion that physical gatherings provide. Additionally, the commercialization of festivals through online platforms has raised concerns about the dilution of cultural and religious significance.

Loss of Physical Connection: Virtual gatherings, while convenient, cannot fully replicate the warmth and intimacy of face-to-face interactions. The sensory experiences such as the aroma of festive foods, the sound of traditional music, and the feel of intricate decorations are often missing in digital celebrations.

Commercialization: The commercialization of festivals through online ads, sales, and promotions can sometimes overshadow the true meaning of the celebration, turning it into a consumer-driven event rather than a cultural or religious observance.

Conclusion: The evolution of festival celebrations from traditional to digital reflects broader societal changes driven by technology. While the essence of festivals—community, tradition, and celebration—remains intact, the methods of participation have evolved to accommodate our increasingly digital lives. As we move forward, the challenge will be to balance the convenience of digital celebrations with the richness of traditional practices, ensuring that festivals continue to be meaningful, inclusive, and joyous occasions for all.

This topic offers a comprehensive look at how festival celebrations have transformed in the digital age while encouraging readers to reflect on the balance between tradition and modernity in their own celebrations.

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Glory of Names: Just more than Words

■ DR. SHIBEN KRISHEN RAINA

In the realm of literature and the arts, a name carries tremendous weight. When a creator achieves prominence through his talent, dedication, and hard work, his name transforms into a brand. This phenomenon deserves serious consideration and discussion.

Take, for example, Mahadevi Verma, the renowned Hindi poetess of international fame. Her poems were regularly featured on the front page of the Divali special issue of 'Dharmayug' magazine—a tradition that spoke volumes about the power her name held in the literary world. Her work, often infused with Tatsam (Sanskrit-based) vocabulary, could have been written by any talented emerging poet, yet it was her name that guaranteed publication just because her name was more than words.

This raises important questions about the literary ecosystem. Artists and writers often invest years of hard work, overcoming obstacles and enduring rejection before reaching the pinnacle of their careers. Once established, their name alone can carry the weight of their work, often rendering the quality at second place or so. In such cases, reputation sometimes eclipses the merit of the content.

This phenomenon often creates significant challenges for emerging writers. The dominance of well-established names limits opportunities for newcomers and thus equally deserving works by new writers often go unrecognized or overlooked simply because they lack the power of a celebrated name. As already said a paradox arises: the name of the creator sometimes becomes more important than the creation itself. This imbalance threatens the vibrancy of the liter-

ary ecosystem, throttling fresh voices and their innovative ideas.

To address this, several steps can be taken. For example, literary agencies, publication houses and editors must commit to creating space for emerging writers, ensuring that content quality is prioritized over the fame of the author. Editors and publishers have a responsibility to actively encourage and nurture new voices. Also, readers should be encouraged to focus on the merit of the work rather than the reputation of the author. Promoting critical reading that goes beyond name recognition, can foster a culture that values literary quality. Literary institutions can play a vital role by providing platforms for new authors, organizing workshops, mentorship programs, and competitions specifically for emerging writers can help level the playing field.

While the significance of an established name in literature cannot be denied—representing years of dedication and mastery—it is essential to ensure that this does not overshadow literary quality.

The future of literature depends on balancing respect for literary icons with opportunities for new talent. Ensuring this equilibrium will enrich the literary landscape, fostering both continuity and innovation.

To sum up, while the power of a name in literature or art is undeniable and often well-earned through years of dedication, the literary community must ensure this doesn't become a barrier to fresh talent and new perspectives.

The future of literature depends on successfully balancing respect for established names with openness to new voices, ensuring the continuous evolution and enrichment of literary arts.