EDITORIAL

BRIDGING INFRASTRUCTURE GAPS

espite decades of development promises, infrastructure gaps continue to plague many parts of the world, stalling economic growth and hindering quality of life. Roads remain unpaved, power outages are routine, and access to clean water is still a luxury in several communities. This persistent failure is not just a symptom of underdevelopment; it is a signal of misaligned priorities, poor governance, and a lack of sustained investment.

Infrastructure is the backbone of any economy. From transportation and electricity to digital connectivity and water systems, it supports everything from commerce to education. Yet in too many regions-especially in the Global South-these basic systems are either underdeveloped or collapsing under pressure. Even in developed nations, aging infrastructure threatens to undo years of progress if not urgently addressed.

The problem is not always money. Billions are allocated annually for infrastructure projects, but inefficiency, corruption, and bureaucratic delays often derail efforts. Projects stall midway due to mismanagement or poor planning. In some cases, political turnover leads to the abandonment of initiatives started by previous administrations, creating a cycle of uncompleted infrastructure that serves no one.

Consider transportation. In rural communities, poor road networks cut off residents from markets, healthcare, and education. This isolation stifles economic activity and deepens poverty. In cities, congested and poorly maintained roads lead to lost productivity, increased pollution, and daily frustration for commuters. Modernizing transport systems is not a luxury; it's a necessity for growth and sustainability.

Power infrastructure tells a similar story. Millions still live without reliable electricity. Businesses cannot operate efficiently, children can't study after dark, and hospitals run on generators. Energy access is not just about convenience-it is fundamental to human development.

Then there's the digital divide. In an age where connectivity drives opportunity, lack of internet access leaves communities behind. Remote work, digital education, and e-commerce are impossible without stable connections. Countries that ignore digital infrastructure risk creating a generation that is disconnected not just from the internet, but from

Addressing these infrastructure gaps demands more than promises. It requires vision, planning, and political will. Governments must prioritize maintenance just as much as new construction. Private sector involvement is also keypublic-private partnerships can deliver efficiency and innovation where bureaucracies fail.

At the same time, citizens must demand accountability. Infrastructure is often invisible until it breaks down. We notice the pothole, not the years it took for the road to fall apart. Yet civic pressure can shift policy and funding toward long-term planning rather than short-term gains.

Bridging the infrastructure gap is not just an engineering task. It is a moral imperative. No man, woman, or child should be denied opportunity simply because a road wasn't built or a wire wasn't connected. The time for patchwork solutions is over. What we need now is bold, sustained, and inclusive action. Only then can we begin to lay the real foun-

Blue Gold Rising: How hydropower is powering Jammu and Kashmir's future

■ MOHAMMAD HANIEF

ammu and Kashmir, known for its rivers that cut through lofty mountains and deep valleys, possesses a hydropower potential unmatched in most parts of India. This natural advantage, often called the Union Territory's "blue gold," is finally beginning to receive the attention it deserves. As the country moves toward a green energy future, Jammu and Kashmir stands poised to play a defining role in India's renewable power landscape.

Hydropower has long been recognized as the cornerstone of Jammu and Kashmir's energy economy. Recent data indicates that the region has an estimated hydroelectric potential of nearly 18,000 megawatts, of which about 14,867 megawatts have been identified as feasible for development. However, only around 3,540 megawatts-just under a quarter of that potential-have so far been harnessed. This imbalance between available resources and realized capacity reflects both the vast opportunity and the persistent challenges that have shaped the region's power sector for decades

The rivers of the Union Territory-chiefly the Chenab, Jhelum, Ravi, and parts of the Indus-carry enormous energy within their fast-moving currents. The Chenab basin alone holds the majority of the region's hydropower potential, flowing through Kishtwar and Doda, areas that have now become the focal points of new development. At present, Jammu and Kashmir has roughly 3,540 megawatts of installed hydropower capacity, generated through central, state, and private sector projects. Of this, nearly 2,250 megawatts are under the National Hydroelectric Power Corporation (NHPC), around 1,200 megawatts are managed by the Jammu and Kashmir Power Development Corporation, and a smaller portion comes from independent power producers. Major plants like Baglihar, Dulhasti, Salal, Uri, Kishanganga, and NimooBazgo form the backbone of the region's power generation

Despite this infrastructure, Jammu and Kashmir continues to face energy deficits, particularly during winter when water levels drop and demand peaks. Electricity demand has been steadily rising, with per capita consumption increasing from 1,322 units in 2020-21 to over 1.530 units in 2023-24. Total annual consumption has exceeded 20,900 million units, while generation lags far behind,



forcing the administration to import electricity from the northern grid at a significant cost. The economic implications are immense, as the purchase of imported power drains valuable financial resources that could otherwise be invested in local generation capacity.

In response, the administration has launched an aggressive push to expand hydropower capacity. As of 2025, five major hydropower projects with a combined capacity of about 3,090 megawatts are under construction across the Union Territory. These include the PakalDul, Ratle, Kiru, Kwar, and Parnai projects-most of them concentrated in the Chenab basin. Together, they represent a decisive step toward doubling Jammu and Kashmir's generation capacity in the next few years. PakalDul, the largest of them, is progressing toward completion with more than two-thirds of its physical work done, while the Kiru and Kwar projects are advancing at steady rates. Ratle, a long-delayed project, has finally been revived under a joint venture between the government and NHPC, symbolizing renewed institutional confidence in large-scale hydropower development.

Beyond these ongoing projects, the government has unveiled an ambitious pipeline of 15 additional hydropower schemes totalling about 7,768 megawatts. These include Sawalkote, Kirthai-II, Bursar, and Dulhasti-II, among others. When realized, they will collectively transform Jammu and Kashmir into a power-surplus territory, capable of not only meeting its own demand but also exporting surplus electricity to other states. Smaller being encouraged under the Independent Power Producers model, supporting decentralized energy generation and local employ-

This expansion is not merely about producing more electricity-it is about redefining the economic landscape. Hydropower has the potential to make Jammu and Kashmir selfreliant, reduce dependence on costly imports, and create thousands of skilled and semiskilled jobs. It can drive industrial growth, improve infrastructure, and enhance revenue for the territory's exchequer. With the right policies, hydropower can become the backbone of a green and sustainable regional econ-

However, the road to this transformation is not without obstacles. The Himalavan terrain presents unique geological challenges, and many projects face delays due to difficult working conditions, environmental clearances, and funding constraints. Seasonal fluctuations in river discharge, particularly during the winter months, affect generation levels. Climate change introduces further uncertainty, altering precipitation patterns and affecting river flows. Moreover, large hydropower projects often raise ecological and social concerns related to biodiversity loss, displacement, and landscape alteration. Addressing these challenges requires careful planning, transparent governance, and active community participation.

Despite these hurdles, progress on the ground reflects a clear change in momentum. The partnership between the Jammu and Kashmir administration and NHPC has

emerged as a key driver of this new phase of development. The adoption of joint venture models has reduced financial risks and ensured access to technical expertise. Meanwhile, technological improvements in tunnelling, dam construction, and environmental mitigation are helping to minimize the ecological footprint of large projects. The emphasis on mini and micro-hydel projects also indicates a balanced approach-one that combines large-scale power generation with localized, sustainable solutions.

The strategic dimension of hydropower in Jammu and Kashmir cannot be overlooked either. The region's rivers, governed by the Indus Waters Treaty, represent not only natural resources but also geopolitical assets. Optimal utilization of these waters for power generation strengthens India's rights under the treaty while ensuring that Jammu and Kashmir benefits fully from its natural endowments. Hydropower thus serves both economic and national interests, linking local development to broader questions of resource sovereignty and regional stability.

As India advances toward its national goal of achieving net-zero carbon emissions by 2070, the role of hydropower as a clean, renewable, and reliable energy source becomes increasingly crucial. Unlike solar and wind, hydropower provides round-theclock stability and can balance the fluctuations of other renewables. For Jammu and Kashmir, this convergence of natural advantage and national priority offers an unprecedented opportunity.

If the current pace of development is maintained, Jammu and Kashmir could add more than 3,000 megawatts of new capacity within the next three years and potentially reach close to 10,000 megawatts of installed capacity before the end of the decade. This would mark a historic shift from power scarcity to energy self-sufficiency. The dream of illuminating every home and powering every industry in the region could soon

The rivers that carve through Jammu and Kashmir's mountains are more than scenic wonders-they are engines of transformation. With political will, technological capacity, and environmental responsibility working in tandem, hydropower can become the foundation of a new economic era. The future of Jammu and Kashmir, it seems, will not only flow through its rivers but also be powered

Harnessing the Health Benefits of Turmeric

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raditional medical practitioners are sources of primary healthcare in many developing nations. According to World Health Organisation(WHO) .traditional medicine constituents the primary healthcare system for over 80 per cent of the world's population. The process of discovering new medications from natural sources is a complex and costly affair.It involves various steps such gathering planting

extracting pounds, isolating and purifying these compounds and finally characterizing their properties. Health is the biggest wealth for all of us. Immunity is our body natural defence against diseases-causing bacteria and fungus. It is due to the weak immune system because of which people are being affected by the many diseases. Experts are guiding us to strengthen the immune system of body so that we can save ourselves from this virus. In order to fortify our immune system we should think for our ancient wisdom of the Indian kitchen system. Turmeric also said to be the golden spice is one of the most important spices across the globe. It contains a wide spectrum of qualities and medicinal uses. For countless centuries, many different people are using this versatile herb to treat a

mvriad of ailments. This crop is known for its multipurpose value such as for the medicines, colour pigment, spicy flavor etc. It is anti-cancerous, anti-inflammatory, antiseptic, antispasmodic, antiproliferative, antioxicarminative etc.Curcumin(1,7-bis-4-hydroxy-3methoxypheny)-hepta-1,6-diene-3,5dione) is a naturally occuring polyphenol molecule. The curcumin found in it is used as a food colourant. Turmeric annual growth rate in terms of area is 3.7% and in terms of production is 9.1%. Its somatic chromosome number is 63.Modern science has recognized the healing qualities of turmeric and much research is being conducted on it. Presently turmeric is being used in the treatment of the most intense ailments afflicting today such as Diabetes, Sclerosis, Sexually Transmitted Diseases, Irritable Bowel Syndrome (IBS), Acne, Kidney Infections, Alzheimer's disease, Arthritis, Anemia, Leprosy etc. It can also be used as the mosquito repellent, cure of scorpion stings and wound healer. It also helps to balance the reproductive system of the females and males. Presently it is one of the most important herbs in any natural medicines. Turmeric was very sacred to the Arvans due to its golden yellow colour. Even now the Hindus consider turmeric to have auspicious

ceremonies. During the Indian wedding ceremonies, the bride and groom paste it on their bodies. Turmeric is loaded with anti-inflam-

qualities and use it in many sacred

matory, antiseptic and anti-bacterial properties due to presence of curcumin in it.Pharmacological properties shown inflammatory, antioxidant, antinocicetive, antimicrobial, antiparasitic, antimalarial and wound healing properties. So it should be added in our diet so that we can fight against different kinds of viral and bacterial diseases by strengthening our immunity system. Turmeric is the yellow spice extracted from the tuberose rhizome of the plant Curcuma longa. It was originated from the South Asia region. Its scientific name is Curcuma longa belonging to Zingiberaceae family and is considered as the triploid. In Hindi it is commonly called as Haldi. It has been used in the traditional Indian systems of medicines for centuries to treat different types of ailments such as anorexia, diabetic wounds, jaundice, hepatic disorders and menstrual difficulties. Medicinal effects of turmeric are attributed to curcumin, the principal curcumanoid found in turmeric. Curcumin contains strong antiinflammatory and anti-oxidant properties. It is helpful to cure cancer and

inflammatory diseases. Curcumin affect has also been seen on the lymphoid cell populations, antigen presentations, cytokine production, humoral and cell-mediated immunity. Turmeric if taken properly, it can considerably reduce the chance of sickness. Nutritionists and health experts have often considered turmeric as the booster for health immunity. Now as the summers are approaching, our immune system gets compromised slightly due to change in weather. Due weak immunity system people get affected by the various viruses and bacterial diseases. Turmeric contains anti-inflammatory, antiseptic and anti-bacterial properties. It also keeps us away from various serious ailments. Turmeric contains 3-5 % of curcumin and it helps us to make our immunity stronger. Curcumin is phytoderivative and it contains the healing properties. As the season approaches from cold to warm, individuals are affected by the flu or cold. Turmeric helps to cleanse the respiratory tract naturally. It protects the individuals from flu or cold and helps to fight the infection. People suffering with bronchial problems such as Sinuits, Sinus etc. face lot of problems. Curcumin in turmeric is helpful to fight against such kinds of problems by building the strong immunity system. Bronchial asthma, congestion of nose and airways due to inflammation, cough, cold and shortness of breath affects children, adults and elderly people. Inflammation constricts the airways and thus makes it difficult to breathe. It leads to chronic inflammation and affects the lungs tissues. Curcumin in turmeric inhibits inflammation, relieves congestion, pain and improves breathing. Curcumin boosts the immunity of body and helps to fight against the various viral infections. It reduces the inflammation and contains all the antiviral properties and reduces the replication of virus. It reduces the viral load. Although a good diet, proper sleep and a good exercise are good factors to strengthen the immunity but turmeric is very handy to improve the immunity of the body.

India is the largest producer, consumer and exporter of turmeric in the world and 46% of world turmeric trade is run by India. Jamaica and Peru are the main exporters of turmeric while Iran is the largest importer. In India total area under turmeric is about 1, 72,000 ha and total production is about 8, 51,000 tonnes. Turmeric occupies 6.6 per cent of total area of spices in India. In order to mitigate the increasing demand of this spice there is dire need to cultivate this crop in a scientific way. Turmeric became valuable to human beings when it was

discovered that the powdered rhizome preserved the freshness and nutritive value of foods. Turmeric is used as a condiment, dye, food colourant, drug and medicine. Turmeric rhizomes have yellow colour component as curcumin. essential oil (5-9%) and oleoresin (3-13%).Curcumin is the substance that is responsible for the biological activity of turmeric. Turmeric rhizome is 70 % carbohydrates,7% proteins,4% minerals and 4% oil. It also has vitamins and alkaloids. Curcumin is used in cosand pharmaceuticals. The artificial colouring agents have been banned and so the use of curcumin is prompted. Curcumin protects the liver from toxic compounds as it acts like an anticoagulant by inhibiting collagen and by adrenaline induced platelet aggregation. Curcumin is also used to heal the wounds. It has antifungal and antiseptic effects. It has also antiviral effects and is found effective against the HIV. Various kinds of cancer including skin, colon and prostrate can be cured by the use of curcumin. It has been proved through the research that turmeric stabilizes and protects biomolecules in the body at the molecular level which is shown in its ant-oxidant, anti-mutagenic and anti-carcinogenic

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Celebrating Eco Friendly Green Diwali

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s we all are well aware that Diwali or Deepwali is the most prominent festival of lights being celebrated all over India. The festival symbolizes the victory of truth over the evil, light over darkness and above all knowledge over the ignorance. This festival predominately is the most enthusiastically revered in the honor of Maryada Parshotum Lord rama, who arrives Ayodhya after a long sojourn of fourteen years. Lord Rama honored and obeyed his father. His father never wanted Rama along with his consort Sita and brother Lakshman should to go for exile.

Lord Rama, the incarnation of Lord Vishnu well knew to pass through this crucial phase. In return Bhagwan Rama messaged all and one of Ayodhya that he has to enjoy an unusual charming experience to glimpse nature closely. Apart from, his aim was to be in close association with all sages and saints to share mutual interaction. He wanted to be ablest with nature's manifestations-the lush green forests and colorful wildlife throughout

In the process, he eased the rishis and munis from the terrorizing rakshas thereby



having them a sigh of relief and enabled them to go in for meditations and samadhies.

The five days Deepawali festival, apart from afestival alone has of course many more affiliations attached to this centuries old mythol-

ogy and theology. The festival which falls on 15th day of kartika. The first day epitomize Dhantras, second day as choti Diwali and third the main Diwali when Maa Durga is worshipped and puja archana performed in

almost all houses. The fourth day falls on the dark night of Amavaya which is the Kartic Shub Pava' and the last fifth day is celebrated as "Bhai Duj" ---a sacred bond of love and affection of brothers and sisters.

The Deepawali has over the centuries back have been mostly celebrated and will continue for centuries ahead. All these festivals have their own identity well renowned world wild.

Deepawali celebration glitters and enlightens all houses with earthen Divas and candles and every room and it around welcome Maa Lakhmi with multi colored garlands and the incense of 'Aarvaties' and Dhoops. The auspicious leaves of Dana (Vitexnegunu and trinkanda are spiritually symbolize good omen and these are displayed on all doorstops to the extent of entry points (Gates) and the bath rooms and this signifies their own uniqueness. The brightening lights of 'Diyas' and candles still add to beauty to every Hindu

In the honor to welcome lord Rama, sita and Lakshman, the people also go in for bursting of crackers and lightening the sky with hawaies which though, of course, signifieslords arrival after slaying Ravana, Kumbkarna and Inderjeet. Ravana was though a well learned about all the four vedas to whom Rama himself admitted but his pride, ego and kidnapping of Sita(Maa Durga) made him killed in golden Lanka. Ravana himself well knew all this and that is why the last word came out from Ravana ah Sriram, Sriram.

In the present milieu, when we are benig encounter with a multihued problems---the problem of ever mounting pollution, climate changes in world wide phenomenon and this age old bursting of crackers should at least be minimize to safe guard our degrading environment which subsist and sustain all bio

The whistling of multi-coloured hawai have though of course lesser effect. It is, therefore, a matter of sensitization and public-awakening which warrant there slow down at all levels. So, it is enjoined upon one and all to make this festival of lights and lights a green

Let us solemnly pledge and grace green festival this year and the years to come by. Let us preserve our environment to make all bioforms to enliven over the precious planet.

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