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COVER STORY

JAMMU AND KASHMIR'S STARTUPS



NURTURING A CULTURE OF INNOVATION AND ENTREPRENEURSHIP

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LAVENDER REVOLUTION BLOSSOMS

First lavender farm takes root in Jammu's Challa village

Jammu: In a significant development for the purple revolution, the first-ever Lavender Farm is taking root in Challa village, nestled within the picturesque landscapes of Jammu and Kashmir's Kathua district. This ambitious venture spans two hectares of land, under the ownership of the Department of Agriculture Production and Farmers Welfare.

The inaugural lavender planting ceremony was graced by the esteemed presence of Reeta Thakur, a District Development Council (DDC) member, who marked the occasion by planting the first lavender sample. Sanjeev Rai Gupta, the Chief Agriculture Officer of Kathua, enthusiastically shared these details.

Lavender, a native of Europe, made its way to the temperate regions of the Jammu division in 2018, thanks to the Indian Institute of Integrative Medicine (IIIM) and the CSIR-Aroma Mission, with Doda being heralded as the cradle of India's purple revolution. The establishment of this lavender farm in Bani is poised to foster greater awareness of lavender cultivation within the farming community and potentially serve as an alternative source of income, thus bolstering the regional economy, Gupta explained.



He expressed his gratitude to the Director of Agriculture Kashmir for their pivotal support in providing 30,000 lavender saplings for the establishment of the Lavender Farm in Kathua. Gupta further emphasized that the Lavender Farm in Challa would act as a vital source of top-quality planting material for farmers in neighbouring Bani and Duggan blocks, while also extending support to various regions within the Union Territory.

Reeta Thakur, in recognition of the Agriculture Department's commendable efforts in various fields such as mushroom cultivation, apiculture, and off-season vegetable farming in the Bani region, lauded the establishment of the Lavender Farm at Challa. She expressed her optimism about the farm's potential to enhance the income of farmers in Bani and the surrounding areas, as well as its future prospects as a prominent tourist attraction.





J&K adjudged 'Best Performing' State & UT under AKAM & MMMD programme

SRINAGAR, OCTOBER 31: J&K has emerged as a leader in celebrating Azadi Ka Amrit Mahotsav and Meri Mati Mera Desh. Chief Secretary of J&K, Dr. Arun Kumar Mehta, received the prestigious "Best Performing" State & UT award from Prime Minister on 31st October, which is also its foundation day, at the closing ceremony of Meri Mati Meta Desh at Kartavya Path, New Delhi.

This is in line with the positive spirit in line with progress post-August 2019. It has manifested itself many times in recent times, with performance under 'Azadi Ka Amrit Mahotsav' being the latest evidence of the enthusiasm.

The programme was organized across all parts of J&K with exemplary and vibrant participation of the public, in general, and youth in particular. More than 1.75 Lakh events were organized in J&K with the unbelievable participation of over 83 Lakh citizens. The UT is proudly standing at the top of the table among all States/UTs of the country.

Likewise, the Meri MaatiMeraDesh program celebrated to commemorate the closing ceremony of 'AzadiKaAmritMahotsav' started on 9th August 2023 and saw extremely enthusiastic participation here. The programme was aimed at encouraging all citizens to recognize the sacrifices of national heroes (veers) and to pay homage to the soil of the motherland. The key components included remembering martyrs, commitment for nation-building, renewing the motherland, honouring armed forces and hoisting of symbol of pride- the Tiranga.

Like in AKAM, the participation level of Jammu and Kashmir remained unparalleled. J&K has the distinction of saturation of implementation of many programs and it was no different in Meri MatiMeraDesh with 100% coverage of Panchayats and ULB wards. The UT in its first phase organized over 1.70 Lakh events from 9th-31st August 2023 with unprecedented public participation.

As part of the 2nd phase of Meri MaatiMeraDesh, 100% of villages/wards were covered and grand Amrit-KalshYatras were organized across the entire J&K with full public participation. Likewise, festive celebrations were also organized in every block/municipal body from the 1st to the 13th of October 2023 with the enthusiastic



J&K stands tall among states/UTs of the country having organized a record of 1.74 lakh events under the Meri Maati, MeraDesh Program with a public participation level of over 80% (of the total population), which is highest ratio for participation of people in any State or UT...

participation of the public.

The Final phase of AmritKalashYatra was organized from Srinagar to Jammu on 26th Oct 2023 while the Yatra moved from Jammu to National Capital on 27th Oct 2023, and joined the national contingent on 29th October. The mitti from each village of J&K shall now be part of AmritVatika, symbolising unity and integrity.

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These milestones are the hallmark of our socio-cultural transformation that occurred here during the last 5 years. It has not only provided opportunities for economic upliftment to its people but the dividends are many more in terms of the significant improvement in other indicators of the human development index. The same had taken a hit due to earlier uncertainty and unrest adversely impacting the lives of common citizens of this picturesque region of the country, who are now the biggest beneficiaries of the historic transformation.

Jammu and Kashmir embraces transformation

Landmark changes, digital revolution, and economic surge illuminate a new dawn

Srinagar: Following the momentous changes that accompanied the reorganization of Jammu and Kashmir into a Union Territory, a dynamic transformation has unfolded across various fronts. The embrace of e-governance marks a significant milestone, bidding adieu to the costly annual practice of the Darbar Move, which drained approximately Rs 400 crore from the exchequer. This transition symbolizes the UT's commitment to streamlining administrative processes and harnessing technological advancements for greater efficiency.

A pivotal moment is marked by the establishment of a dedicated Registration Department, overseeing the digitized process of land and property registration. With the advent of digitalization, the UT has ushered in an era of convenience, rendering over 1040 services accessible online and obviating the need for cumbersome paperwork.

Unveiling a true embodiment of grassroots democracy, the Block Development Council elections have breathed new life into local governance, empowering communities and fostering a deeper sense of participation and representation.

The visionary "Back To Village" program has carried the administration's presence to the doorsteps of the people, creating an invaluable bridge between policymakers and the realities of the ground. This pioneering initiative has paved the way for more tailored and impactful development strategies.

Addressing historical injustices, Jammu and Kashmir has extended domicile status to marginalized communities, including displaced persons, Valmikis, and children of women married outside the region, effectively dismantling decades of discrimination and exclusion.

The ambitious Prime Minister's Development Package has expedited developmental projects, with an impressive

tally of 32 completed projects by May 2023, a stark contrast to the 7 achieved by June 2018.

The thrust towards enhancing hydroelectric power generation is underscored by the augmentation of capacity, set to reach a formidable 3050 MW by 2025-26.

In tandem, the UT has achieved a substantial surge in power transmission capacity, bolstered by the addition of 4020 MVA capacity between April 2019 and March 2023.

Infrastructure development has surged ahead with the connection of 2096 habitations and the construction of 244 bridges, reaffirming Jammu and Kashmir's commitment to spurring economic growth.

Travel dynamics have been redefined, as the travel time between Srinagar and Jammu for Light Motor Vehicles has been significantly reduced from 7-12 hours to a mere 5.5 hours, enhancing regional connectivity and accessibility.

A testament to the commitment towards equitable access to essential services, the current fiscal year (2023-24) promises functional household tap connections for all 18.67 lakh rural households.

The economic horizon of Jammu and Kashmir has been invigorated by a surge in industrial growth, substantiated by an impressive influx of investment proposals totalling a staggering 73,376 Crores.

As a trailblazer in social welfare, the UT unveiled the groundbreaking Universal Health Insurance Scheme, bestowing families with up to Rs 5 lakh health coverage, making Jammu and Kashmir the vanguard of inclusive healthcare.

Against the backdrop of these transformative accomplishments, Jammu and Kashmir stands poised on the cusp of a new dawn, propelled by visionary leadership, strategic policy shifts, and an unwavering commitment to progress.



JAMMU AND KASHMIR'S STARTUPS:

Nurturing a culture of innovation and entrepreneurship

Srinagar: In the past few years the government of Jammu and Kashmir has undertaken an ambitious initiative to revolutionize the education sector within the region. With the establishment of 50 new colleges and the addition of 25,000 seats, the aim is to provide quality education closer to students' homes, reducing the need for extensive travel. This transformation is not limited to expanding access; it also emphasizes skill-based education and the integration of industry knowledge into the curriculum.

One of the standout achievements in this educational overhaul is the establishment of two colleges of architecture and one engineering college. These institutions are instrumental in bridging the gap between theoretical knowledge and practical skills, preparing students for the ever-evolving job market.

The digitization of education services is another milestone. The introduction of online submission for school recognition and affiliation has streamlined administrative processes for over 6,000 private schools, benefiting more than 10.5 lakh students. Additionally, the initiation of Digi Locker to provide easily accessible marks certificates has eased the burden on nearly 4 lakh students annually.

The modernisation of teaching methods is evident through the implementation of Learning Management Systems (LMS) and Enterprise Resource Planning (ERP) solutions in colleges. These tools enhance the learning experience and administrative efficiency, further promoting the quality of education.

Vocational education has received a significant boost with the establishment of 803 vocational labs. These labs equip students with practical skills, preparing them for diverse career paths.

The Atal Tinkering Labs initiative has brought hands-on learning to schools. These labs nurture innovation and creativity among students.

Success stories (views of students from far-flung areas)

Abid Khan, a dedicated student in the 6th semester of Arts at Degree College Boniyar, Jammu and Kashmir, embodies the transformative power of education in his life. Hailing from Tathmula Uri, Abid's journey to education was once filled with daunting challenges, primarily the distance he had to traverse daily to the town of Uri, a considerable trek from his village. However, the winds of change brought by the establishment of Degree College Boniyar in 2020 have ushered in new possibilities for Abid and countless others.

For Abid, this institution's opening was a beacon of hope. It provided him with the opportunity to pursue higher education without having to

The digitization of education services is another milestone. The introduction of online submission for school recognition and affiliation has streamlined administrative processes for over 6,000 private schools, benefiting more than 10.5 lakh students...

endure the hardships of long daily commutes. With a glimmer of gratitude in his eyes, he shares, "Opening of College in our vicinity is helping me a lot in pursuing my dreams." Abid Khan's story exemplifies how local educational institutions can empower students by reducing the physical barriers to education.

Waseem Ahmad Khan, another resilient student in the 6th semester, shares Abid Khan's sentiment. Living in Boniyar, he faced a similar uphill battle in pursuing higher education, as the nearest options were over 20 kilometres away in Baramulla. The establishment of Degree College Boniyar emerged as a game-changer for Waseem and his fellow residents.

Waseem expresses his gratitude, saying, "A new college in the neighbourhood is really helping the students in the tehsil to pursue their education with ease." This institution has not only reduced the distance these students need to travel but has also created an educational ecosystem right at their doorstep, fostering a sense of community and accessible learning.

Atal Tinkering lab from Samba

The Atal Tinkering Lab at Govt. Girls Hr. Sec. School Jakh is fostering innovation among students like Bhasker Dubey, a 12th grader who has developed the Smart Dustbin. This innovation incorporates an Ultrasonic sensor and an Arduino Uno to automate waste disposal. Notably, it can be programmed to open for 3 seconds when detecting an object, enhancing efficiency and hygiene. Bhasker's creation promotes sustainability and serves as an inspiring example of youth-driven creativity, showcasing the potential of educational institutions to nurture innovation for a brighter future.



J&K athletes shine in National Games



SRINAGAR: Backed by some fantastic performances in the 37th National Games currently underway in Goa, the athletes from J&K have emerged as a force to reckon with.

While it all began with bagging of silver medal in rhythmic gymnastics by the J&K in the team championship led ably by Shivangi, Sneha Dewan, Himnai Gupta, and Viomini Dogra, the team showcased their talent and determination to stay relevant in the event till the end.

While thanking Sports Council coaches Krupali Singh and Manisha Gupta for their guidance and support in helping them realize their potential and achieve success, the elated gymnasts said that the international-level facilities in addition to expert advice and training played a crucial role in the team's achievement.

The Sports Council Gymnastics Academy trainees continued to excel in the other events during the competition where the silver medal in the group event was bagged by gymnasts comprising Gourav Chettri, Parul Mehra, Dhruv Dewan, Laksh Mahajan, and Manav Gupta. The effort bears a testimony to their hard work and skill and defeating strong competitors like SSCB, Gujarat, and West Bengal is quite an accomplishment said their coaches.

Meanwhile, in Pencak Silat, athletes also put on a splendid show bagging silver and bronze medals. While raves Ahmad won bronze in the Tunggal category, Shahid Muzaffar won the silver medal and Salik Farooq also stormed into the final by defeating his competitor from Goa.

Congratulating the J&K team, Sarmad Hafeez, Commissioner Secretary, Youth Services and Sports extended his warmest congratulations for their splendid performance, and exemplary show thus far in both the individual and team events. Sarmad Hafeez said that athletes have showcased not only her exceptional skills but also her determination and commitment to their passion. The remarkable achievement during the past few days is a testament to the relentless efforts put in by our athletes, coaches, and support staff, he added. "I am filled with immense pride seeing our players shine on the bigger stages, bringing glory to our union territory," said Sarmad Hafeez.

Terming the medallists as an inspiration to aspiring athletes and a source of pride, Secretary Sports Council, Nuzhat Gull congratulated the medallists on their exceptional performances. Gull said that each triumph of our athletes is a testament to hard work, talent, and unwavering spirit.

Meanwhile, sports buffs across the J&K while taking to social networking sites commend players for their outstanding achievements and wished other participants to continue the winning streak in other disciplines.

Apart from the coaches and support staff, member J&K Sports Council, Ranjit Kalra and Chief Sports Officer, Mohammad Haneef are also accompanying the J&K contingent.

Pertinently a few days ago the J&K para-archer duo of Rakesh Kumar and Sheetal Devi shined in the Para Asian Games held in Hangzhou. Rakesh won a silver medal in the men's compound archery defeating Alisina Manshaezadeh of Iran and Sheetal Devi triumphed against Alim Nur Syahidah from Singapore clinching a gold medal.

Jammu and Kashmir's Educational Revolution

 50 new colleges, digital initiatives, and student success stories transforming access and learning



Srinagar: In the serene landscapes of Jammu and Kashmir, a silent revolution is taking place, one that is empowering the youth and transforming job seekers into employers. Over the past two years, startups in the region have become the catalyst for change, thanks to the government's support in incubation and seed funding for innovative ideas. This newfound support system is nurturing a culture of entrepreneurship and innovation, providing new opportunities for the young minds of the Union Territory.

Building an Ecosystem for Innovation

A thriving ecosystem for innovation and startups is being meticulously crafted in Jammu and Kashmir. The government's vision of self-reliance is driving the creation of Industry Innovation clusters, paving the way for a new generation of entrepreneurs who are eager to create jobs for others. These efforts are not going unnoticed, as India is now ranked third globally in terms of innovation and startups, only trailing behind the US and China.

Jammu and Kashmir is emerging as a startup hub within India, and the synergy between the industry and academic institutions is fostering a culture of innovation. Budding innovators and researchers are receiving institutionalized support to turn their ideas into reality.

Exploring Opportunities Across Sectors

The government's commitment to exploring startup potential spans across various sectors, from agriculture and dairy to transport, handicrafts, food, and more. This inclusive approach ensures that no sector is left untouched, creating a diverse and vibrant startup landscape.

The Jammu and Kashmir Entrepreneurship Development Institute (JKEDI) has played a pivotal role in nurturing this startup ecosystem. By fostering an entrepreneurial culture and supporting innovation, JKEDI is empowering young entrepreneurs to dream big and challenge traditional norms.

From Graduates to Startup Founders

In 'Naya Jammu and Kashmir,' recent graduates from top institutions no longer feel compelled to settle for jobs at established companies or pursue further education abroad. Today, even individuals with minimal support can chase their entrepreneurial dreams if they possess technical skills and a compelling idea.

The Jammu and Kashmir Startup policy offers a comprehensive package of benefits, including office space, monthly allowances, research assistance, energy support, tax incentives for international patents, infrastructure backing, access to global markets, financing options, and academic guidance.

Success stories

In a remarkably short span of time, startups like 'FastBeetle' have become household names in Jammu and Kashmir. With 70,000 users across the region, FastBeetle has revolutionized parcel delivery using motorbikes. The founders, Sheikh Samiullah and Abid Rashid, are now among the most successful entrepreneurs in Kashmir, even providing last-mile delivery for Amazon and serving Walmart-owned Flipkart.

Downtown Cafe founded by brothers Suhail and Nadeem, has become a beloved spot for locals and tourists alike. Located in Srinagar's old city, this cafe offers a taste of Indian culture and tradition, setting it apart from the Western-style cafes that dominate the scene.

Another standout is Gatoes led by Jibran Gulzar, which delivers food and groceries to homes across Kashmir. 'Gatoes' turned over a million dollars in its first seven months of operation and onboarded over 1450 merchant partners, making it by far the largest startup out of Jammu and Kashmir.

Duggar Haat: In March 2021, the Umeed scheme, a collaboration between JKRLM and District Administration Reasi, ignited a culinary revolution in the Pouni Block of Reasi. A self-help group (SHG) women turned their kitchen skills into a thriving enterprise called "Dogra Haat".

With support, they honed their culinary talents, learned business basics, and mastered social media promotion. Their menu boasts 20 varieties of authentic Dogra recipes, including Makki ki Roti, Saag, and Lassi. This venture, led by women like Kailash Kumari and Neelam Kumari, is more than a business; it's a women's empowerment movement. Dogra Haat's success, with a turnover of Rs 7 lakh in two years, has made these women financially independent, earning them the trust and admiration of tourists and locals alike.

Jammu and Kashmir's remarkable four-year transformation

Unprecedented
development initiatives
and inclusive growth

Srinagar: Over the past four years, Jammu and Kashmir has undergone a remarkable transformation with a surge in developmental initiatives, most of which have been efficiently executed by the government.

From the serene valleys of Kashmir to the plains of Jammu, the government's unwavering commitment to serving the most marginalized individuals has become the bedrock of its developmental strategy.

The impressive statistics underscore the government's dedication to enhancing the lives of people in the region. In the fiscal year 2019-20, 12,637 projects were completed, followed by 21,943 in 2020-21. The momentum skyrocketed in 2021-22, with an astounding 50,726 projects accomplished, and a staggering 92,560 projects are currently underway in 2022-23.

What distinguishes the approach of the Jammu and Kashmir government is its steadfast focus on inclusivity. Led by the LG administration, they have pledged to ensure that the fruits of development reach even the remotest and most marginalized communities. The administration has been proactive in providing access to education, healthcare, and livelihood opportunities for these communities.

Rural development has received significant emphasis, acknowledging the pivotal role of robust rural infrastructure in overall progress. Prioritized projects include road connectivity, clean water supply, and electrification, significantly elevating the quality of life in rural areas.

The completion of numerous developmental projects has not only elevated living standards but has also provided a much-needed boost to the local economy. Job creation has been a central focus, resulting in a substantial number of employment opportunities across various sectors. This has had a ripple effect, empowering the populace and curbing unemployment.

Enhancing infrastructure has been a vital aspect of the government's development strategy. Investments in projects like roads, bridges, and transportation networks have fostered better connectivity between regions. This, in turn, has facilitated the seamless movement of goods and services, further propelling economic growth.

The record-breaking number of completed developmental projects by the Jammu and Kashmir Government over the past four years is a testament to their commitment to serve the most underserved. Through their inclusive approach, the government has worked tirelessly to bridge gaps, uplift marginalized communities, and stimulate economic growth. As J&K continues on its path of progress, it promises a brighter and more prosperous future for every citizen in the region.



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Panchayati Raj Revolution in J&K



Empowering local governance for sustainability and development

Srinagar: Over the past four years, J&K has made significant strides in strengthening grassroots democracy through Panchayati Raj Institutions (PRIs). Transparent elections in 2019-20 saw the election of 33,000 representatives across 20 districts and 4291 panchayats. Infrastructure development is in progress, with 20 District Development Council and 48 Block Development Council office buildings under construction. Capacity-building efforts involved sending 6,000 elected representatives on exposure visits and plans for 10,000 more. PRIs have been empowered with the authority to grant building permissions and have been e-enabled for efficient communication. Monthly honorariums ensure financial stability for representatives, and security concerns are addressed with compensation for the next of kin in case of loss due to militancy-related incidents. Coordination is improved with Panchayat Prabhari Officers, and excellence is promoted through awards. Infrastructure development includes Panchayat Ghar construction and solarization of Gram Panchayats. Financial management is enhanced with the creation of Panchayat Accounts Assistant positions. These efforts, along with the 73rd Constitution Amendment Act, have empowered PRIs to play a pivotal role in local governance and national development.

Success stories

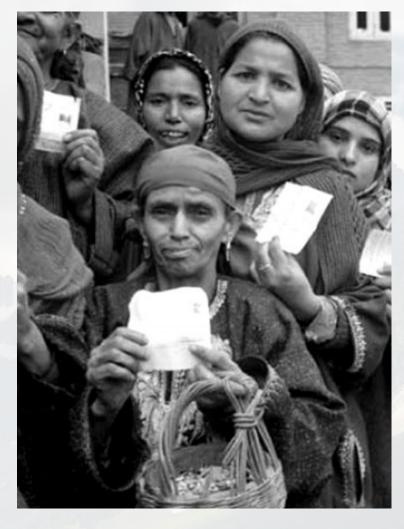
Palli: Leading the Nation as a 'Carbon Neutral Panchayat'

Nestled in the serene landscapes of Jammu and Kashmir's Samba district, the unassuming hamlet of Palli has achieved something truly remarkable. Palli has become the first 'carbon neutral panchayat' in the entire country, setting a shining example for sustainable development.

This milestone was achieved through the installation of a cutting-edge 500 KV solar plant, completed in an astonishing three weeks. Prime Minister Narendra Modi proudly dedicated this solar plant to the nation, highlighting Palli's incredible achievement. By harnessing the power of renewable energy, Palli has not only reduced its carbon footprint but has also ensured uninterrupted power supply to its residents.

Palli's journey towards sustainability is a testament to the potential of local governance when combined with innovative solutions. It serves as an inspiration for other panchayats across India to embrace clean and green energy sources, contributing to the nation's commitment to combating climate change.

Village common lands: The green asset revolution Another impactful initiative driving change at the grassroots level is the Village Panchayat Plantation Committees (VPPCs) in Jammu and Kashmir. These committees, headed by the respective Sarpanchs, have undertaken a mission to transform vacant Village Common Lands and State lands into thriving green assets. Collaborating with the Social Forestry Wing under the Department of Forests, Environment, and Ecology, they have embarked on a journey of afforestation and sustainable land management.



The VPPCs identify suitable lands and plant multipurpose tree species with technical support from Social Forestry officials. These plantations are protected and scientifically managed, with active participation from local households. In return for their involvement in protecting these green assets, rural households receive essential resources such as fodder, fuelwood, and small timber.

During the 2021-22 fiscal year, over 20,000 rural households across 1646 Gram Panchayats benefited from this initiative, receiving free supplies of fodder and fuelwood. Furthermore, a commendable provision was enacted by the Jammu and Kashmir Government, directing 75% of funds earned from the sale of mature plantations to Village Panchayat Funds. These funds are then used for afforestation activities and various other village utility projects, ranging from infrastructure improvements to healthcare and education facilities.

In the 2022-23 financial year, the proactive involvement of Gram Panchayats has led to the plantation of an impressive 32 lakh plants in 3,500 GPs, marking a substantial increase compared to previous years. This demonstrates the growing commitment to environmental conservation and sustainable rural development.

In conclusion, these two success stories, exemplified by Palli's 'carbon neutral' achievement and the remarkable Village Common Lands plantation drive, illustrate the transformative power of grassroots democracy and the vital role of PRIs in fostering local governance and development. These initiatives reflect the dedication of JK Govt to inclusive and sustainable progress, ensuring a brighter future for its citizens and the environment.



'JJM achieves 70% coverage of rural households with tap water connections'

Srinagar: In J&K, the UT administration has achieved yet another feat with J&K Jal Jeevan Mission (JJM) achieving coverage of 70 per cent of rural households in terms of drinking water supply through tap connections. J&K has also attained a rank of No. 2 at the national level in terms of water quality monitoring and surveillance, an official press release informed Sunday.

So far under the mission, 13.16 lakh (70 per cent) out of 18.68 lakh rural households have achieved coverage under Tap Water Connections thereby moving fast in achieving saturation.

Jal Jeevan Mission is a flagship programme of the UT aimed to provide each and every rural household with a Functional Household Tap Connection (FHTC) within the premises, capable of supplying water at a minimum service level of 55 litres per capita per day and quality conforming to BIS 10500.

According to a press handout of the department, out of 6600 work components, more than 5,000 components (76 per cent) like Tube wells, Bore Wells, Rapid Sand Filtration Plants, Head Tanks, Ground Service Reservoirs and pipe networks have started. Similarly, more than 3000 schemes are under execution across all the districts of the UT with the involvement of about 1700 contractors executing the works. This has also resulted in massive employment generation in rural areas.

Concurrently, while executing the works on such a scale and speed, a robust management and monitoring mechanism has been put in place at different levels in the shape of District Level Project Management Units (DPMUs), UT-level teams of Consultants/ Experts and Third Party Monitoring Agencies (TPIAs) who are playing a vital role in efficient planning, quality assurance, coordination of efforts, use of appropriate/ alternate construction technology and materials to achieve the desired results in a time bound manner

without affecting the basic design and serviceability requirements.

With the help of the UT-level team of consultants and the technical advice provided by experts from the National Jal Jeevan Mission (NJJM), various costeffective and technically viable solutions have been adopted. Slow Sand Filtration Plants, based on the level and occurrence of turbidity in the sources, have been designed with optimum utilization of space which otherwise was a constraint in their construction.

Similarly, to achieve economy and speed in some areas, construction of SMC-GFRP panel water storage tanks and laying of HDPE pipe distribution systems have been opted which is being used in other parts of the country like Rajasthan, Madhya Pradesh, Uttarakhand, Ladakh etc.

To monitor the quality of water being supplied to the rural areas, about 1.50 lakh water samples have been tested through 98 Water Testing laboratories set up all across the UT. Besides 10 district laboratories have already been accredited by NABL and the process for accreditation/recognition of the remaining laboratories is at an advanced stage. Also, under the JJM about 32000 women across all the villages have been trained to use Field Testing Kits (FTKs) to test the water samples at their own level and report the test results on the WQMIS portal. Under Water Quality Monitoring & Surveillance, J&K has been ranked in 2nd place at the national level on the basis of performance in water quality testing.

With the pace of implementation of the Jal Jeevan Mission last year, the UT expects to achieve drinking water security for all of its rural populace for the next

It may be recalled that the JJM registered around nine thousand activities during its outreach fortnight in August this year during which a massive awareness and outreach in rural areas across J&K was conducted.

J&K ranks first in Tele Manas for receiving maximum daily calls



NHM J&K conceptualized the first of its kind Chatbot for Tele-MANAS in the country to improve the accessibility to Mental Health Services. Tele MANAS CHATBOT was launched in J&K on 5th July 2023 by the LG, UT of J&K. The objective of his concept was to reach out to the youth of the UT. The Whatsapp number 9797600601 can be assessed and two away chats can be initiated with the Mental Health Councilor. As the youth of today is more tech-savvy and prone to chatting, the chatbot was developed so that anyone can consult the counsellors using this chatbot.



NEW DELHI: Jammu & Kashmir achieved the top rank in the Union Territories category by achieving the highest number of calls in the National Tele Mental Health Programme.

Secretary, Health and Medical Education Department, Bhupinder Kumar and his team received the award at Mental Health Conclave on Mental Health Day, 2023 in New Delhi.

The award was presented by Dr V K Paul, member of NITI AYOG in the presence of Union Minister for Health and Family Welfare, Dr Mansukh Mandaviya who joined virtually.

Other dignitaries present during the event included Rajesh Aggarwal, Union Secretary, Department of Empowerment of Persons with Disability, Sanjay Kumar, Union Secretary, Department of School Education and Literacy, Dr. Bharat Lal, Secretary General, National **Human Rights Commission** of India, Dr B N Gangadhar, Chairman NMC, Lt Gen Daljit Singh, DG AFMS, Dr Roderico H Ofrin, WHO Representative to India, Dr. Soumya Swaminathan, Chairperson, M S Swaminathan Research Foundation (MSSRF) and Former Chief Scientist, WHO, Dr Prathima Murthi Director NIMHANS, LS Changsan AS&MD MOHFW GOI, Dr. Pratima Murthy, Director, NIMHANS, Prof (Dr.) R.K Dhamija, Director IHBAS.

Pertinently, the National Tele Mental Health Programme of India envisages working as a comprehensive, integrated and inclusive 24X7 tele-mental health facility in each State and UT in India with the aim to provide universal access to equitable, accessible, affordable and quality mental health care through 24X7 tele-mental health counselling

services.

Bhupinder Kumar, while giving details regarding the programme, informed that since its launch on 4th November 2022, the centre has received 26477 calls.

Major reasons for calling included anxiety 2854 calls, sadness of mood 2790 calls, palpitations 2428 calls, reduced interest 1931 calls, stress 1869 calls, sleep disturbances 1601 calls, and suicidal ideation/attempt 799 calls. Also, there have been calls related to substance use and addiction. The Toll-Free number for the Tele Manas helpline is 14416/1-800-891-4416.

He also informed that NHM J&K conceptualized the first of its kind Chatbot for Tele-MANAS in the country to improve the accessibility to Mental Health Services. Tele MANAS CHATBOT was launched in J&K on 5th July 2023 by the LG, UT of J&K. The objective of his concept was to reach out to the youth of the UT. The Whatsapp number 9797600601 can be assessed and two away chats can be initiated with the Mental Health Councilor. As the youth of today is more tech-savvy and prone to chatting, the chatbot was developed so that anyone can consult the counsellors using this chatbot.

The Secretary of Health also gave a detailed PowerPoint Presentation about other new initiatives being taken by the Department of Health and Medical Education Jammu and Kashmir for improving mental health across the UT of J&K which included an increase in the number of seats for both MD/DNB Courses in Psychiatry, Capacity Building of both Doctors and supportive staff and start of Diploma Course for Medical Officers with the support of NIMHANS Bengaluru.



J&K ABDM begins online booking for OPD tickets



SRINAGAR: Giving a fillip to the digital delivery of the healthcare system, J&K Ayushman Bharat Digital Mission (ABDM), has started the process of issuance of online OPD tickets.

The OPD ticketing system shall enable the patient to book his OPD ticket online from their home.

The QR code of the healthcare facility shall be required to be scanned for the generation of the token. The token shall be valid for 12 hours within which the citizen shall need to physically report to the hospital/healthcare facility. A citizen cannot apply for the token more than once within 30 minutes of issuance of a token.

With this people-friendly initiative, the citizens of J&K have felt a sigh of relief which shall ease the hardships of waiting in long queues at the hospitals. The process shall be further extended towards the issuance of digital doctor consultations. The QR code of all the healthcare institutions shall be available on the official website of Ayushman Bharat Digital Mission, J&K at abdmjk.in.

The National Health Authority is working on integrating the UPI Payment Gateways within the ABDM Ecosystem to enable the citizens to pay the hospital fees/charges, wherever applicable online.

The Ayushman Bharat Digital Mission ecosystem shall subsequently integrate all the health records of the citizen into a vertical health repository which shall be governed through a consent manager. This will enable storage of health records of the citizens and sharing the same with the health provider through proper consent-based mechanisms. The health data shall not be stored with the government but in a federated structure to be shared through various platforms including government and private healthcare institutions

across the country.

The envisaged digital healthcare delivery model shall ensure a paperless, seamless, transparent and accountable healthcare system in the country through a network of verified healthcare facilities on the Health Facility Registry (HFR) of the ABDM and verified Healthcare Professionals under the Health Professionals Registry (HPR). Creation of a 14-digit unique health identity ABHA (Ayushman Bharat Health Account) shall be necessary to be created by the citizens in order to be a part of the ABDM ecosystem which will be the first step of the citizens towards a digital healthcare journey.

Secretary of Health and Medical Education, Bhupinder Kumar, while launching this facility, has reiterated that Ayushman Bharat's digital health structure in J&K is anticipated to bring ease to patients and their attendants in the smooth delivery of healthcare at the healthcare institutions across I&K.

Meanwhile, Additional Mission Director ABDM, J&K, Shafqat Khan, stated that the Ayushman Bharat Digital Mission has been implemented in 117 healthcare institutions across the state and shall shortly be covering 576 health institutions where the required HMIS software (E-Sahaj) shall be installed and operations for gathering electronic medical records shall be initiated right from the Primary Healthcare Center/ Health and Wellness Centre, to the Tertiary Care Hospital levels. Besides, 100 % of government health facilities have already been registered, 82% of the public healthcare professionals, including doctors and nurses, have also been registered and the process of registering private healthcare facilities is going on at a fast pace.

Horticulture Deptt extends support to 50 women orchardists of Kargil

SRINAGAR: The commitment to empower and uplift women in the horticultural sector was reaffirmed as the Directorate of Horticulture, Kashmir, extended additional support to around 50 women farmers and orchardists visiting from Kargil, Ladakh.

This commitment was made during their enlightening exposure visit to the Directorate, organized under the Mission for Integrated Development of Horticulture (MIDH) scheme by the Department of Horticulture, Union Territory of

Director G.R. Mir, in an effort to bolster the knowledge and capabilities of the visiting women orchardists, assured to arrange further visits to various horticultural centres.

These visits will include a tour of the Centre of Excellence in Zawoora, Srinagar, and the Industrial Growth Center (IGC) in Lassipora, Pulwama.

Additionally, the women orchardists will have the opportunity to visit private orchards, allowing them to witness best practices and innovative techniques employed by successful orchard owners.

This proactive measure by the Directorate of Horticulture, Kashmir, underscores the importance of practical learning and hands-on experiences in the growth of the horticultural industry.

Such visits will provide the women orchardists with exposure to cutting-edge horticultural technologies, advanced cultivation methods, and a comprehensive understanding of the horticultural value chain.

The willingness of the Directorate to facilitate these visits further exemplifies the dedication to the welfare of women farmers and orchardists and the desire to foster an environment of continuous learning and improvement within the horticultural community.

BREAKING MENSTRUAL TABOOS

Sanitary pad vending machines coming to over 1000 schools in Jammu and Kashmir

Srinagar: In order to break the taboos and myths associated with menstruation, the Ministry of Education (MoE) has approved the installation of sanitary pad vending and incinerator machines in more than 1000 government-run-schools of Jammu and Kashmir.

Under the centrally sponsored scheme Samargra Shiksha, officials have said that it will start Installing and commissioning 'Sanitary Pad Vending Machines and Incinerator Machines in 1025 designated schools of J&K approved during the previous year under Samagra Shiksha.

In an official communique to Chief Education Officers (CEO) of Jammu and Kashmir, Samagra officials said, "At least 1025 government schools including 74 KGBVs and 951 High and Higher Secondary schools were approved by MoE for Installation of



Sanitary Pad Vending Machines and Incinerator Machines in designated schools of J&K approved as spill over under Samagra

According to the news agency—Kashmir News Observer (KNO), the concerned authorities will begin the installation and commissioning of an incinerator in the coming days.

As per a study in India, only 12 per cent of women use Sanitary Napkins.

It is observed that 20 per cent

of girls did not use the toilet in school during menstruation for fear of staining it, and many girls had no idea about menstruation when they started with their periods.

Of those who had some idea, only 16 per cent received any information in school.

The concerned officials of Samagra Shiksha Jammu and Kashmir have accordingly requested the CEOs to instruct the Head of the Institutions (Hols) of the designated schools to finalize a suitable position and location for mounting the equipment within school premises along with the availability of 6Amp AC socket preferably with uninterrupted power supply.

"Schools where Electrical fitting is not available, the expenditure incurred on it shall be met from school electric fund and Annual School Grant," it reads.

27K persons in Bandipora benefit under various DSW schemes





1104 receive marriage assistance eligible girls



BANDIPORA: For the vulnerable community in Bandipora, the Department of Social Welfare stands as a beacon of hope, dedicated to easing the lives of these people by providing a helping hand at the times when they need them the most, be it differently-abled persons, senior citizens or the underprivileged unmarried daughters of the society.

The Government's Marriage Assistance Scheme provides crucial financial support to unmarried girls from economically disadvantaged backgrounds, offering them Rs. 50,000 to assist in their journey toward

Deputy Commissioner Bandipora Dr Owais said, that in 2023, the scheme witnessed an impressive response, with over 2,400 applications received, of which 1,939 were successfully verified.

Notably, approximately 5.52 crore rupees have been disbursed, benefitting 1,104 daughters in Bandipora, and relieving their parents' financial burdens.

"This was because of continuous engagement with the stakeholders at the grassroots level involving PRI members to ensure more genuine beneficiaries will avail the benefit of these schemes," Dr Owais added.

The department's impact extends beyond matrimonial support, as it has distributed approximately 1.25 crore rupees worth of prosthetic aids. This assistance includes motorized and manual tri-cycles, wheelchairs, hearing aids, and various other essential items.

This tangible support has significantly transformed the lives of those in need, granting them newfound independence and mobility.

Nazir Ahmad, the General Secretary of the JK Handicapped Association, expressed gratitude for the government's efforts to go the extra mile in alleviating the suffering of differently-abled individuals in the district.

He specifically highlighted the distribution of scooters (Scooty) to the young differently-abled population as a remarkable milestone achieved by the administration.

This initiative, according to Ahmad has significantly eased the challenges faced by young people with disabilities. He also acknowledged the close coordination between the District Social Welfare Office and their organization, which has been instrumental in resolving the specific issues faced by differently-abled individuals.

Furthermore, he praised the government for simplifying the online registration process, not only streamlining the system but also ensuring that only eligible individuals with disabilities are included in the registry, thus making the support more targeted and

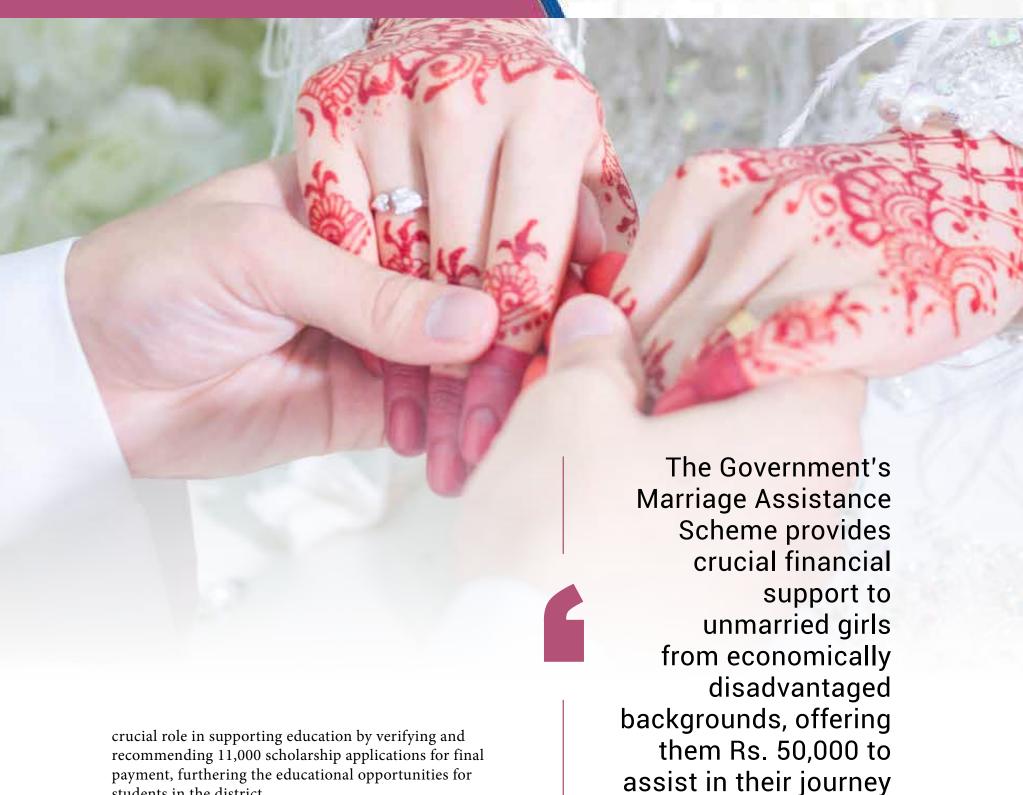
Deputy Commissioner Bandipora highlighted the significant impact of the National Social Assistance Programme (NSAP) and Integrated Social Security Schemes (ISSS) in providing essential financial support to 27,000 individuals in the district.

He said that this support encompasses various forms of assistance, including old-age pensions, widow pensions, and aid for physically challenged persons. Notably, 19,356 beneficiaries receive support through the Old Age Pension Scheme, while 5,043 individuals benefit from different Disability Pension schemes.

Mir Hidayatullah, the Bandipora District Social Welfare Officer revealed that an additional 2,508 widows receive assistance through various Widow Pension Schemes.

The total expenditure on these pension schemes has reached an impressive 8.56 crore rupees since April of the current year.

In addition to the pension schemes, the District Social Welfare Office in Bandipora has played a



students in the district.

Mohammad Azhar Malla, a student from Hajin Sonawari is physically handicapped and currently pursuing a master's Degree in Kashmiri from the University of Kashmir. He said it was impossible for him to pursue the degree and travel through public transport daily.

He said the social welfare department came to his rescue by providing a three-wheeler Scooty. "It saves my time and money and I am able to pursue my studies. Thanks to Lieutenant Governor and the Department of Social Welfare for handholding," he said.

While expressing gratitude to the government, Malla said social welfare is like a guardian for him. They also provide me with a monthly pension like pocket money to meet my basic needs.

The Department of Social Welfare in Bandipora is not limited to providing financial assistance; it's actively combating drug addiction. The establishment of the District Drug Deaddiction Centre (DDAC) earlier this year marked a significant step in this fight.

In just six months, DDAC has registered 189 patients, with many successfully recovering and reintegrating into society, breaking free from addiction's grip.

Deputy Commissioner Bandipora Dr Owais Ahmad said with the inclusion of the IPD facility in the DDAC, they are able to treat chronic drug addicts as

Furthermore, initiatives like the Sakhi One Stop Centre, Senior Citizens Home, CCI Girls, CCI Boys, and the District Disability Rehabilitation Center are all working under the department's supervision to implement various welfare programs for the public.

Dr. Owais Ahmed paints a picture of a thriving community, where the Social Welfare Department's

tireless efforts have woven a safety net for those in need. With a heart-warming achievement of reaching 100 per cent saturation in the old-age pension scheme, touching the lives of 27,000 deserving recipients, this district sets an inspiring example.

toward marriage.

He highlighted several novel initiatives that are currently operational in the district, including the OSC (One-Stop Centre), Drug De-Addiction Centre, a Senior Citizens Home, and separate orphanages for girls and boys. "These initiatives are dedicated to serving the most vulnerable segments of society." He emphasized the district administration's proactive approach to ensuring that all eligible beneficiaries are covered.

"This involves conducting panchayat-wise surveys in consultation with Panchayati Raj Institutions (PRIs) to guarantee that no deserving individual is left without assistance," he informed.

Dr. Owais also mentioned the close monitoring of all stakeholders by the district administration and its collaboration with civil society members, organizations, and other agencies committed to the welfare of citizens. "Their collective efforts are aimed at achieving 100 per cent saturation for all welfare schemes".

He emphasizes that this journey is far from over; it's an ongoing mission to uplift society. As he aptly puts it, "The department remains steadfast in its commitment to serving the most vulnerable sections of society and improving the lives of those in need." In Bandipora, they're not just writing history; they're rewriting the future with compassion and resolve.



Hangul's endangered existence: Challenges and conservation strategies





ADEELA HAMEED

he Hangul, scientifically known as Cervus hanglu ssp. hanglu, is a Kashmiri deer species facing a severe threat to its survival due to a combination of factors, primarily driven by industrialization and extensive human intervention. This species has experienced a dramatic decline in its population since the beginning of the 20th century, sounding alarms for its survival.

In the early 1900s, the Hangul population was estimated to be a robust 5000 individuals. However, the latest Hangul population estimation census-2023 report reveals that estimated population of Hangul is now 289. This sharp decline can be primarily attributed to the destruction and fragmentation of their natural habitat, which has been severely impacted by urbanization, mass tourism, human interference, the establishment of illegal industries, and a significant military presence in the region.

The rapid expansion of human settlements and infrastructure development has encroached upon the Hangul's native habitat, leading to the destruction of critical wildlife corridors, thereby isolating and confining the deer population. The influx of mass tourism has further exacerbated the situation by causing disturbances and disruptions to their natural behavior and breeding patterns. The establishment of illegal industries in the region has introduced pollution, habitat destruction, and a range of environmental threats that have pushed the Hangul towards the brink of extinction.

Additionally, the ongoing conflict in the region has also contributed to the precarious situation of the Hangul. It has led to habitat disruption and human-wildlife conflicts, further imperiling

the deer.

In recognition of the dire situation, the Hangul has been categorized as a "Schedule I" species under the Indian Wildlife (Protection) Act of 1972 and the Jammu and Kashmir Wildlife Protection Act of 1978. Despite these protective measures, experts and conservationists are gravely concerned about the impending extinction of this critically endangered species. Immediate and comprehensive conservation efforts are essential to prevent the Hangul from disappearing from the natural world, and to ensure that this unique Kashmiri deer species can thrive and persist for future generations.

Cement factories have constricted the corridors for hangul

Cement factories have significantly constricted the vital wildlife corridors crucial for the Hangul's survival and movement, particularly in the region near Srinagar, specifically in Khrew, an area adjacent to a wildlife sanctuary. This area serves as a crucial link connecting various wildlife-rich regions, including the Dachigam National Park and Gurez Valley in northern Kashmir, with other protected areas such as the Shikargah Conservation Reserve (now part of the Tral Wildlife Sanctuary), Overa Aru Wildlife Sanctuary, and Kishtwar National Park.

These corridors have historically been used by long-ranging animals like the Hangul for seasonal migration and movement. However, the construction and proliferation of cement factories have significantly limited the available space for the Hangul to safely traverse this corridor. As a result, these majestic Kashmiri deer are now predominantly confined to the Dachigam National Park, unable to access their extensive historical range.

In the past, Hanguls would traverse an area spanning from the Gurez Valley in the north, covering a distance of 150-200 kilometers, and extending southwards for 400 kilometers to Kishtwar National Park. Tragically, no Hanguls are known to exist in Kishtwar today.

The establishment of a cement factory in Khrew in the mid-1980s, covering approximately 12 square kilometers, was initially attributed to the substantial limestone deposits found in the nearby mountain range. However, in the subsequent decades, especially over the last two, numerous additional cement factories have sprung up in and around this area, encroaching upon the traditional Hangul corridor.

The presence of these cement factories is one of the primary concerns directly impacting the Hangul's habitat and, consequently, its population. It is estimated that there are now six cement factories operating in Khrew. Moreover, at least seven privately-owned cement factories have been established in the vicinity. The Supreme Court of India's guidelines stipulate that a 10-kilometer radius around wildlife sanctuaries should be considered an eco-sensitive zone, where construction and human activities are strictly prohibited. However, it is evident that many of the cement factories in Khrew are situated within just a kilometer of the adjacent wildlife sanctuary, likely in violation of wildlife conservation regulations.

The ramifications of these factories extend beyond encroachment upon Hangul habitat. They have also inundated pastoral land, forcing the pastoral community to relocate their livestock to higher elevations within the forests for grazing. This, in turn, further diminishes the safe spaces available for Hangul movement and compounds the challenges faced by this critically endangered species.

The adverse impact of cement factories on Hangul habitat is a pressing concern, and urgent conservation measures are necessary to mitigate these threats and ensure the survival of this unique and vulnerable species.

Hangul population is adversely impacted by human intervention

Human intervention has emerged as a major and multi-faceted threat to the Hangul population, significantly affecting its survival and well-being.

Hanguls, known for their acute sensitivity to both smell and sound over long distances, face considerable challenges due to the blasting of limestone deposits around Khrew, which disrupts their movements. This activity not only restricts their range but also causes distress to these majestic creatures.

Moreover, emissions from the surrounding cement factories have taken a toll on the physiology and feeding patterns of the Hangul. Chemical particulates released by these factories settle on the grass in Hangul feeding areas, making forage a problematic endeavor for these animals on the move.

The confined habitat of the Hangul, a species known for its long-ranging movements, has led to reduced breeding. Reports suggest an imbalanced sex ratio, with a higher number of females compared to males, a situation considered unfavorable for the species. Furthermore, the addition of new fawns to the population is limited, and even when new offspring are born, their survival rates are distressingly low. Various factors contribute to this grim statistic, including changes in climate, natural predation by animals

like foxes and jackals, and humanrelated threats, such as attacks by paramilitary forces' dogs based inside Dachigam.

In the aftermath of the insurgency in the 1990s and ongoing border disputes between India and Pakistan, grazers have increasingly chosen areas like upper Dachigam and other sections of the Hangul corridor for their livestock. This has an immediate and detrimental impact on the Hangul's habitat, further restricting their already constricted space.

In addition to these challenges, mounting tourism and human activities within Hangul's habitat have also severely affected their well-being and survival. The cumulative impact of these

human-related factors has prevented the Hangul population from stabilizing over the past three decades. Urgent and comprehensive conservation measures are essential to mitigate these threats and secure the future of this critically endangered species.

Recommendations

Several key recommendations emerge as essential to safeguard the Hangul population and address the multitude of threats facing this endangered species comprehensively:

Recognition of Armed and Industrial Impacts: It is crucial for the government to acknowledge the detrimental impact of the deployment of security forces and the establishment of cement factories within Hangul's habitat. These factors pose genuine threats and need immediate resolution to ensure the preservation of the species.

Comprehensive Census and Monitoring: The Hangul census, conducted biennially by the Wildlife SOS team in collaboration with the Jammu and Kashmir Wildlife Department and student volunteers from Kashmir University, should be expanded to include regions around Khrew, which serve as important Hangul corridors. This will provide a more accurate assessment of the Hangul population and help in formulating conservation strategies. Ensuring transparency in the census process is vital to avoid underreporting.

Removal of Cement Factories and Paramilitary Encroachments: Actions need to be taken to remove and decommission the cement factories and paramilitary establishments that have encroached upon Hangul habitat. Strict enforcement of guidelines, such as the 10-kilometer eco-sensitive zone around wildlife sanctuaries, must be implemented.

Active Implementation of Conservation Projects: The Hangul preservation project initiated in 2015, which focuses on community support, awareness, and wildlife management, needs to be revitalized and fully implemented. The conservation breeding center established in Shikargah should be operationalized, and Hangul should be brought into captivity to ensure their protection and potential reintroduction into the wild.

Improvement of Breeding Center Facilities: Efforts should be made to enhance the quality and infrastructure of the breeding center to align with international standards. This will contribute to the successful breeding and conservation of Hangul in captivity.

Public Awareness and Engagement: Public awareness campaigns should be intensified to inform local communities, tourists, and the general public about the importance of Hangul conservation and the need for responsible behavior in their habitat. Involving local communities in conservation efforts can lead to more sustainable practices and support for Hangul protection.

Scientific Research and Data Collection: Further research and data collection on Hangul's behavior, habitat preferences, and

> dietary patterns can inform more effective conservation strategies and policies.

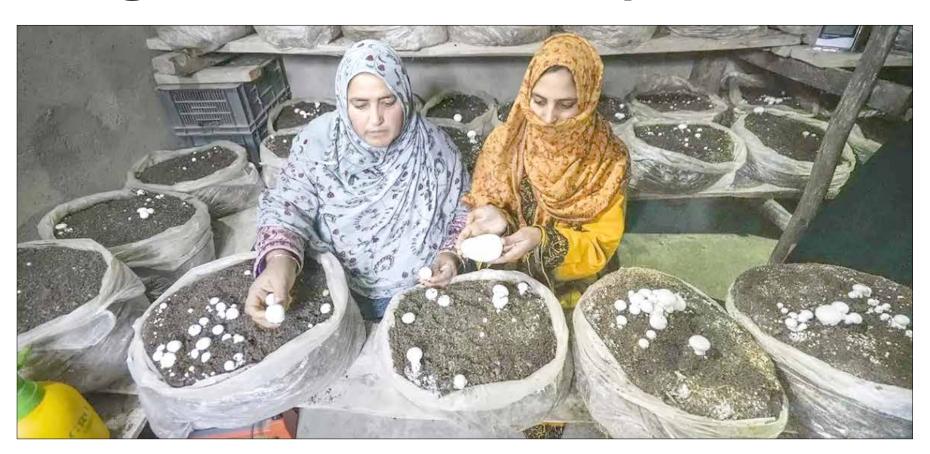
International Collaboration:

Collaborating with international organizations and experts in wildlife conservation can provide valuable insights, technical assistance, and financial support to bolster Hangul conservation efforts.

Incorporating these recommendations into a comprehensive conservation plan will be instrumental in reversing the decline of the Hangul population and ensuring the survival of this unique and critically endangered species. It requires the concerted efforts of government authorities, conservation organizations, local communities, and concerned individuals to protect the Hangul and its vital habitat.



Empowering rural women: Catalysts of change in India's rural development





NEHA AGGARWAL

ural development in India is a multifaceted and complex challenge that mandates active engagement of multiple stakeholders. Among these, women are key catalysts of economic and development agenda whose role can neither be ignored nor underestimated. It becomes imperative to account for their contribution to the rural transformation. This article explores the vital role of women in rural development, highlighting their impact on agriculture, entrepreneurship, healthcare, education, and community building. The rural economy in India constitutes a significant proportion of India's National Income, hence locating the need and role of women in rural development warrants analysis.

The rural women in India constitute a sizeable population. In India, Agriculture employs about 80% of rural women. Most rural women are engaged in the unorganized sector, agriculture and allied activities.

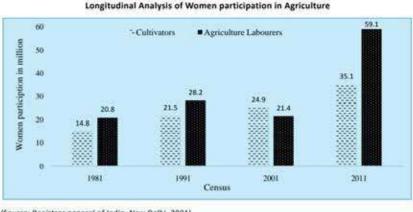
Agriculture and Food Security

In rural areas, women are the backbone of agriculture. They plant the seeds, nurture the crops, tend to livestock and ensure food security for their families and communities. In fact, they maintain the vitality of rural economies. India is an agrarian economy with about 54.6% of the total workforce engaged in agricultural and allied sector activities (Census 2011). One of the most significant areas where women have made their mark in rural development is agriculture and the allied sector. The workforce participation rate for rural females is significantly higher at 41.8% than urban women's participation rate of 35.31% as per the Ministry of Statistics and Programme Implementation (MoSPI, 2017).

There is heavy feminization of agriculture in India. In fact, out of the 135 crore population of India, 65.13% live in the rural setups and women constitute 48% of the total rural population. 74.8% of women are agricultural workers and 81.3% of the female workforce in India belongs to rural women, but women account for only 19.9% of the total labour force as per World Bank Data (2020). A recent

report by "The Centre for Monitoring Indian Economy" reveals that the labour participation rate of rural women was only 9.92% in March 2022 as compared to 67.24% for men. Despite all this women are contributing immensely to the agriculture sector from sowing seeds, and supporting family income to food security, rural women

actively participate in rural development.



(Source: Registrar general of India, New Delhi, 2001)

In Kashmir, the dairy industry is growing and seen as a remunerative option. Pulwama district has emerged as the Anand of Kashmir with diary cooperatives run by women. With 8.5 lakh litres of milk supplied to 40 collection centres daily, Pulwama is the leading producer of milk in the valley. The self-help groups and women's cooperative societies have turned the milk business into a successful venture. Shahzada Akther, a female hailing from the remote village of Mitrigam of south Kashmir's Pulwama district owns the biggest dairy farms in Kashmir. She is popularly called the dairy queen of Kashmir. Their Self-help Group named 'Chandani' has improved the lives of hundreds of women in villages and empowered them economically.

Entrepreneurship and Livelihood

In rural India, the feudalistic constraints still loom large. However, the mindset of women has undergone social and psychological transformation. Women's entrepreneurial activities cut across various sectors, which include handicrafts, dairy farming, selfhelp groups and tailoring. This ensures infusion of income not only improves their individual livelihood but also promotes their overall economic growth. Hence, these sectors serve as the key drivers of local economic development. Furthermore, microfinance institutions and government schemes have played an instrumental role in facilitating the decentralized economic

growth in rural households. In rural India women most often is engaged in creating handicrafts and artisanal products. For instance, the famous The Self Employed Women's Association (SEWA) in Gujarat is worth quoting. SEWA empowers women by providing a platform to sell their handmade textiles, embroidery, and traditional crafts.

In the same jugular vein women in rural areas are not only modifying their existing economic situation but are also becoming agents of growth in rural development. In Tamil Nadu, the "Pudhu Vaazhvu" program supports women in setting up small businesses. This program supports them in for instance pickle making, garment manufacturing and other stuff, which enables them to generate more income and improve their livelihood and of their families. These initiatives have led to the creation of jobs, improved household income, and reduced poverty levels in rural areas.

Healthcare and Well-being

Rural India has often been neglected in healthcare facilities. However, generally, we see women often take on the role of caregivers and health educators within their communities. Their engagement in healthcare initiatives, for instance in maternal and child health, has led to significant improvements in overall well-being. Female health workers, known as Accredited Social Health Activists (ASHAs), play a critical role in providing essential healthcare services, conducting health awareness campaigns, and promoting hygiene and sanitation practices. This involvement has resulted in reduced maternal mortality rates and better child health outcomes. ASHAs like Phulmati Devi in Bihar have made significant contributions to rural healthcare.

Nongovernmental organizations have also transformed the rural stories by reaching out to them. Women leaders in organizations like the Naandi Foundation have launched innovative nutrition programs in rural areas. These initiatives aim to combat malnutrition and improve the overall health of women and children. Such initiatives have really shown a visible impact on the ground.

Jan Swasthya Sahyog (JSS), a non-profit organization based in tribal areas of Chhattisgarh, aims at developing and promoting low-cost, high-quality health solutions for vulnerable people in Chhattisgarh including rural Bilaspur. Undernutrition in rural Chhattisgarh is one of the leading causes of mortality and morbidity. Hence under the JSS, a new programme was launched known as "Phulwari" which is aimed to provide crèche facility to all children aged between 6 months to 3 years dwelling in any of the 54 programme villages under the JSS scheme. Nutritional Food is provided to them to ensure their good health. These creches are run by women selected by their local community. Hence, local women become empowered health worker, who is trained and provides healthcare services, which has a multiplier effect in promoting well-being in underserved regions. With women being the front runners in rural development in the rural health sector, other critical measures like health education are also given primacy.

Education and Empowerment

Education is a powerful tool for women's empowerment. Rural women are asserting slowly for the education of their daughters gradually. Women's Self-Help Groups (SHGs) have played a crucial role in promoting female literacy in rural areas. By gaining access to education and information, women are better equipped to make informed decisions about their lives, families, and communities. Their employability and entrepreneurial abilities are also improved by education, creating new chances. In fact with digital literacy, Women from villages like Dharnai in Bihar have started online businesses, selling handmade products and agricultural produce through e-commerce platforms.

Similarly, Kudumbashree a women's self-help group program in Kerala is led by women leaders. It has empowered millions of women by providing training and financial support for various income-generating activities, including agriculture, handicrafts, and microenterprises. Self-Employed Women's Association

(SEWA) is a well-known name today. It has empowered millions of poor across India. SEWA focuses on education, skill development, and advocacy to improve the livelihoods and status of rural women.

Community Building and Social Change

Women in rural India foster community cohesion and initiate social change. They are often at the forefront of community-based organizations, participating in local governance, and advocating for their rights. These efforts have led to increased gender equality, improved access to resources, and the empowerment of marginalized groups within rural communities. Women's active involvement in villagelevel decision-making processes has brought about positive changes in areas such as water management, sanitation, and infrastructure development.

Many rural women in India lead community development initiatives. For instance, Chetna Organic, founded by rural women in Maharashtra, promotes organic farming practices, improving farmers' livelihoods and the environment. Within community development, enabling people with skill development is a priority. For instance, the Mahila Shakti Kendras in Jharkhand offers training in stitching, weaving, and handicrafts, making women become skilled entrepreneurs. Furthermore, rural women have also founded social enterprises. The "Sulabh International" organization in rural areas of India is led by women who have pioneered sanitation solutions, improving hygiene and livelihoods.

Challenges and the Way Forward

Despite their significant contributions, women in rural India still face numerous challenges, including limited access to resources, inadequate healthcare access, technology gaps, unequal power dynamics, access to training and resources, and social norms that restrict their mobility and opportunities. Further cultural and societal norms often restrict women's opportunities and roles in rural areas. Gender-based violence, unequal workload distribution, and lack of decision-making power further perpetuate inequality.

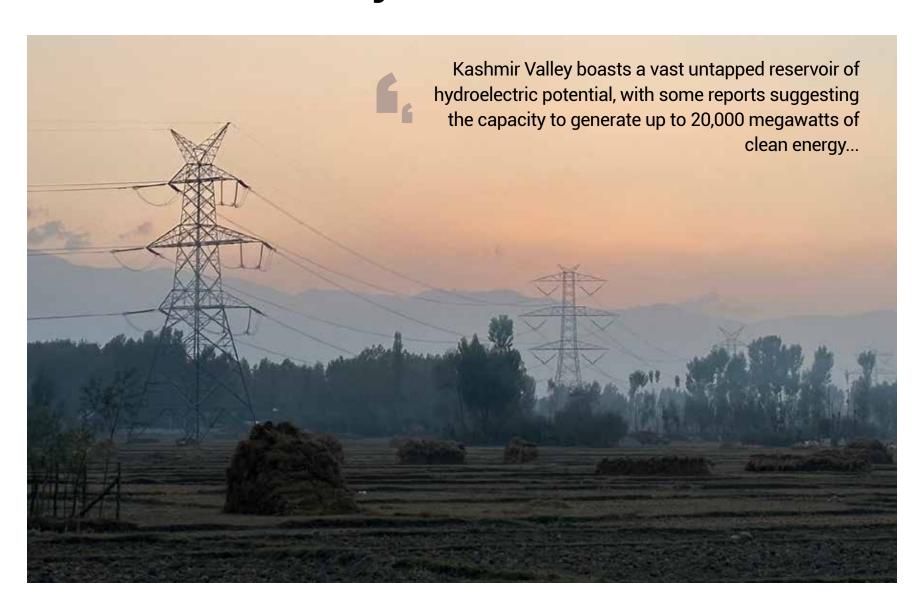
There is a functional lack of representation when it comes to women in rural development. Formally women's representation is ensured however, women's underrepresentation in local governance and decision-making bodies results in policies and projects that do not adequately address their needs.

To harness their full potential in rural development, it is essential to address these barriers through targeted policies and initiatives. Providing access to education, healthcare, financial services, and skill development programs can empower women and unlock their potential as change agents in rural India. As we look forward to a more equitable future, we must prioritize the implementation of gender-sensitive policies that promote women's empowerment in rural development. Education reforms, economic incentives, and measures to combat gender-based violence are all crucial aspects of policy recommendations. We must advocate for and support these policies to foster sustainable rural development and gender

Conclusion

Women in rural India are not just beneficiaries of development; they are active agents of change. Their multifaceted contributions span agriculture, entrepreneurship, healthcare, education, and community building, creating a ripple effect that positively impacts entire villages and regions. Recognizing and nurturing the vital role of women in rural development is essential for achieving sustainable and inclusive growth in India's rural areas. Empowering rural women is not just a matter of gender equality; it is a strategic imperative for the nation's progress. To attain the trillion-dollar economy mark, it will be a grave mistake if we do not capitalize on this large chunk of our demographic dividend for further rural development.

Kashmir's unrelenting struggle for reliable electricity





PARVAIZ YOUSUF

s the crisp winter breeze sweeps through the picturesque Kashmir Valley, residents brace themselves for a recurring challenge: power outages. Amidst the stunning natural beauty that graces this region lies the stark contrast of an unreliable power supply. The people of Kashmir find themselves entangled in the vexing labyrinth of erratic electricity provision, despite the installation of smart meters and substantial infrastructure investments. This persistent issue transcends mere inconvenience, casting a frustrating shadow over daily life, hindering productivity, and sowing unnecessary distress. However, its repercussions extend far beyond mere inconvenience, profoundly affecting all facets of Kashmir's economy and society, encompassing businesses, healthcare, and the overall well-being of its inhabitants.

Unscheduled power cuts and smart meters

In Kashmir, residents grapple with the disheartening regularity of power outages that cast a somber pall over towns, cities, and remote villages. Their daily narratives are punctuated by tales of prolonged power failures, followed by fleeting moments of respite. This capricious power supply disrupts the rhythm of daily life, eroding convenience and productivity.

The challenge of power shortages intensifies, especially during the unforgiving winter season when the need for electricity becomes paramount in the battle against the bitter cold. Extended power blackouts stretching from early morning to late at night have become all too familiar, causing not only frustration but also

detrimental effects on the health and well-being of the residents. It shatters the equilibrium of daily existence, leaving individuals and communities grappling with uncertainty and the looming specter of darkness.

In a bid to address this crisis, smart meters were introduced in Kashmir, albeit amidst local resistance. These devices held the promise of resolving the region's enduring power woes, heralding an era of efficiency and uninterrupted electricity supply, long sought after by the residents. However, the reality on the ground paints a starkly different and disillusioning picture.

Instead of reaping the touted benefits of smart meters, the people of Kashmir find themselves grappling with exasperating power outages persistently. This cruel irony has left the local populace disheartened and perplexed. They are left wondering why substantial investments were channeled into power grid enhancements that have yet to deliver on the pledge of round-theclock electricity.

Consequently, this unfulfilled promise has bred growing despondency among the residents, who rightly seek answers and accountability. They are eager to uncover the parties responsible for these substantial investments in the power sector that have fallen short of delivering the reliable electricity supply they were assured.

The decline in power generation and Kashmir's hydroelectric potential

Kashmir Valley boasts a vast untapped reservoir of hydroelectric potential, with some reports suggesting the capacity to generate up to 20,000 megawatts of clean energy. This, if harnessed effectively, could emerge as a transformative catalyst for economic growth in the region. However, the present reality paints a different picture, with Kashmir Valley currently only contributing a modest 3,263 megawatts to the energy grid. The situation takes a more challenging turn during the unforgiving winter months, as most of the water bodies, including the tributaries that feed the major rivers, freeze in the grip of the severe cold, rendering the water resources



inaccessible for electricity production. Presently, an array of unprecedented factors is impacting power generation in the valley.

Significantly diminished water levels in critical rivers such as the Jhelum and Chenab have thrown the region's power generation into disarray. The Chief Engineer of the Kashmir Power Distribution Corporation Limited (KPDCL) recently emphasized in a published article how this drop in water levels has adversely affected the region's vital electricity-producing plants. As a result, the already fragile power supply in the valley has become even more precarious.

Amid these challenges, a glimmer of hope emerges in the form of ongoing efforts to diversify energy sources. However, this situation raises a pressing question: Why weren't these measures initiated earlier? The sudden dip in water levels was a foreseeable issue that could have been averted, sparing residents the agony of extended power outages. Consequently, it is imperative for the government to address the immediate crisis while also strategizing to prevent the recurrence of similar power disruptions in the future.

The bitter pill of soaring power costs in Kashmir

Kashmir's recent, abrupt 25 percent surge in electricity rates has dealt a severe blow to its residents. The Power Development Department (PDD) administered this unanticipated financial setback, citing its necessity to bolster revenues. However, this move has elicited a distinctly negative impact on the average citizen, whose power bills have now escalated significantly. In a region where financial constraints are already acutely felt, this additional burden has compounded the hardships faced by those grappling with economic challenges. The populace's discontent and frustration with the government's ostensibly revenue-boosting decision are palpable, as it inadvertently exacerbates the financial woes of the very people it is meant to assist.

In juxtaposition to the substantial hike in power rates, Jammu and Kashmir has experienced a notable surge in its power supply, primarily due to the efforts of the Joint Electricity Regulatory Commission for UT of J&K and Ladakh. While this development might appear favorable for the financial interests of the Power Development Department (PDD) and the government, it offers little solace to ordinary citizens who continue to grapple with frequent power outages and an erratic electricity supply.

Conversely, the region has witnessed a substantial reduction in annual expenditures for purchasing power. While this could be perceived as prudent fiscal management, it serves as a stark reminder that the government's financial gains have yet to translate into improved services for the populace. The people of Kashmir advocate for a more equitable allocation of resources, wherein increased revenues are accompanied by enhanced essential services like electricity supply. The disconnect between progress on paper and the real-life experiences of the people compounds their disillusionment.

Discrepancy between official claims and ground realities

Despite the administration's assertive proclamations that the power deficit issue in Kashmir has been successfully addressed through the practice of borrowing electricity from neighboring states, the stark contrast between official narratives and the lived experiences of Kashmiri residents is undeniable.

In practical terms, the persistent and protracted periods of darkness that continue to plague the region cast significant doubt on the effectiveness of the power banking strategy. Prolonged power outages, affecting both households and businesses, have

become an all-too-familiar, disheartening reality. This unfortunate truth not only disrupts the daily routines of the people but also exerts a detrimental impact on the local economy, undermining businesses and diminishing the overall quality of life. The glaring chasm between the government's proclamations and the harsh realities faced by Kashmiris underscores the urgent need for genuine, enduring solutions to the region's power predicaments.

The economic and healthcare ramifications of power shortages in Kashmir

Kashmir's enduring power outage issue has unleashed dire consequences on the local hotel and restaurant sector, as poignantly articulated by the Kashmir Hotels and Restaurant Owners Federation (KHAROF) in a recent exposé. The protracted power blackouts present a formidable challenge for the industry, even in the midst of a steady influx of tourists. Business owners are compelled to invest in costly generators to ensure their establishments continue to function during the pervasive darkness, thereby eroding their already slender profit margins.

This predicament not only stymies the industry's growth but also jeopardizes the livelihoods of many. The tourism sector, a cornerstone of Kashmir's economy, takes a substantial hit as visitors grapple with the inconveniences stemming from unreliable power supply. These persistent power outages tarnish the region's reputation, discouraging potential tourists and exacerbating financial strains on businesses.

Beyond the inconveniences, the power shortages in Kashmir extend their detrimental impact to healthcare. People dependent on oxygen support at home find themselves in dire circumstances during these blackouts. This harrowing scenario serves as a stark illustration of how unreliable electricity can imperil lives, accentuating the critical need for dependable power sources in the region.

Addressing the power crisis in Kashmir: A call for comprehensive solutions

The reluctance of officials to acknowledge the glaring disparity between Kashmir's power production and its substantial energy demand underscores the severity of the ongoing power crisis. In a region that necessitates approximately 1,600 MW of electricity daily, the actual supply hovers between a meager 950 to 1,150 MW. This significant deficit exerts a profound impact on the daily lives of the populace.

The urgency of finding robust, all-encompassing solutions to bridge this glaring gap cannot be overstated. The government must explore alternative avenues for electricity generation, allocate resources toward modernizing the existing infrastructure, and implement robust energy conservation measures. Embracing renewable energy sources could provide a sustainable, long-term remedy to the persistently inadequate energy supply. Addressing this shortfall is not merely a matter of necessity; it is a vital step toward enhancing the quality of life and revitalizing the economy within the Kashmir Valley.

Conclusion

Kashmir's power crisis transcends mere inconvenience; it constitutes a pervasive crisis that casts a shadow over every facet of life in the valley. Despite considerable investments, pledges of smart meter deployment, and escalated power rates, the region remains ensuared in the throes of an erratic electricity supply. This situation is unsustainable, demanding unequivocal accountability from both the government and power authorities.

The resilient people of Kashmir deserve more than mere rhetoric; immediate and effective measures must be undertaken to rectify this pressing issue. As the harsh winter approaches, reliable electricity is no longer a luxury but a lifeline for survival. Ensuring a consistent power supply should stand as a paramount objective, safeguarding not only the well-being of the residents but also the vitality of the economy, healthcare, and overall quality of life within the region.

The people of Kashmir yearn for tangible actions, not hollow promises, to transform the litany of commitments into genuine progress.

Protecting the Green Gold: A comprehensive look at forest conservation in J&K





ZAHOOR AHMAD DAR

Porests play a significant role in preserving biodiversity, balancing the ecological system, and helping in reducing the adverse impacts of climate change. From supplying oxygen to acting as carbon sequestration, forests have multifarious functions. With the indiscriminate cutting of trees and forests, less carbon dioxide is absorbed by plants and atmospheric carbon dioxide concentration increases over a period of time. In fact, excessive industrialization and rising greenhouse gasses eventually accentuate the phenomenon of global warming. Of the total world geographical area of 510.072 million sq. km, water comprises 361.132 million sq. km. and 148.940 million sq. km. of land, while forest cover accounts for 31% of the global land area.

India is known for its rich biodiversity and possesses vast forested regions. These forests, covering approximately 24% of the country's geographical area, play a pivotal role in maintaining ecological balance and mitigating the adverse impact of climate change. In India, there are 7, 13,789 square kilometres of forests. Since the most recent assessment (ISFR-2019), the country's total area covered by trees and forests has grown by 2,261 sq km. From 19.53% in the 1980s to 21.71% in 2021, it rose. Between 2019 and 2021, India's forest cover increased by 1,540 sq km. India today has 80.9 million hectares of total green space which is 24.62 % of its total land area. The state with the most forest cover was Madhya Pradesh, followed by Arunachal Pradesh, Chhattisgarh, Odisha, and Maharashtra.

India has witnessed the highest spike in deforestation in the past 3 decades, with an exponential rise recorded between 2015 and 2020, according to Utility Bidder, a United Kingdom-based comparison site for energy and utility costs. During these years, the country was ranked second only after Brazil, with average deforestation of 668,400 hectares (ha).

While India lost 384,000 ha of forests between 1990 and 2000,

the figure rose to 668,400 ha between 2015 and 2020. With a difference of 284,400 ha in forestry loss between 1990 and 2020, India has seen the biggest increase in deforestation. What is equally concerned during this period are the rising incidences of forest fires. According to the India State of Forest Report (ISFR) 2021, forest fires threaten 35.46 percent of the country's forest cover. 2.81% are extremely vulnerable, 7.85% are very highly vulnerable, and 11.51% are highly vulnerable.

The massive industrialization, demand for urbanization, over-exploitation of resources and burgeoning population explosion have led not only to decline but also permanent loss of forest cover at an unprecedented level. Forests around the globe are cleared chiefly for agriculture, mining, developmental projects and logging. Deforestation is one of the most significant challenges faced by Indian forests while the state-wise condition of forests evinces a poor image. J&K has been facing forest fires, deforestation, and unsustainable urbanization affecting forest lands and developmental projects making the forested area ecosystems fragile.

Status of Forests in J&K

Kashmir possesses a diverse range of forests owing to its varied topography, climate, and altitudes. The region's agriculture, energy and tourism industries are directly impacted by Kashmiri's evergreen coniferous forests and snow-capped peaks.

Jammu and Kashmir has five types of forests namely, (i) Subtropical Dry-Green Forests, (ii) Himalayan Moist Temperate Forests, (iii) Himalayan Dry Temperate Forests, (iv) Sub-tropical Pine Forests, and (v) Sub-Alpine and Alpine Forests. It has 42 forest types due to altitudinal and latitudinal variations. J&K has the distinction of having the highest growing stock of wood per unit area which is around 172.46 cubic meters per hectare. Apart from this the per hectare carbon stock of JK is 173.41 tons/hectare. This is the highest in India as per the Indian state of Forest Report 2021. As per ISFR report 2021, J&K has a forest area of around 48% of the total geographical area.

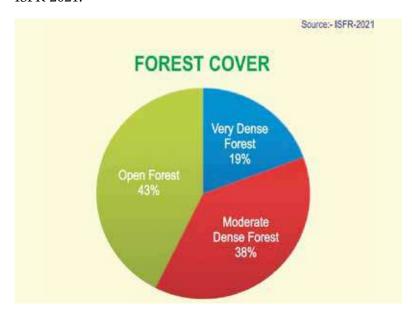
S.No	Region	Total Geographical Area (Sq.km.)	Forest Area (Sq.km.)	Percentage of total geographical area.
1.	Kashmir	15948	8128	50.97%
2.	Jammu	26293	12066	45.89%
	Total	42241*	20194	47.80%

Source: Working plan circle

The forest cover of Jammu and Kashmir is 21,387 Sq. Km. It is categorized into 3 groups. First is Very Dense Forest – 4,155 Sq. Km (19.43%), second is Moderate Dense Forest – 8,116 Sq. Km (37.95%) and the third one which is the highest is Open Forest – 9,115 Sq.km (42.61%).

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Following is the representational image of forest/tree cover in J&K in terms of percentage of total geographical area as per ISFR-2021:



Forest Survey of India (FSI) argues that the forest, meadows and tree cover of the Union Territory of J&K is around 54% of its geographical area which is generally higher than the forests and tree cover of 24.56% at the country level and above the national objective of 33%. In fact as per the National Forest Policy a union territory or a mountainous state should have 66% of its geographical area under tree and forest cover in order to ensure stability of the fragile ecosystems.

The erstwhile state of J&K was the 6th largest State having 2, 22,236 sq.km of geographical area. In fact, in terms of District wise, Kargil had the smallest area of 46 sq. km. followed by Leh with 92 sq. km. In the rest of the districts, Doda had the largest area of 3,819 sq. km while Udhampur is the highest district in terms of percentage of 60.13 to its geographical area. The district of Budgam was the lowest in terms of both area of 312 sq. km. and percentage. What has become a common trend is the indiscriminate cutting of trees and rising incidences of wood smuggling from forests.

Growing deforestation, Illegal Logging, and Land Use Changes due to increased urbanization and agricultural expansion has encroached upon forested areas, leading to habitat fragmentation and a decline in forest cover. In fact due to rising global temperatures, climate change is wreaking havoc globally. Kashmir's forests are vulnerable to the impacts of climate change, including shifts in temperature and precipitation patterns, which can affect the distribution of plant and animal species.

As per the data in 2010, J&K had 660kha of natural forest, which covered over 8.3% of its land area. However, in the year 2022, it lost 19 ha of natural forest, equivalent to 7.97 kt of CO2 emissions. Over a period of two decades i.e., from 2001 to 2022, J&K lost 946 ha of tree cover from fires. Most tree cover loss recorded due to fires was in 2004 with 240 ha lost to fires — 27% of all tree cover loss for that year. From the year 2001 to 2022, district Rajouri had the highest rate of tree cover loss due to fires with an average of 9 ha lost per year. Fires were responsible for 23% of tree cover loss in Jammu and Kashmir between 2001 and 2022.

J&K State Forest Policy-2010 reveals that the effects of the degradation of forests are already quite visible in the form of drying up of perennial water sources at many locations, more severe soil erosion, increase in flash floods, silting up of reservoirs, loss of biodiversity and reduced forest productivity. The new Forest (Conservation) Amendment Act of 2023 has loosened the restrictions of the original Central Act of 1980 to make it easier to divert forest areas for significant development projects, establishing key linear projects of national importance, and building infrastructure related to security. Prior to the amendments in August 2019, J&K had its own Forest Conservation Act of 1987, which contained relatively tight guidelines to limit the use of forest land for purposes other than those of a forest. The Central Act of 1980 has repealed that law and taken its place.

Policy Recommendations for Preserving Jammu and Kashmir's **Forests**

Safeguarding the forests of Jammu and Kashmir (J&K) is paramount for biodiversity preservation, climate resilience, and the well-being of local communities. Here are key policy recommendations:

Strengthen Enforcement and Customization:

Enforce existing forest conservation laws rigorously, imposing penalties for illegal activities.

Tailor regulations to address regional challenges effectively.

Promote Community-Based Management:

Encourage community participation in forest management to foster local engagement.

Provide incentives and training to promote sustainable forest practices within communities.

Protect Critical Habitats and Biodiversity:

Identify and safeguard critical habitats and biodiversity hotspots.

Implement targeted conservation programs for endangered flora and fauna.

Comprehensive Forest Fire Management:

Develop a robust strategy for forest fire prevention and control. Invest in cutting-edge fire detection and suppression equipment and training.

Reforestation and Afforestation Initiatives:

Launch projects to restore degraded areas through reforestation and afforestation.

Prioritize the use of native species to maintain ecological balance.

Climate-Smart Forest Management:

Incorporate climate-resilient forest management practices.

Continuously monitor and assess the impact of climate change on forests and adapt as needed.

Sustainable Eco-Tourism Promotion:

Encourage sustainable eco-tourism to generate income for local communities.

Ensure that tourism activities do not harm the environment.

Public-Private Partnerships:

Foster collaborations between the public and private sectors for sustainable forest management and investment.

Disaster Response Plans:

Develop comprehensive plans to address natural disasters in forested areas, including floods, landslides, and avalanches.

Education and Awareness:

Launch awareness campaigns to educate communities about the importance of forest conservation and its benefits.

Integrate environmental education into schools and colleges.

Conclusion

Prioritizing sustained interaction and community involvement, especially with local communities engaged in forest management, should be the cornerstone of our efforts. These policy recommendations serve as a foundation for a holistic forest protection strategy tailored to the unique ecological and socio-economic factors of Jammu and Kashmir. The active involvement of local communities and stakeholders in policy planning and implementation is essential for long-term success.

The global rice crisis: How climate change threatens a staple food of 3.5 billion people



SEMRAN PARVAIZ

Rice, a dietary cornerstone for half of the global population, has provided sustenance for millions over centuries, spanning continents from Asia to Africa. However, the spectre of climate change has cast a sombre shadow over its future production. Escalating temperatures, shifting precipitation patterns, and extreme weather phenomena now imperil the world's rice supply and the food security of billions.

The Kashmir Valley, adorned with expansive rice fields that once symbolized agricultural abundance, finds itself in the throes of this climate crisis. Incessant rains earlier this year wreaked havoc on the delicate rice saplings, leaving many farmers bereft of the resources to replant during the critical season. Consequently, the repercussions of climate change on Kashmir's agricultural landscape are profound and demand immediate attention and remediation.

Climate change and rice production

Global awareness of the intersection between climate change and rice production is paramount, extending its relevance even to regions like Kashmir. As global temperatures continue to rise, the stressors on rice-growing areas intensify, resulting in reduced yields and compromised grain quality. Prolonged heatwaves inflict irreparable damage to rice crops, undermining their growth and maturation. Moreover, escalating temperatures facilitate the proliferation of pests and diseases, compounding the challenges already faced by farmers.

Shifts in precipitation patterns and a surge in extreme weather events further compound the predicament of rice cultivation. Climate change exacerbates the severity of floods and droughts, disrupting planting and harvesting cycles, devastating crops, and depleting fertile soils. The increasing frequency of extreme weather events leaves farmers susceptible to unpredictable conditions that can shatter their livelihoods. It is imperative to delve into these factors that exert a profound influence on global rice production.

Crucial global factors impacting rice production

The far-reaching impact of climate change on rice farming is undeniable, manifesting in both direct and indirect ways that profoundly affect crop growth and development. Below, we outline key facets illustrating how climate change exerts its influence on rice production:

Escalating temperatures and heat stress:

The relentless rise in global temperatures has transformed from mere statistics to tangible, disastrous realities. Rice, acutely sensitive to temperature fluctuations, faces the brunt of this phenomenon. Heightened temperatures during critical growth stages impede photosynthesis, hinder grain filling, and ultimately diminish overall yields. Elevated heat levels also disrupt flowering patterns, rendering pollen less effective, thereby impeding pollination and seed formation.

Altered precipitation patterns:

Kashmir, renowned for its well-regulated and predictable rainfall, now grapples with erratic weather patterns due to climate change. Recent instances of unexpected rains and fierce storms have taken a heavy toll on rice saplings. Shortened monsoon seasons and sudden, intense rainfall events inflict considerable harm on rice fields. The crop, reliant on a timely water supply, often faces inadequate moisture during crucial growth phases, resulting in reduced vigour and diminished yields. The delicate balance between water availability and demand exacerbates the precarious situation for rice cultivation, with regions dependent on monsoons experiencing irregular and potentially destructive rainfall patterns, leading to droughts and floods. In Kashmir, this year's drought disrupted seed germination, slowed plant growth, and led to crop losses.

Extreme weather events:

Across the globe, climate change intensifies the frequency and severity of extreme weather events such as hurricanes, cyclones, and typhoons. These calamities wreak havoc on rice crops, causing plant lodging, crop destruction, and soil erosion. Subsequent periods of prolonged rain or drought complicate farming activities.

Pests and diseases:

Climate change influences the occurrence and proliferation of pests and diseases detrimental to rice crops. Elevated temperatures expedite the life cycles of pests, facilitating increased reproduction and geographical expansion. Escalating pest infestations inflict harm on rice crops, necessitating the use of pesticides, which poses environmental and health hazards.

Elevated Carbon Dioxide (CO2) levels:

Human activities can significantly elevate atmospheric CO2 levels, thereby exerting both beneficial and detrimental effects on rice cultivation. On the positive side, increased CO2 concentrations can enhance photosynthesis, leading to accelerated growth in certain rice varieties. However, this phenomenon can also have adverse consequences, as it may deplete essential micronutrients like iron and zinc, crucial for human health.

Glacial retreat and the looming water crisis:

The gradual melting of glaciers, a direct consequence of climate change, has triggered a ticking time bomb in Kashmir's rice-producing regions. For centuries, farmers in areas such as Pahalgam, Ganderbal, Kangan, and Budgam have relied on glacial water to irrigate their crops. However, the ongoing thaw of these massive ice sheets is rapidly depleting the vital water sources that have sustained rice fields for generations. This impending water crisis shrouds the future of rice farming in uncertainty, rendering farmers powerless and jeopardizing their livelihoods.

Global food security ramifications:

The impacts of climate change on rice production extend far beyond the boundaries of individual farming communities. Rice stands as a dietary staple for countless people worldwide, particularly across Asia, where it forms a cornerstone of daily sustenance. Given that over half of the world's population depends on rice, any disruption in its production poses a substantial threat to global food security.

A decline in rice production would likely result in higher prices and reduced availability, exposing millions to malnutrition and hunger. Those most vulnerable to this crisis would include the physically weak and inhabitants of low-income nations. This scenario could exacerbate inequalities, fuel social unrest, and

potentially lead to mass migrations and geopolitical tensions.

It's crucial to remember that climate change is exacerbating the challenges of rice cultivation not only in distant regions but also in places like Kashmir. This is not a distant concern but an urgent crisis that demands immediate attention. If we fail to take action, the consequences will be catastrophic, impacting not only the livelihoods of rice farmers but also the food security and cultural heritage of the affected areas. We cannot afford to remain passive; it is imperative that we unite and act swiftly to address this pressing issue.

Addressing the challenges:

To tackle the multifaceted challenges posed by climate change in rice production, a comprehensive set of adaptation strategies must be implemented:

Development of climate-resilient rice varieties: Prioritizing research and development in rice breeding is paramount. This investment can yield resilient rice varieties capable of withstanding adverse conditions such as high temperatures, water scarcity, pests, and diseases. These enhanced traits ensure consistent or improved crop yields in the face of unpredictable weather patterns, safeguarding global food security, promoting sustainable agriculture, and mitigating climate change's adverse impacts on rice production.

Enhanced water management: Maximizing water efficiency within rice farming is essential. This involves adopting effective irrigation systems, employing water-saving technologies, and establishing storage facilities. Techniques like alternate wetting and drying offer practical solutions by allowing controlled periods of field drying, reducing water consumption while maintaining optimal yields. These strategies not only support sustainable water management but also contribute to conserving water resources and mitigating the environmental impact of excessive agricultural water use.

Crop diversification and rotation: Integrating crop diversification and rotation practices into agricultural systems helps mitigate climate change risks. Interplanting rice with other crops enhances soil fertility through complementary nutrient requirements, manages pests and diseases effectively, and provides diversified income sources for farmers, reducing vulnerability to market fluctuations and ensuring economic resilience.

Enhancement of soil health: Boosting soil organic matter content through practices like conservation agriculture, cover cropping, and agroforestry is crucial. Conservation agriculture techniques, such as minimum tillage and crop residue retention, preserve soil structure, increase organic matter, and reduce erosion. Introducing cover crops between planting seasons enhances soil health, prevents nutrient loss, and improves water retention capacity. Agroforestry systems, combining trees with

agricultural crops, promote biodiversity, enhance soil structure, and provide additional climate resilience. These practices enable farmers to cultivate sustainable and productive agricultural landscapes while mitigating the impacts of climate change on soil quality.

Provision of climate information and advisories:

Empowering farmers with accurate climate information, early warning systems, and accessible advisory services is vital. Timely climate data allows farmers to align their agricultural activities with prevailing weather patterns, reducing the risk of crop failures due to unexpected weather events. Early warning systems provide alerts about impending weather extremes, enabling proactive measures to protect crops. Expert advisory services offer guidance on optimal planting times and efficient irrigation techniques, optimizing resource utilization and enhancing agricultural productivity.

By implementing these strategies, we can fortify rice production against the challenges posed by climate change, ensuring food security, sustainable agriculture, and resilience in the face of evolving environmental conditions.

Conclusion:

The looming threat of climate change impacting rice production is a reality, often underestimated by many. The potential repercussions of a decline in rice production are farreaching and could have devastating consequences worldwide, including in regions like Kashmir. Such a decline would not only compromise the livelihoods of countless farmers but also jeopardize the food security of billions of people.

To safeguard a sustainable future where rice remains a primary food source for generations to come, it is imperative that we take immediate action. This involves substantial investments in research and development, the strengthening of agricultural infrastructure, support for small-scale farmers, and the implementation of environmentally sound policies. These steps collectively pave the way for resilience in rice production.

Simultaneously, policymakers must prioritize climate-friendly initiatives aimed at reducing greenhouse gas emissions and promoting environmentally responsible farming practices. By combining organic farming, agroforestry, and other climate-friendly methods, we can actively contribute to carbon sequestration, thereby reducing the carbon footprint associated with rice cultivation.

The challenges faced in growing rice in Kashmir, particularly in recent times, serve as a stark wake-up call, compelling us to confront the undeniable reality of climate change. It is a call to action, a reminder that we must rise to the occasion and take decisive steps. Together, we can create a future where the valleys of Kashmir continue to have plenty of rice fields, showing how strong and determined we are when things don't go as planned.

It's crucial to remember that climate change is exacerbating the challenges of rice cultivation not only in distant regions but also in places like Kashmir. This is not a distant concern but an urgent crisis that demands immediate attention. If we fail to take action, the consequences will be catastrophic, impacting not only the livelihoods of rice farmers but also the food security and cultural heritage of the affected areas. We cannot afford to remain passive; it is imperative that we unite and act swiftly to address this pressing issue.



Autumn (Harud): Season of The Golden Harvest

