"Love is the only reality and it is not a mere sentiment.
It is the ultimate truth that lies at the heart of creation."
-Rabindranath Tagore

CLOSING CONNECTIVITY GAP

In an increasingly digital world, internet connectivity is not a luxury-it is a necessity. Yet, for millions living in remote and shadow areas across India, reliable internet access remains a distant dream. These shadow areas-geographically isolated regions often in hilly terrains, forested zones, or border districts-are deprived of consistent digital infrastructure, pushing their residents further into socio-economic marginalisation.

The COVID-19 pandemic underscored the urgency of digital inclusion. From online education and telemedicine to digital banking and e-governance, the internet has become the backbone of modern life. Students in remote villages were cut off from education due to lack of connectivity. Farmers could not access weather updates or market prices. Patients in need of online consultations were left stranded. This digital divide is not just a technological issue-it is a question of equity, opportunity, and national development.

While the government has launched commendable initiatives such as BharatNet and Digital India, the implementation in shadow areas has been uneven. Challenges such as difficult terrain, high costs of infrastructure deployment, and lack of commercial viability for service providers have slowed progress. Moreover, private players often avoid investing in these areas due to low returns, leaving large populations underserved.

The solution lies in a multi-pronged approach. First, the government must prioritise public investment in digital infrastructure in these underserved regions. Optical fibre networks, mobile towers, and satellite-based internet should be scaled up aggressively. Second, incentives and subsidies should be offered to telecom companies to ensure last-mile connectivity in low-profit areas. Public-private partnerships (PPPs) can be instrumental in bridging this gap.

Additionally, community-based internet models, such as Wi-Fi hotspots in schools and panchayat offices, can provide shared access points. Equally important is digital literacy. Providing internet alone is not enough-people must be equipped with the skills to use it meaningfully.

Bridging the digital divide in shadow areas is essential for inclusive growth. A digitally connected India ensures equal access to education, health, governance, and employment for all citizens, regardless of geography. As we aspire to become a $5 trillion economy and a digitally empowered society, we cannot afford to leave our shadow areas in the dark.

Ensuring internet connectivity in every corner of the nation is not just a policy goal-it is a democratic imperative. It is time we recognised digital access as a fundamental right and took decisive action to make it universal.

Rural Empowerment: Global Impact

■ **DR. PARVEEN KUMAR**

This year the 'International Day of Rural Women' is being celebrated with the theme 'Rural Empowerment: Global Impact'. The theme highlights the role and necessity of empowering rural women to enable them to contribute economically as well as socially to have an overall global impact. Empowering this populace has the potential to boost global GDP, improve food security and lead to more sustainable and resilient communities. Conversely, the unequal access to resources and opportunities widen the gender gap, leads to disempowerment of the fairer sex ultimately affecting the GDP of countries. Various research studies have revealed that closing the gender gap in farm productivity and food system employment could increase global GDP by nearly $ 1 trillion. If the women had same access to resources as men, global farm yields could increase by 20-30% potentially feeding an additional 100 to 150 million peoples. Similarly projects targeting women have shown significant improvements in incomes and household diets. Besides empowering rural women increases their decision making power within their households and communities. It is a direct path to gender equality and is essential for eradicating poverty.

The International Day of Rural Women celebrated on Oct. 15 every year recognizes the critical role and contribution of rural women, including indigenous women, in enhancing agricultural and rural development, improving food security and eradicating rural poverty. Rural women and girls are leaders in agriculture, food security and nutrition, land, managing natural resource management and unpaid and domestic care work. They are at the frontline at a time when natural resources and agriculture are threatened. Their contribution to the agriculture sector is immense. In fact, globally, one in three employed women works in agriculture. From agriculture to food security, nutrition, land and natural resource management, domestic care and work, rural women are at the forefront and are taking charge by being in the driver's seat. Yet, the hard fact is that rural women are laboring under acutely disadvantageous conditions. Already insufficient infrastructure and services in rural areas have been stretched to the limit; rural women's invaluable care and productive work during the pandemic has burgeoned, in many places without clean and safe water, sanitation and hygiene, energy supply or healthcare services. This pandemic has also heightened the vulnerability of rural women's rights to land and resources Women also collect biomass fuels, manually process food materials, and pump water; eighty percent of households without piped water rely on women and girls for water collection. Despite so much of contribution to the agriculture sector, women farmers' typically achieve yields 20-30% less than men due to unequal access to productive resources and services. Studies reveal that closing this gender gap could reduce the number of malnourished people by 12-17%. Gender inequity plays a special role within agriculture as women are often pivotal to ensure household food security. Yet, they are often not given access to resources and have little decision-making power. In order to give them a voice, to raise awareness of rural women's participation in the development process with a focus on their needs and rights, highlighting their contributions to sustainable development, household food security, safeguarding traditional knowledge, biodiversity, and peace building and so much more, a day has been dedicated to these invisible partners of growth. The International Day for Rural Women celebrated every year on Oct. 15 serves a platform for all these activities.

The International Day of Rural Women was created in 1995 by civil society organizations at the Fourth World Conference on Women in Beijing and was declared an official UN Day in 2007 by the UN General Assembly vide its resolution 62/136 of December 18, 2007 to recognize the critical role and contribution of rural women including indigenous women in enhancing agricultural and rural development, improving food security and eradicating rural poverty. On the International Day of Rural Women, UN Women calls for action to support rural women and girls and grow their capacities to respond to climate change through agricultural production, food security, and natural resources management. Mobilizing relevant Non Government Organizations and grassroots women's groups, organizations, networks and international institutions, as well as the media, to commemorate the Day and celebrate Rural Women Leaders and their communities around the world.

Every year the day is celebrated with a different theme. This year on International Day of Rural Women the theme is 'Rural Empowerment: Global Impact'. Rural women have suffered a lot particularly in the aftermath of COVID-19. Moreover climate change also has adverse effects more on the women than men. Building rural women's resilience in the aftermath of COVID-19', also calls for strengthening rural women's sustainable livelihoods and wellbeing. Women have been at the front lines of responding to the pandemic even as their unpaid care and domestic work increased under lockdowns, mobility restricted, supply chains disrupted, and climate and conflict crises compound COVID-19 impacts. In India, rural women can be mobilized by organizing them in self-help groups can be linked to banks which can provide credit facilities. With the finance available from the Banks, the rural women can set up their own income generating units. Government has started so many skill development programmes for rural women including farm women. After updating their skills and getting proper training, they can establish their own business units and provide employment to many others also. Many young girls with rural background have already proved themselves in various fields. Even in agriculture and allied sectors there are 50 different type of activities where interested women can start their units.

The progress towards achieving gender equality and empowerment of women has been slow. Discriminatory gender norms and practices impede women's exercise of land and property rights in most countries. Since women's land rights are often dependent on their husbands, COVID-19 widows risk disinheritance. Women's land tenure security is also threatened as unemployed migrants return to rural communities, increasing pressure on land and resources and exacerbating gender gaps in agriculture and food security. There is an urgent need for gender-responsive investments to expand basic infrastructure, healthcare and care services in rural areas have never been more critical. Bolstering women's land rights in law and practice can help protect women from displacement and losing their sources of livelihood. This International Day of Rural Women is a key moment to galvanize action by all stakeholders to support rural women and girls to not only rebuild their lives, but increase their resilience to be better prepared to face future crises. The world needs to commit to gender equality while designing various developmental policies and programmes. Improving equity will allow both men and women to have a say in how resources are used. It will also help decision makers to guarantee policies, promote fair access to agriculture and natural resources. Gender, poverty, and institutions are therefore interlinked, and cannot be dealt with independently. We have to identify where, when and how women can gain equitable access to water, land and other natural resources. Our goal of sustainable agriculture rests on the premise that enhancing the decision-making power of women over natural resources can improve agriculture production, enable household food security and ensure long-term benefits.

On this day, let us join the global community in celebrating International Day of Rural Women and advocate for pro rural women policies that lead to their empowerment and build a world where rural women have equal access to resources and opportunities, their rights are respected, and their contributions are valued are recognized all across the globe.

(The author writes on agriculture and social issues)

The growing relevance of traditional medicine

The ancient system can offer sustainable health-care solutions in an era of climate change and lifestyle diseases

■ **PRATAPRAO JADHAV**

The World Health Organization (WHO) reports that traditional medicine is practised in 88% of itsmember-states - 170 out of 194 countries. For billions, particularly in low- and middle-income nations, it remains the primary form of health care due to accessibility and affordability considerations. Yet, its significance extends beyond treatment, supporting biodiversity conservation, nutrition security, and sustainable livelihoods.

Market projections underscore this growing acceptance. Analysts estimate that the global traditional medicine market will reach $583 billion by 2025, with annual growth rates of 10%-20%. China's traditional Chinese medicine sector is valued at $122.4 billion, Australia's herbal medicine industry at $3.97 billion, and India's Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) sector at $43.4 billion.

This expansion reflects a fundamental shift in health-care philosophy - from reactive treatment models to proactive, preventive approaches that address root causes rather than symptoms alone.

India's Ayurvedic transformation India's traditional medicine sector has witnessed remarkable transformation. The AYUSH industry, comprising over 92,000 micro, small and medium enterprises, has expanded nearly eight-fold in less than a decade. Manufacturing sector revenues have grown from Rs 21,697 crore in 2014-15 to over Rs 1.37 lakh crore currently, while the services sector has generated Rs 1.67 lakh crore in revenue.

India now exports AYUSH and herbal products worth $1.54 billion to more than 150 countries, with Ayurveda gaining formal recognition as a medical system in several nations. This represents both economic opportunity and soft power projection on the global stage.

The first comprehensive survey on AYUSH by the National Sample Survey Office (2022-23) revealed near-universal awareness - 95% in rural areas and 96% in urban centres. Over half the population reported using AYUSH systems in the preceding year, with Ayurveda emerging as the preferred choice for rejuvenation and preventive care.

Scientific validation, global expansion India has invested significantly in research through institutions including the All India Institute of Ayurveda, the Institute of Teaching and Research in Ayurveda, the National Institute of Ayurveda, and the Central Council for Research in Ayurvedic Sciences.

These institutions focus on clinical validation, drug standardisation and developing integrative care models that combine traditional knowledge with modern medical practices.

India's global Ayurveda outreach has achieved unprecedented scale through the Ministry of AYUSH's International Cooperation Scheme. India has signed 25 bilateral agreements and 52 institutional partnerships, established 43 AYUSH Information Cells across 39 countries, and positioned 15 academic chairs in foreign universities.

The establishment of the WHO Global Traditional Medicine Centre in India represents a significant milestone. Supported by the Government of India, the centre aims to harness traditional medicine's potential through modern science, digital health and emerging technologies including artificial intelligence.

WHO's recent publication on AI integration in traditional medicine highlights how advanced technologies can strengthen clinical validation, enable big-data analytics, and enhance predictive care within Ayurveda and related systems.

The theme this year Ayurveda's core philosophy of balance - between body and mind, humans and nature, consumption and conservation - offers relevant solutions for contemporary challenges. As the world grapples with lifestyle diseases and climate change, Ayurveda provides a framework that addresses both personal and planetary health.

As India leads efforts to mainstream traditional medicine globally, the approach emphasises health care that is preventive, affordable, inclusive and sustainable. Ayurveda represents not merely a medical system but a wellness movement that bridges traditional knowledge with contemporary needs.

The convergence of ancient wisdom with modern science and technology positions traditional medicine systems to play an increasingly important role in global health architecture. Ayurveda Day this year serves as a reminder of the potential for traditional knowledge systems to contribute to a more balanced and sustainable future for people and the planet.

(The writer is Union Minister of State (Independent Charge) for Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homoeopathy (AYUSH) and Union Minister of State for Health and Family Welfare, Government of India)

Global antibiotic resistance deepens as WHO warns of mounting health crisis

■ **MOHAMMAD HANIEF**

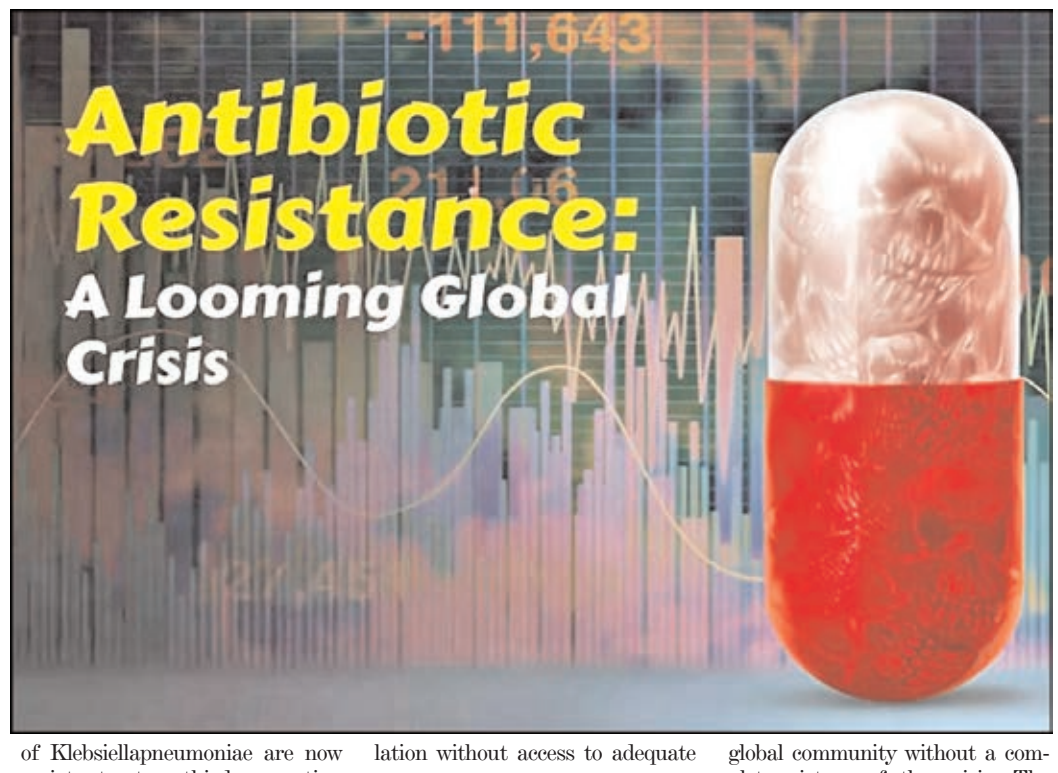
The world is confronting a mounting health emergency as bacteria increasingly develop resistance to the antibiotics once relied upon to cure common infections. The World Health Organization (WHO) has sounded a grave warning in its latest Global Antibiotic Resistance Surveillance Report 2025, which reveals that one in six laboratory-confirmed bacterial infections worldwide in 2023 did not respond to standard antibiotic treatments. The findings underscore how antimicrobial resistance is spreading at a pace that threatens to outstrip medical innovation and undermine global health security.

The WHO report shows that between 2018 and 2023, antibiotic resistance rose in more than forty percent of the pathogen-antibiotic combinations it monitored, with average annual increases ranging from five to fifteen percent. The data, gathered from over one hundred countries through the Global Antimicrobial Resistance and Use Surveillance System (GLASS), highlights an accelerating crisis in which life-saving drugs are losing their power against some of the world's most widespread infectious diseases. The report compiles resistance prevalence estimates for twenty-two antibiotics used to treat infections of the urinary and digestive tracts, the bloodstream, and certain sexually transmitted infections, revealing disturbing patterns of resistance across eight major bacterial pathogens that cause millions of infections each year.

Antimicrobial resistance is not evenly distributed around the world. The WHO notes that the problem is most acute in the South-East Asian and Eastern Mediterranean regions, where one in three infections are resistant to antibiotics, while in the African region one in five show resistance. Countries where health systems are fragile, diagnostic capacity is weak, and regulation of antibiotic use is poor are the most severely affected. In many such places, antibiotics can be purchased without prescription, leading to widespread misuse and overuse. The absence of strong surveillance networks and laboratory infrastructure has made it difficult to detect resistance early or track its spread, allowing resistant strains to circulate unchecked in communities and hospitals.

The rise of antimicrobial resistance is eroding one of the fundamental pillars of modern medicine. Medical procedures such as organ transplants, cancer chemotherapy, and caesarean deliveries depend on effective antibiotics to prevent and treat infections. As these drugs lose their efficacy, routine surgeries and common illnesses risk becoming fatal. The WHO warns that the progress achieved over decades of medical advancement could be reversed, pushing the world toward a post-antibiotic era in which once-curable diseases again become deadly.

The report draws attention to the growing threat posed by Gram-negative bacteria, which are developing resistance faster than most other pathogens and are particularly difficult to treat. Among them, Escherichia coli and Klebsiellapneumoniae have emerged as leading causes of bloodstream infections that often lead to sepsis and organ failure. Globally, more than forty percent of E. coli and over fifty-five percent



of Klebsiellapneumoniae are now resistant to third-generation cephalosporins, which have long been considered first-line treatments for such infections. In Africa, the situation is even more dire, with resistance exceeding seventy percent in some areas. Resistance is also increasing against carbapenems and fluoroquinolones, antibiotics that were once reserved as last-resort options. The growing inefficacy of these drugs has drastically narrowed treatment options and pushed healthcare providers to depend on older, less effective, or more toxic alternatives. In many developing countries, newer antibiotics remain prohibitively expensive and are often unavailable, leaving large sections of the population without access to adequate care.

While the spread of resistance continues, there has been some progress in global monitoring. Participation in WHO's GLASS network has expanded from twenty-five countries in 2016 to more than one hundred in 2023, representing a significant step toward understanding resistance trends worldwide. However, gaps remain considerable. Nearly half of WHO member states failed to report any data to the system in 2023, and among those that did, many lacked the infrastructure to ensure the accuracy and consistency of the information collected. Countries with the greatest burden of resistance are often the least equipped to monitor it effectively, leaving the global community without a complete picture of the crisis. The WHO emphasizes that reliable surveillance data are essential for guiding treatment protocols and designing effective national strategies, and calls for investments in laboratory capacity, training, and data systems.

The worsening situation prompted world leaders to adopt a political declaration on antimicrobial resistance at the United Nations General Assembly in 2024, setting targets to strengthen health systems and coordinate action across human health, animal health, and environmental sectors. The WHO report reinforces the importance of this "One Health" approach, which recognizes that antibiotic resistance arises not only from human medicine but also from agriculture and the environment. The use of antibiotics to promote animal growth or prevent disease in livestock remains widespread in many parts of the world, contributing significantly to the development of resistant bacteria that can spread through food chains, water sources, and direct human contact. Controlling resistance therefore requires policies that address antibiotic use across all sectors and ensure responsible practices in both healthcare and farming.

Innovation remains central to addressing the crisis, yet the development of new antibiotics has slowed to a near standstill. Pharmaceutical companies have scaled back research due to high costs, regulatory hurdles, and limited financial returns, leaving few new drugs in the pipeline. The WHO stresses the need for global incentives to reinvigorate antibiotic research while guaranteeing equitable access to new medicines, especially in low- and middle-income countries. Alongside innovation, preventive measures are vital. Improved vaccination coverage, better sanitation, clean water, and hygiene can reduce infection rates and limit the need for antibiotics in the first place. Equally important is the promotion of public awareness about responsible antibiotic use. The misuse of antibiotics - taking them without medical advice, stopping treatment too early, or using them for viral illnesses - remains a widespread problem that accelerates resistance. Combating these behaviors requires sustained education and awareness efforts targeting both the public and healthcare professionals.

To support countries in tracking and managing resistance, WHO has expanded its digital GLASS dashboard, which provides detailed data visualizations of global and regional trends in resistance and antimicrobial use. The platform allows policymakers and researchers to access country profiles, analyze progress, and identify priority areas for intervention. This move toward greater transparency and accessibility aims to strengthen international collaboration and promote accountability in the fight against antimicrobial resistance.

The WHO's 2025 report portrays both progress and peril. On one hand, growing international participation in surveillance efforts marks an important achievement in collective response. On the other, the continuing rise in resistance, the uneven capacity among countries to respond, and the lack of new treatment options point to a global health threat that remains largely unchecked. Without decisive and coordinated action, the world risks entering a future where minor injuries or routine infections once again carry deadly consequences.

Antimicrobial resistance now stands as one of the most urgent health challenges of the century. It demands not only stronger policies and systems but also a fundamental shift in how societies value and use antibiotics. The preservation of these vital medicines depends on global solidarity, scientific innovation, and responsible stewardship at every level. The coming decade will determine whether humanity can stay ahead of the evolving resistance or succumb to an era where the simplest infections become untreatable once more.

(The author is a senior analyst based in Kashmir)