

## Employment-Centred Development

Economic growth is often celebrated as a key indicator of a nation's progress. Rising GDP, expanding industries, improved infrastructure, and increased investments are seen as signs of prosperity. However, growth that does not generate sufficient employment opportunities can lead to widening inequalities and social dissatisfaction. The true success of economic progress lies not merely in numbers but in its ability to create meaningful jobs and improve the standard of living for ordinary citizens.

Employment is the bridge between growth and social welfare. When industries expand and businesses flourish, they must translate this progress into job creation across sectors. A growing economy without adequate employment opportunities leads to a phenomenon often described as "jobless growth," where wealth accumulates but livelihoods remain uncertain. Such a situation disproportionately affects youth, fresh graduates, and semi-skilled workers who depend on expanding markets for stable income.

In developing regions, the challenge becomes even more pressing due to rapidly increasing populations and limited formal job markets. Economic policies must therefore prioritize labour-intensive sectors such as agriculture, manufacturing, small-scale industries, construction, and services. Micro, Small and Medium Enterprises (MSMEs) play a particularly vital role in generating employment at the grassroots level. Supporting these enterprises through easier credit facilities, tax incentives, skill development programs, and simplified regulations can significantly expand job opportunities.

The digital economy has emerged as another powerful engine of employment. Startups, IT services, e-commerce platforms, and digital payment systems are creating new categories of work that did not exist a decade ago. Governments and institutions must invest in digital infrastructure and skill training so that the workforce can adapt to modern employment demands. Equipping youth with technical knowledge, vocational skills, and entrepreneurship training ensures that they are not merely job seekers but also job creators.

Infrastructure development also has a multiplier effect on employment. Large-scale projects in transportation, renewable energy, housing, and urban development generate direct and indirect jobs. From engineers and technicians to daily wage labourers and suppliers, a broad spectrum of workers benefits from infrastructure expansion. At the same time, rural development projects can reduce migration pressure on cities by creating local employment opportunities.

However, economic growth must also be inclusive and regionally balanced. Concentration of industries in limited urban clusters leaves rural and remote areas deprived of opportunities. Balanced regional development policies encourage investments in underdeveloped areas, ensuring equitable distribution of jobs and resources.

## Hydroponics reshaping future of agriculture in Jammu &amp; Kashmir

■ DR. MARVI SHARMA



Agriculture in the Himalayan region has always been shaped by fragile ecology, limited arable land and extreme climatic conditions. In recent years, these challenges have intensified due to climate variability, irregular rainfall patterns and declining soil productivity. Among the most promising of these innovations is hydroponics, an advanced soilless cultivation system in which plants grow in nutrient-rich water under controlled conditions. The technology allows crops to be produced with significantly less land and water compared to conventional farming while ensuring better control over plant nutrition and environmental factors.

Globally, hydroponic cultivation has been practiced for decades. A central figure in this scientific initiative has been Dr. Gurdev Chand, Professor and Head of the Division of Plant Physiology at the Faculty of Basic Sciences. Since 2015, he has been leading systematic research and demonstration programmes aimed at adapting hydroponic and aeroponic technologies for local crops and climatic conditions. His research integrates plant physiological principles with controlled-environment agriculture to optimize nutrient management, improve water-use efficiency and enhance plant growth under soilless systems.

While hydroponics itself is not new globally or nationally, its structured scientific development and demonstration in Jammu and Kashmir began through organized research initiatives led by Dr. Chand and his team. Over the years, hydroponic protocols have been standardized for several vegetables, medicinal plants, aromatic crops and high-value horticultural species, enabling farmers and entrepreneurs to explore alternative models of crop production.

Because of his pioneering role in initiating sustained research, establishing experimental infrastructure and expanding the technology across the region, Dr. Gurdev Chand is widely acknowledged by scientists, students and agricultural stakeholders as the "Father of Hydroponics in Jammu and Kashmir." His contributions have helped transform hydroponics in the Union Territory from a laboratory concept into a practical and scalable cultivation system.



One of the most significant achievements of this initiative has been the extension of hydroponic technology from the Jammu region to the Kashmir Valley. The valley experiences severe winters, where prolonged frost and sub-zero temperatures restrict natural vegetation and crop production for several months each year. During this period, farmers, particularly livestock owners face acute shortages of green fodder. To address this challenge, hydroponic systems capable of functioning in controlled environments have been introduced as a solution for producing fresh green fodder and vegetables even during harsh winter months. These systems require minimal land area, consume substantially less water and can produce fodder within a short growth cycle of about one week. As a result, hydroponic technology has emerged as a promising approach for ensuring year-round vegetation and improving fodder availability in frost-

affected regions of Kashmir. The progress achieved in hydroponic research and technology dissemination has been made possible through the collaborative efforts of a dedicated scientific community and institutional leadership. Important contributions have come from Dr. Bhav Kumar Sinha, Professor of Plant Physiology, whose expertise in plant stress physiology and nutrient dynamics has supported the experimental standardization of crops grown under hydroponic systems. Collaboration with Dr. Farooq Ahmad Khan, Professor cum scientist, Plant Physiology at Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, has further strengthened research coordination and technology dissemination in the Kashmir Valley, where hydroponic systems are helping address the challenge of vegetation scarcity during harsh frost winters. The recognition of Dr. Gurdev Chand as the "Father of Hydroponics in Jammu and Kashmir" has also received strong institutional support from the leadership of Sher-e-Kashmir University of Agricultural Sciences and Technology of Jammu. Dr. B. N. Tripathi, Vice-Chancellor of the university, has consistently appreciated the pioneering efforts made by Dr. Chand in introducing and expanding hydroponic and aeroponic technologies in the region. He has noted that such innovations represent an important step toward building climate-resilient agricultural systems in fragile Himalayan ecosystems and have the potential to benefit farmers, entrepreneurs and rural communities. Similarly, Dr. Sanjay Guleria, Dean of the Faculty of Basic Sciences, has acknowledged the sustained research leadership of Dr. Chand and his team in developing hydroponic production systems suited to the agro-climatic conditions of Jammu and Kashmir. He has emphasized that the work carried out under Dr. Chand's guidance has significantly strengthened the university's role as a centre for innovation in controlled-environment agriculture and has contributed to the wider recognition of Dr. Chand's pioneering contributions to soilless farming in the region. The initiative

has also been supported by a team of young researchers and professionals engaged in system installation, experimental trials and technology documentation. Among them, Dr. Marvi Sharma has been actively involved in research support, training programmes and the documentation of hydroponic and aeroponitechnologies, helping facilitate the transfer of knowledge from laboratories to farmers and field-level demonstrations. Beyond academic research, these initiatives have focused strongly on capacity building and technology outreach. Over the years, several training programmes, workshops and demonstration activities on hydroponics, aeroponics and vertical farming have been organized for farmers, students and aspiring agri-entrepreneurs. These programmes have helped build awareness about controlled-environment agriculture and encouraged the adoption of innovative farming systems capable of producing high-value crops with limited resources.

The expanding scope of hydroponic research has also opened new opportunities in high-value horticulture. Recently, a project worth Rs. 314.25 lakhs focusing on blueberry cultivation in the Jammu region was approved by National Bank for Agriculture and Rural Development under the technical leadership of Dr. Gurdev Chand. The project aims to introduce and scale up blueberry production using modern cultivation technologies, creating new economic opportunities for farmers and agri-entrepreneurs. The growing recognition of Dr. Gurdev Chand as the "Father of Hydroponics in Jammu and Kashmir" ultimately reflects not only his individual contributions but also the broader success of a scientific movement aimed at building a more resilient and sustainable agricultural future for the Himalayan region. As hydroponic systems continue to reach farmers, institutions and entrepreneurs, they offer renewed hope that innovation and science can help secure both food production and rural livelihoods in one of the most challenging agricultural landscapes of the country.

## No Smoking Day: Quit Tobacco, Make Every Breath Precious

■ YOGESH KUMAR GOYAL

Every year, No Smoking Day is observed on the second Wednesday of March, which this year falls on March 11. The purpose of this day is to motivate people struggling with smoking addiction to quit the habit and provide them with the necessary support. This day is dedicated to highlighting the dangers of smoking and promoting a healthier environment in society. Raising awareness about the harmful effects of smoking and encouraging people to take steps against it are the main objectives of this observance. This day was first celebrated in 1984 in the Republic of Ireland, where it was initially observed on the first Wednesday of March. Later, the tradition shifted to the second Wednesday of March. Subsequently, the United Kingdom and several other countries adopted it and recognized it as an annual campaign. Each year the day is observed with a special theme, and this year's theme is "A Smoke-Free Life Starts with a Smoke-Free Day." Millions of people die every year due to diseases caused by tobacco and nicotine products.

According to the World Health Organization (WHO), significant progress has been made in reducing the prevalence of smoking in recent years. However, it remains a matter of concern that the use of tobacco products among adolescents is increasing rapidly. Reports indicate that globally around 37 million chil-

dren aged 13-15 use tobacco in some form. The emergence of e-cigarettes and other new tobacco and nicotine products is posing a serious threat to youth and tobacco control efforts. In its report titled "Hooking the Next Generation," the WHO and the global tobacco industry watchdog STOP have revealed how the tobacco and nicotine industry designs its products, implements marketing campaigns and constantly works to shape policy environments that push young people worldwide toward addiction. According to Dr. Ruediger Krech, Director of Health Promotion at WHO, the tobacco industry is deliberately designing products that directly appeal to children by using aggressive marketing strategies.

The Union for International Cancer Control (UICC) has also emphasized the need to counter tobacco industry strategies that target youth and oppose tobacco control laws. It advocates stricter regulations to prevent tobacco use. According to UICC, the industry's targeted strategies toward young people include marketing new products such as e-cigarettes, smokeless tobacco, snus and nicotine pouches, and using digital platforms to bypass traditional advertising restrictions. Although the number of tobacco users worldwide has declined from 1.36 billion in 2000 to about 1.25 billion today, the increasing use of tobacco among children aged 13 to 15 years has emerged as a major global challenge.



Yannick Romero, Senior Knowledge and Advocacy Manager at UICC, states that the rising prevalence of tobacco use and smoking among youth is alarming, as it directly increases their risk of cancer. This trend weakens efforts to reduce the number of people suffering and dying from cancer. He emphasizes that protecting the next generation from tobacco products and misleading online advertisements, and countering the aggressive strategies of the industry to renew its customer base, is our responsibility. According to UICC, tobacco use is a major cause

of several types of cancer, including oral, lung, liver, stomach, intestinal, ovarian cancers and certain types of leukemia. It is responsible for 25 percent of cancer-related deaths worldwide, which equals an estimated 2.5 million deaths annually. Smoking alone accounts for about 85 percent of lung cancer deaths, highlighting the urgent need for strong efforts to reduce tobacco consumption globally.

As far as India is concerned, the World Health Organization in its 2024 report titled "Global Report on Trends in Prevalence of Tobacco Use 2000-2030" stated that the number

of tobacco users has declined globally, including in India. However, more than 251 million people aged 15 years and above in the country still consume tobacco, of which 79 percent are men and 21 percent are women, which is still a very large number. In India, more than 110 million people consume khaini, over 70 million consume gutkha, and more than 50 million people consume tobacco with betel nut. A study published in the journal *Nicotine & Tobacco Research* (Oxford Academic) states that tobacco products such as gutkha, pan masala, zarda and khaini are extremely harmful to health and the treatment of diseases caused by them is proving very expensive.

This study was conducted by researchers associated with the National Institute of Cancer Prevention and Research (NICPR), Delhi, Maulana Azad Medical College, and the Centre for Health Innovation and Policy Foundation. According to the report, if policy changes are not made regarding these products, healthcare costs related to their consumption during users' lifetimes may reach nearly 190 billion dollars, with the highest burden falling on the treatment of oral cancer. Researchers from institutions in Pakistan, Bangladesh and the United Kingdom also contributed to this study.

According to the World Health Organization, tobacco consumption kills more than 8 million people

every year, of which nearly 7 million are smokers themselves, while around 1.2 million people die due to passive smoking (exposure to second-hand smoke). Smoking not only causes lung cancer but also leads to heart disease, stroke, asthma and other respiratory illnesses. If a person smokes in a closed room, it can seriously affect others present there. Children living in such environments are the biggest victims of this toxic smoke, which increases the risk of pneumonia, bronchitis and other breathing disorders. In some cases, passive smoking can also cause Sudden Infant Death Syndrome (SIDS) in infants.

Smoking can cause several serious health problems in children. It not only affects their lungs and heart but also increases their risk of cancer. Children who smoke have also been found to experience mental health problems such as depression and anxiety. Lung cancer, oral cancer and throat cancer are among the major diseases observed in children who smoke. In addition, they are more prone to respiratory illnesses such as asthma and bronchitis. Long-term smoking can also increase the likelihood of stroke. Since children are more likely to develop addictions quickly, once they begin smoking it becomes difficult for them to quit, which can negatively affect their future.

(The author is a senior journalist)

## Sumptuous India Scripted History

■ BAIKAWAL CHAWALGAMI

India scripted a magnificent chapter in the annals of cricket history by capturing the ICC Men's T20 World Cup 2026 title in a spectacular fashion. The atmosphere at the iconic Narendra Modi Stadium in Ahmedabad was electric as the Men in Blue delivered a breathtaking performance to defeat New Zealand national cricket team by a resounding margin of 96 runs. The victory not only secured India's third T20 World Cup crown but also established several unprecedented milestones in the history of the shortest format of international cricket. It was a night of jubilation, pride, and overwhelming emotion as millions of cricket fans across the country celebrated a triumph that will be remembered for generations. Under the dynamic leadership of Suryakumar Yadav, the Indian cricket team displayed extraordinary dominance throughout the tournament and culminated their campaign with a performance that has been described by many observers as a "once-in-a-generation" display of skill, composure, and determination. In the summit clash, India produced a formidable batting performance by posting a mammoth total of 255 for 5, which stands as the highest score ever recorded in a T20 World Cup final. The monumental total immediately placed immense pressure on the Black Caps, who were ultimately bowled out for 159 in 19 overs, thereby handing India one of the most emphatic victories ever witnessed in a world tournament final.

The foundation of India's triumph was laid by a scintillating innings from Sanju Samson, who

played one of the finest knocks of his career in the final. Samson smashed a breathtaking 89 runs from just 46 deliveries, combining elegance with aggressive stroke play. His innings was studded with crisp boundaries and towering sixes, electrifying the packed stadium and setting the tone for India's imposing total. Throughout the tournament, Samson remained in sublime form, amassing 321 runs and registering three half-centuries, a remarkable feat that earned him the prestigious Player of the Tournament award. Samson received excellent support from his fellow batsmen, particularly the explosive young opener Abhishek Sharma and the dynamic wicketkeeper-batsman Ishan Kishan. Sharma delivered a dazzling cameo of 52 runs from only 21 balls, unleashing an array of fearless strokes that dismantled the New Zealand bowling attack. Kishan complemented him brilliantly with a blistering 54 off 25 deliveries, ensuring that India maintained relentless momentum throughout the innings. Their aggressive approach epitomized the modern T20 philosophy that has come to define India's cricketing strategy in recent years. While the batting unit provided a colossal platform, India's bowlers ensured that the target remained far beyond New Zealand's reach. The spearhead of the bowling attack, Jasprit Bumrah, delivered a spell of sheer brilliance. Bumrah dismantled the New Zealand batting lineup with remarkable precision, finishing with extraordinary figures of four wickets for just fifteen runs. His disciplined line, subtle variations, and unerring accuracy left the opposition batsmen struggling to find answers.

For his outstanding performance in the final, Bumrah was deservedly named Player of the Match. Equally instrumental in India's bowling dominance was the vice-captain Axar Patel, who chipped in with three crucial wickets for 27 runs. Patel's intelligent bowling in the middle overs curtailed New Zealand's hopes of building partnerships and ensured that the chase never gained momentum. The combined efforts of India's bowlers demonstrated exceptional tactical awareness and relentless pressure, which ultimately sealed the historic victory.

India's journey through the tournament was nothing short of remarkable. The team exhibited consistency, resilience, and tactical excellence throughout the competition, losing only one match on their way to the title. A memorable turning point in the campaign came with a commanding comeback victory against the United States national cricket team in Mumbai. In that match, captain Suryakumar Yadav produced a masterful innings of 84 runs, guiding India to a convincing 29-run victory and setting the stage for the team's subsequent dominance. This triumph marked a series of historic milestones for Indian cricket. With this victory, India became the first nation in the world to win the ICC Men's T20 World Cup three times. Previously, teams such as the West Indies national cricket team and the England national cricket team had each won the tournament twice, but no side had managed to capture the title on three occasions. India's latest victory thus elevated them to an unprecedented level of supremacy in T20 international cricket.

Equally significant was India's achievement of successfully defending the T20 World Cup title, something no other nation had accomplished before. The previous edition in 2024 saw India emerge victorious under the leadership of Rohit Sharma, when they defeated South Africa national cricket team by seven runs in a thrilling final at the Kensington Oval in Bridgetown. By retaining the trophy in 2026, India etched their name permanently in cricketing folklore as the first team to win consecutive T20 World Cup titles. Another extraordinary milestone achieved during the tournament was India becoming the first host nation to win the T20 World Cup on home soil. Since the tournament's inception in 2007, host countries had repeatedly failed to lift the trophy despite the advantage of familiar conditions and passionate home support. The best performance by a host nation prior to India's triumph occurred in 2012, when Sri Lanka national cricket team reached the final but ultimately lost to the West Indies. India's victory in 2026 therefore shattered a long-standing trend and demonstrated their ability to transform home advantage into ultimate success.

The triumph also carried personal significance for Gautam Gambhir, who became the first individual in cricket history to win the T20 World Cup both as a player and as a coach. Gambhir was a key member of India's squad that won the inaugural tournament in 2007 under the inspirational captaincy of MS Dhoni at the Wanderers Stadium. Nearly two decades later, he played a pivotal role in guiding the Indian team to another historic triumph from the sidelines as head coach.

India's cricketing journey in the T20 World Cup began with their memorable victory in the inaugural edition in 2007, when they defeated the Pakistan national cricket team by five runs in a thrilling final in Johannesburg. That victory laid the foundation for India's enduring legacy in the shortest format of the game. Nearly two decades later, the triumph in 2026 has reinforced that legacy and elevated India to a position of unmatched dominance in T20 international cricket. The victory sparked exuberant celebrations across India. From bustling metropolitan cities to small towns and villages, cricket enthusiasts poured into the streets waving the national flag, bursting fireworks, and celebrating a triumph that symbolized national pride and sporting excellence. The victory not only highlighted the extraordinary talent of India's players but also reflected the nation's deep emotional connection with the sport. Ultimately, India's triumph in the ICC Men's T20 World Cup 2026 represents far more than a single tournament victory. It symbolizes the culmination of strategic planning, fearless cricket, and unwavering belief. By becoming the first team to win three T20 World Cup titles, the first to defend the championship successfully, and the first host nation to lift the trophy on home soil, India has set new benchmarks in international cricket. This remarkable achievement stands as a testament to the team's resilience, skill, and collective spirit, ensuring that the historic night in Ahmedabad will forever occupy a cherished place in the glorious saga of world cricket.