

GREEN INDIA MISSION 11 Years of India's celestial journey into Space

The Green India Mission (GIM) is one of the eight key missions under the National Action Plan on Climate Change (NAPCC) launched by the Government of India. Officially initiated in February 2014, the mission aims to protect, restore, and enhance India's diminishing forest cover while responding to the challenges posed by climate change.

The primary objective of the Green India Mission is to increase forest and tree cover on degraded landscapes, improve the ecosystem services such as biodiversity, hydrological services, and carbon sequestration, and enhance the livelihood of forest-dependent communities. The mission also seeks to increase the forest-based income of approximately 3 million households living in and around forests.

Key goals of the mission include increasing forest/tree cover on 5 million hectares (ha) of forest/non-forest lands and improving the quality of forest cover on another 5 million ha. It also aims to improve ecosystem services and increase forest-based livelihood income. Another critical component is empowering local communities, especially women and marginalized groups, by involving them in forest management and decision-making processes.

The Green India Mission promotes a landscape-based approach to forest conservation and restoration, focusing on both ecological and social aspects. It emphasizes convergence with existing schemes such as MNREGA, CAMPA (Compensatory Afforestation Fund Management and Planning Authority), and the National Afforestation Programme to ensure effective implementation.

One of the distinguishing features of the mission is its participatory approach. Village-level institutions, including Gram Sabhas and Joint Forest Management Committees (JFMCs), play a central role in planning and executing projects, ensuring transparency and local engagement.

However, the mission has faced challenges such as underfunding, delays in disbursement of funds, and lack of capacity at the grassroots level. Despite these hurdles, it remains a critical component of India's strategy to meet its climate change commitments, particularly under the Paris Agreement.

As climate change continues to pose serious threats to biodiversity, water resources, and agricultural productivity, missions like GIM are vital to ensuring environmental sustainability and social resilience.

■ DR. JITENDRA SINGH



In the quiet fishing village of Thumba, Kerala, where India's space journey began with sounding rockets launched from a churchyard, few could have imagined the cosmic heights the nation would one day reach. It was a time of quiet resolve, when the dream of reaching the stars was nurtured with limited means but limitless ambition.

Today, that dream has matured into a national mission, and as we mark eleven years of the Narendra Modi Government, India's space program stands transformed-bold, inclusive, and deeply connected to the lives of ordinary citizens.

This transformation is not just about rockets and satellites-it is about people. It is about how space technology has quietly entered the daily rhythm of life, from the farmer in a remote village to the student in a digital classroom. Under the visionary leadership of Prime Minister Modi and the strategic stewardship of the Department of Space, India has reimagined its space program as a tool for development, empowerment, and opportunity.

The reforms introduced since 2014 have opened new frontiers. The creation of IN-SPaCe in 2020 allowed private companies to participate in space activities, sparking a wave of innovation. Today, over 300 space-tech startups are building satellites, designing launch vehicles, and developing applications that serve agriculture, education, healthcare, and navigation. These startups are not just creating technology-they are creating jobs,

especially for young engineers and entrepreneurs in Tier 2 and Tier 3 cities. The liberalized space policy has made space services more affordable and accessible, bringing the benefits of advanced technology to the grassroots.

India's satellites now play a vital role in weather forecasting, helping farmers plan their sowing and harvesting cycles with greater accuracy. In flood-prone regions, satellite data enables early warnings and disaster response, saving lives and livelihoods. During cyclones and droughts, remote sensing helps authorities prepare and mitigate damage. In rural clinics, telemedicine powered by satellite connectivity allows doctors in urban centres to consult with patients in remote areas, bridging the healthcare divide. E-learning platforms, supported by satellite bandwidth, bring quality education to children in far-flung villages, ensuring that geography is no longer a barrier to learning.

The NavIC system, India's indigenous GPS network, is now used for navigation in vehicles, tracking trains and ships, and even guiding fishermen safely back to shore. In agriculture, satellite advisories help farmers monitor soil moisture, crop health, and pest infestations, enabling smarter decisions and better yields. These are not abstract benefits-they are real, measurable improvements in the lives of millions.

The missions launched in the past decade have captured global attention. Mangalyaan reached Mars on its first attempt, showcasing India's engineering excellence. Chandrayaan-3 landed near the Moon's south pole, a region believed to hold water ice, and its rover conducted experiments that will inform future lunar missions. Aditya-L1 is now studying

solar storms, helping scientists understand space weather and its impact on communication systems and power grids.

The Gaganyaan mission, scheduled for 2027, will send Indian astronauts into space. But even before the crewed flight, the mission is already inspiring a new generation. The training of astronauts, the development of safety systems, and the uncrewed test flights are creating a ripple effect-boosting research, attracting talent, and building national pride.

Looking ahead, India plans to build its own space station-the Bharatiya Antariksh Station-by 2035. The first module is expected to launch in 2028, and the recent success of the Space Docking Experiment has validated the technologies needed for this ambitious goal. The station will allow long-term habitation and research, opening doors to deep-space exploration and interplanetary missions.

To support these growing ambitions, India is developing the Next Generation Launch Vehicle (NGLV), capable of carrying 30,000 kilograms to low Earth orbit. It will feature reusable stages and modular propulsion systems, making space access more affordable and sustainable. A third launch pad at Sriharikota and a new spaceport in Tamil Nadu are being built to handle the increasing frequency of launches and to support commercial missions.

India's space program is also deeply collaborative. The NISAR mission with NASA will monitor Earth's ecosystems and natural hazards. The LUPEX mission with Japan will explore the Moon's polar regions with a heavier rover. These partnerships reflect India's growing stature as a trusted global space partner.

But space is not just about exploration-it is also about responsibility. With thousands of satellites orbiting Earth, space debris has become a serious concern. ISRO's Space Situational Awareness program monitors debris in real time, developing strategies to avoid collisions and ensure the long-term sustainability of space activities.

In every corner of the country, the impact of space technology is visible. In the Himalayan states, satellite data helps monitor landslides and glacial movements. In coastal regions, it supports marine conservation and disaster preparedness. In tribal and remote areas, it enables digital inclusion through satellite internet. These are quiet revolutions-transformations that touch lives without fanfare.

As we look to the next decade, the goals are clear: a crewed lunar landing by 2040, a fully operational space station, and a leadership role in global space innovation. These are not just dreams-they are strategic imperatives for a nation that has always believed in the power of science to transform society.

From the bicycle sheds of Thumba to the docking maneuvers in orbit, India's space journey is a story of resilience, imagination, and relentless pursuit. It is a story that belongs to every citizen, every scientist, every dreamer. And as we celebrate eleven years of transformative governance, we also celebrate a nation that has truly reached for the stars-and brought their light back home.

(The writer is Union Minister of State (Independent Charge) for Science and Technology, Earth Sciences and Minister of State for PMO, Department of Atomic Energy, Department of Space, Personnel, Public Grievances and Pensions)

Towards Making India a Global Sporting Powerhouse

■ DR. MANSUKH MANDAVIYA



As we embark on our journey to become Viksit Bharat by 2047, one of the most powerful forces shaping this vision is the rise of Indian Sports.

Under the visionary leadership of Hon'ble Prime Minister Shri Narendra Modi, Indian sports is scaling new heights on the global stage. From grassroots to global podiums, Prime Minister's vision has transformed India's approach to sports, ensuring world-class support, modern facilities, and a transparent system that rewards talent and hard work.

Just recently, Indian athletes once again made the nation beam with pride through a series of extraordinary performances on the global stage. Whether it was the Asian Athletics Championships 2025 in Gumi, South Korea, or the World Wrestling Ranking Series 4 in Ulaanbaatar, Mongolia, our sports stars rose to the occasion with grit and glory. At the Asian Athletics Championships, the Indian contingent delivered a commanding performance, clinching 24 medals and smashing multiple national records along the way.

At the same time, our women wrestlers scripted a golden chapter in history, returning from Mongolia with a record-breaking 21 medals, their best-ever haul at a Ranking Series event. This success didn't come overnight. India won only 26 Olympic medals in the first 23 editions

(including pre-Independence). But in the last three editions alone-2016, 2020 and 2024-India bagged 15 medals. In the Paralympics, the rise is even more impressive, from just 8 total medals between 1968 and 2012, India has now won 52 medals in the last three editions, including a record 29 medals in Paris 2024.

These achievements are no coincidence. They are the result of a performance-driven ecosystem built over the last eleven years. Prime Minister Narendra Modi has brought a clear and focused vision that every athlete, regardless of background, deserves access to world-class training, infrastructure, financial support, athlete-centric governance, and a transparent system to thrive. Since 2014, the Modi government has laid strong foundations through transformative reforms that have reshaped the landscape of Indian sports.

At the heart of these reforms is the Target Olympic Podium Scheme (TOPS), launched in 2014 to identify and support top athletes. What began with 75 athletes has now grown to support 213 sportspersons for the Los Angeles 2028 cycle, including 52 para-athletes and 112 athletes under the development category. New schemes have also been introduced to support athletes in disciplines that have traditionally received less attention. The Target

Asian Games Group (TAGG), introduced this year, supports 40 medal prospects in 10 disciplines such as fencing, cycling, equestrian, sailing, kayaking and canoeing, judo, taekwondo, tennis,

table tennis, and wushu.

Driving this performance is not just vision, but also significant financial commitment. The Ministry of Youth Affairs and Sports budget has more than tripled in the last decade, from just ₹1,219 crore in 2013-14 to ₹3,794 crore in 2025-26. The Khelo India Scheme, launched in 2017 to develop grassroots infrastructure and promote year-round competition, has seen its budget increase to ₹1,000 crore this year. These investments are nurturing talent and building a vibrant competitive ecosystem for young athletes.

National Sports Federations have also received unprecedented support. Financial assistance for hosting international tournaments and national championships has nearly doubled. Coaches' support has been revised upward by 50 percent. Athlete dietary allowances have been increased to meet the rising demands of high-performance training.

These focused efforts are helping India diversify its medal potential and build depth across a wide range of sports.

One of the most impactful reforms has been the emphasis on transparency. All federations are now required to video record selection trials and publish selection criteria for major events two years in advance. This ensures fairness, builds trust among athletes, and keeps the system merit-based. Indeed athlete-centric reforms have been the key in recent sports policy formulation. Sports certificates are now issued through DigiLocker and linked to the National Sports Repository System, ensuring tamper-proof documentation for athletes. The

Draft National Sports Policy 2024, along with the Draft National Sports Governance Bill currently in its final stage, aims to strengthen the sports ecosystem and bring athlete welfare at the centre of policy making. Age fraud is being tackled through new medical checks and stricter penalties. Federations are also required to appoint Integrity Officers to ensure better compliance and transparency.

In addition to Olympic sports, our traditional Indian sports like Mallakhamb, Kalaripayattu, Yogasana, Gatka, and Thang-Ta are being revived and promoted through the Khelo India Games. Indigenous sports like Kabaddi and Kho-Kho are now receiving international recognition, proudly showcasing India's rich sporting heritage.

The push for gender equity has also been significant. The ASMITA League (Achieving Sports Milestones by Inspiring Women Through Action), launched to promote women's participation in sports, has expanded rapidly. From just 840 women athletes in 2021-22, over 60,000 women across 26 sports participated in 2024-25. The ASMITA League connects these athletes to the Khelo India pathway, giving them vital exposure and competition opportunities.

India's sports infrastructure has also expanded at an unprecedented scale in the last 11 years. From just 38 infrastructure projects before 2014, the number has now risen to 350. The Sports Authority of India currently runs 23 National Centres of Excellence, training elite athletes under TOPS and Khelo

India. Additionally, 34 State Centres of Excellence have been established across 33 States and UTs, along with 1,048 Khelo India Centres across

757 districts. These centres ensure that talent is discovered and nurtured from the grassroots level.

The Khelo India Games have evolved into a national movement. Nineteen editions have been held so far-including Youth, University, Para, Winter, and Beach Games-with more than 56,000 athletes participating. The Khelo India Para Games, in particular, have been game-changing, with many athletes from these competitions going on to win medals at the Paralympics.

Looking ahead, India is preparing for a potential bid to host the 2030 Commonwealth Games and the 2036 Olympic Games. To support this vision, new verticals under Khelo India such as the School Games, Tribal Games, Northeast Games, Water Games, Martial Arts Games, and Swadeshi Games are being launched to ensure year-round competition and talent discovery. Among these, the upcoming Khelo India School Games will play a pivotal role in bringing fresh talent into the sporting ecosystem by identifying and nurturing athletes from a young age.

And it is not just sports, community engagement in fitness has gained strong momentum through the Fit India Sundays on Cycle campaign, launched in December 2024. What began with just 150 participants has now expanded to over 10,000 locations, with more than 3.5 lakh citizens actively participating. The

25th edition, organised on June 1, was celebrated as a Tiranga Rally to pay tribute to the Armed Forces and mark World Bicycle Day. Over 75,000 citizens across 5,000 locations, including remote districts of Jammu and Kashmir, joined the rally.

These weekly events involve various groups such as doctors, government employees, teachers, and others to spread the message of fitness. Staying true to the vision of Prime Minister Narendra Modi, the Fit India Movement is taking the message of fitness to every household in the country.

Prime Minister Narendra Modi's vision is for India to be among the top 10 sporting nations when we host the Olympics in 2036 and among the top 5 by the time we mark 100 years of independence in 2047. Much has been done to fulfil this vision, but a lot still remains to be achieved. To lay a strong foundation, major governance reforms have been implemented, which are crucial for the development of sports in the country.

India's sporting revolution today is a story of vision, resolve, and inclusive growth. With our youth at the heart of this transformation, and under the dynamic leadership of Prime Minister Narendra Modi, India is rising as a global sporting powerhouse. From medals to mindsets, the change is visible and the journey to Viksit Bharat is being powered by the spirit of sport.

(The writer is Union Minister of Youth Affairs & Sports and Labour & Employment)

Business landscape set to transform with railway connectivity in JK

■ MOHAMMAD HANIEF



In the heart of the Himalayas, where majestic peaks and verdant valleys frame centuries-old traditions, a quiet revolution is underway. The clatter of wheels on steel tracks-long missing from Kashmir's economic story-is now emerging as a powerful catalyst for business, trade, and entrepreneurship.

With the Indian Railways intensifying efforts to expand and upgrade services in the Valley, particularly through the completion of the Udhampur-Srinagar-Baramulla Rail Link (USBRL), Kashmir is on the cusp of an economic transformation. The push for enhanced train connectivity is not only bridging geographical gaps-it is opening up untapped markets, reducing costs, and reviving hope for sustainable development in the region.

Kashmir has long remained one of the few regions in India without a fully integrated railway link to the national network. While intra-Valley rail services between Baramulla and Banihal have been operational for over a decade, the missing link to the Jammu region-and by extension, the rest of India-posed a serious bottleneck to trade and mobility.

That gap is now closing, with the USBRL project in its final phase. Spanning 272 kilometers of some of the most challenging terrain in the world, the rail line features the Chenab Bridge-the world's highest railway arch-and multiple tunnels through the Pir Panjal range. Once fully operational, this engineering marvel will reduce dependence on the often-treacherous Jammu-Srinagar highway and cut travel time drastically.

The enhanced rail connectivity has already begun to bear fruit for Kashmir's core industries, particularly horticulture, handicrafts, and small-scale trade.

In Sopore, often dubbed the 'apple bowl of Asia,' traders are enthusiastic about the prospect



of exporting fresh produce to metropolitan markets with greater speed and lower cost. "Earlier, transporting apples to Delhi or Mumbai by road took over a week and involved high freight charges. Trains are faster and cheaper-and more reliable during bad weather," says Mohammad Yousuf, a second-generation fruit exporter.

Similarly, artisans who create globally admired pashmina shawls, walnut wood carvings, and Kashmiri carpets are finding it easier to send their goods to major cities. With lower logistical overhead, small business owners are now exploring national and international e-commerce platforms, expanding their market reach like never before.

Kashmir's stunning landscapes have always drawn tourists from across India and abroad. However, poor road infrastructure and unpredictable weather often made travel to the region cumbersome. With train services expanding, that

barrier is fading.

Rail travel to destinations like Pahalgam, Gulmarg, and Sonamarg has become more convenient, particularly for middle-class families and senior citizens seeking affordable and safe alternatives to road travel. Local tourism operators report an uptick in domestic visitors arriving by train, particularly from Punjab, Delhi, and Uttar Pradesh.

"The train has made Kashmir more accessible. Group tours, weekend getaways, and even pilgrimage circuits are being reimagined around rail schedules," says Manzoor Ahmad, a tourism entrepreneur based in Srinagar.

In response, the Jammu and Kashmir Tourism Department is actively working to develop rail-linked tourism hubs. Plans include setting up eco-parks near stations, promoting homestays, and integrating local crafts and cuisine into the tourist experience.

The ripple effect of improved rail services extends beyond commerce and tourism. Crucially, it is helping to address one of Kashmir's most pressing challenges: unemployment.

Railway expansion and station modernization projects are generating thousands of direct and indirect jobs-from construction workers and engineers to hospitality staff and vendors. Moreover, the emergence of commercial zones around new railway stations is creating opportunities in retail, logistics, and real estate.

Despite these gains, the road ahead is not without challenges. Terrain-related disruptions-such as landslides and heavy snowfall-can still affect rail schedules. Security remains a concern in certain pockets. Moreover, the lack of cold storage and logistics hubs near many stations continues to hinder the full-scale utilization of rail for freight transport.

To address these gaps, experts are advocating a multi-tiered strategy like improved road infrastructure to and from stations will be critical. Building temperature-controlled storage facilities can vastly improve the horticulture sector's export capabilities. Establishing freight corridors and warehousing hubs alongside passenger services will boost efficiency. Ensuring that local voices shape railway-area development can ensure inclusive growth and prevent displacement or alienation.

The government has emphasized railway development in Kashmir as part of its broader infrastructure push. The Ministry of Railways has not only committed to finishing the USBRL by 2025 but is also exploring the extension of semi-high-speed Vande Bharat trains into the Valley.

Electrification of rail lines in Kashmir is also underway, aiming to reduce carbon emissions and enhance energy efficiency. Public-private partnerships are being encouraged to build world-class stations with modern amenities, business centers, and cultural displays that reflect the Valley's heritage.

Among the general public, the sentiment

around trains is deeply optimistic. For decades, Kashmiris felt physically and economically disconnected from the rest of India. Now, that narrative is shifting.

The sight of students, laborers, tourists, and traders boarding sleek, modern trains from stations nestled in snow-covered valleys is becoming an everyday reality. And with it, the vision of a vibrant, connected, and economically empowered Kashmir draws closer.

Kashmir's railway renaissance is more than just a transport story-it is a business story, a youth story, and a human story. As the Valley steps onto the tracks of progress, it carries with it the dreams of a people long constrained by conflict and distance.

If nurtured with care, vision, and inclusivity, the push for train services could be the single most transformative economic development in Kashmir in decades. The journey has just begun-but the destination looks promising.

Beyond direct economic impact, expanded train services are creating new employment opportunities for Kashmiri youth. Railway stations and associated logistics hubs are generating demand for a variety of roles-from ticketing and maintenance to warehousing and security.

Moreover, the infrastructure boom accompanying the railway push has spurred demand in the construction sector, hospitality, and retail. Real estate values near railway stations are soaring, and new commercial hubs are sprouting around them.

Indeed, as Kashmir inches closer to being fully connected by rail, its people are discovering new aspirations. For businesses small and large, the iron tracks cutting through the mountains are fast becoming the arteries of progress.

In the end, the success of the railway push in Kashmir will depend not just on steel and stone but on vision and vigilance. With the right policies, inclusive development, and continuous investment, the railways can truly be the engine of economic resurgence in the Valley.