EDITORIAL

ADOPTING TRANSPORT POOL SYSTEM

Urban congestion, rising fuel costs, and increasing environmental concerns have made efficient transport management one of the most pressing challenges of the 21st century. In this context, the adoption of a transport pool system emerges as a transformative solution for both public and private sectors. A transport pool system involves the shared use of vehicles-whether buses, cars, or departmental vehicles-by multiple users or organizations, instead of individual ownership or exclusive allocation. Such a system promises efficiency, cost savings, reduced environmental impact, and improved accessibility.

The foremost advantage of a transport pool system is resource optimization. In many government offices, private companies, and educational institutions, vehicles often remain underutilized. Cars may sit idle for hours while other departments struggle with transportation shortages. By pooling vehicles, institutions can ensure that each vehicle serves multiple users throughout the day, maximizing utility. For government departments, this would mean that official vehicles are deployed where needed most, whether for emergency services, official tours, or field inspections. For private organizations, employees can share cars for official travel, reducing idle time and costs associated with maintenance and fuel.

Another critical benefit is cost efficiency. Owning and maintaining a large fleet of vehicles is expensive, involving fuel, servicing, insurance, and depreciation. A transport pool system significantly reduces these costs, as fewer vehicles are needed to meet the same demand. The savings can then be redirected to other developmental priorities such as infrastructure improvement, employee welfare, or service expansion. Moreover, shared transport can reduce parking space requirements, especially in urban centers, where land is scarce and expensive.

A transport pool system also contributes to environmental sustainability. With fewer vehicles on the road and optimized routes, fuel consumption drops, leading to lower greenhouse gas emissions. In an era where climate change and pollution are critical concerns, such initiatives are essential for responsible governance. By encouraging shared use of vehicles and integrating electric or hybrid vehicles into the pool, governments and organizations can reduce their carbon footprint while setting an example for citizens.

Beyond efficiency and sustainability, the system promotes equity and accessibility. In public transport contexts, pooled buses and vans can serve remote or underserved areas more effectively, ensuring that people in distant regions have timely access to medical services, education, and employment. For employees or students, pooling reduces dependence on private vehicles, promoting fairness and reducing transport-related stress.

However, implementing a transport pool system requires careful planning and coordination. Efficient scheduling, a transparent booking system, vehicle maintenance protocols, and dedicated monitoring teams are essential for smooth operation. Technology can play a pivotal role, with apps and digital platforms enabling real-time vehicle tracking, allocation, and route optimization. Public awareness and cooperation are equally important, as successful pooling relies on trust and collective participation.

Adopting a transport pool system is not merely an administrative reform but a step towards sustainable, efficient, and equitable mobility. Governments, public institutions, and private organizations must embrace this model to optimize resources, reduce costs, and mitigate environmental impact. By doing so, we can ensure that transportation becomes a tool for development, connectivity, and social equity rather than a source of congestion, wastage, and pollution.

Resurgence of Natural Farming in J&K

■ DR. BANARSI LAL

J&K is a mountainous Union Territory in which about 30 per cent of the area is under cultivation. Agriculture is the backbone of J&K. This sector provides employment directly or indirectly to about 70 per cent of its inhabitants. The average size of landholding in India is 1.08 hectares where as in Jammu & Kashmir it is 0.54 hectare. Agriculture contributes significantly to the economy of J&K which signifies the overdependence of the J&K on agriculture.Agricultural development harbingers the overall growth and development of J&K. The use of fertilizers and other agrochemicals has started to increase in J&K which deteriorates the soil health. Natural farming is a method of chemical-free agriculture drawn from the traditional Indian practices. It is a unique method of farming which relies on agro-ecology and reduces the cost of cultivation nearly zero. There is no need of expensive agro-inputs such as pesticides, fertilizers and intensive irrigation for natural farming. It has attained a wide success in many states of India especially in the Southern states. Government is stressing on this farming calling for a back to the basics of the Indian agriculture. It is an effective system of farming which sustains the agro-ecosystem including biodiversity and soil biological activities. Natural farming can prove as a major tool for the second green revolution especially in the hilly regions of India.

Union Territory of Jammu and Kashmir is endowed with ample natural resources including soil, water, climatic conditions, diversity, topography, rich natural flora etc. which are conducive for the cultivation of a wide range of crops. High mountains and small hills, snow peaks, rivers and rivulets, glaciers, valleys and lakes, large forest areas, terraced fields and bugyals are the integral features of hilly areas of Union Territory of Jammu and Kashmir. Jammu and Kashmir lies in the North West of the country. Jammu and Kashmir is located between 32.17 and 37.06 North latitude and 73.2 and 80.36 East longitude in the Himalayan region. About 19.95% of the total geographical area of J&K is covered under forests. Jammu and Kashmir is a mountainous Union Territory in which about 30 per cent of the area is under cultivation. The agro-diversity of J&K varies from sub-tropical in Jammu region and temperate in Kashmir region. The average annual rainfall of these two regions is 1069mm and 660mm respectively. The average temperatures of these two regions are 24.5 and 13.3 Centigrade respectively. About 58 per cent area in J&K is under agriculture is rainfed and remaining 42 per cent is irrigated. Maize is first rank crop in J&K occupying one-third of the total cropped area, paddy at number second in 28.58 per cent area of gross cropped area and wheat at number three which covers around 26 per cent of the total cropped area. There is need to increase the income and employment in agriculture and allied sectors for the farmers in J&K. There is possibility to increase the production and productivity of the crops and to enable the farmers to increase their income and employment by adopting the new innovations in agriculture and establishing the infrastructure for the farm production. It is a serious concern that the interest of younger generation in J&K is dwindling towards agriculture.

J&K is situated in the North-Western part of India and most of its terrain is mountainous except some lower areas of Kathua, Samba, Jammu districts and the valley of Kashmir. On the basis of physiographic features, UT of J&K is divided into two main divisions (i) Outer Himalayas comprising of whole Jammu province and Lesser Himalayas which embodies whole Kashmir Valley.J&K possesses great altitudinal variation and diverse geological formations. The Jammu division of the UT has a very diverse landscape and climatic conditions and is divided into 10 Districts viz., Jammu, Kathua, Samba, Rajouri, Reasi, Udhampur, Ramban, Doda, Kishtwar and Poonch. Keeping in view the altitude, rainfall, temperature, humidity and topography in view, there are three distinct hill land situations in Jammu division viz., High hill temperate land pockets (Altitude 1500-4500 m above MSL), Mid hill intermediate land pockets (Altitude 800-1500 m above MSL) and Foot hills and plain sub-tropical lands (Altitude 220 - 800 m above MSL) of Jammu region bestowed with enormous diversity in climate, flora and fauna. The Jammu division covers a geographical area of 26,293 km2 and is located between an altitude of 220-4500 meters above Mean Sea Level (MSL). Major part of the division is hilly or mountainous, including the Pir Panjal range which separates it from the Kashmir valley and the part of the Great Himalayas in the eastern districts of Doda and Kishtwar. There is a narrow strip of plains in the South. Temperature ranges from 0°C in January to 45°C in May and June. Upper mountainous Zone of the division is temperate and enjoys snowfall at higher elevations. Monsoon rainfall occurs from July to last week of September and maximum in July and August. Normal annual rainfall range is 887-2050 mm over the entire Jammu division.

The Jammu region of Union Territory of J&K is having a number of rivers namely Chenab, Ravi, Tawi etc. Agriculture occupies an important place in the economy of Jammu and Kashmir and about 70 per cent of its population depends on agriculture directly or indirectly. However, there is dissimilarity in priority sectors as thrust area for Kashmir division is fruit crops, Jammu division has the dominance of field/grain crops. The spatial distribution of crops reveals that over 78 per cent of the cropped area is under food grains. The major field crops of the Jammu division are Wheat, Maize, Paddy, Mustard, Toria, Peas, Black gram, Lentil, Sesame, Mustard, Chickpea, Berseem, Oats, Bajra and Potato while important fruit crops are Mango, Guava, Citrus, Apple, Pomegranate, Walnut and Apricot. Only 30 % of the area is irrigated while 70 % of the region is dependent on rainfall for agricultural activities.The soil type in the Union Territory of Jammu and Kashmir is described as alluvial, which is mainly found in Kathua and Jammu districts. This soil is loamy with little clay content and has lime and magnesium in small quantities. The Kashmir valley, located in the temperate zone, also has alluvial soil that has high quantities of nitrogen and organic matter. The essential difference between natural and chemical farming is that in chemical farming farmer relies on the chemical interventions to manage pests and weeds and to provide plant nutrition.That means in chemical farming farmer depends on the synthetic pesticides, herbicides and fertilizers whereas natural farming relies on farm based natural formulations such as Beejamrit, Beejamrit, Ghanjeevamrit etc. Organic Farming and Natural farming both shun synthetic use of nutrients and chemicals. The main difference among both is that the inputs used in natural farming are produced on farm and are of natural origin, both from plants and animals. Indegenous breed of cow forms an important component of the natural farming. It has been observed that the fertilizer consumption (kg/ha) in the Union Territory of Jammu and Kashmir is less than half that of entirecountry. J&Ks fertilizer consumption is 61.9 kg/ha of NPK as compared to national value of 133.1 kg/ha of NPK (2018-19). When we look at the pesticide consumption data of the UT as a whole it may seem comparable with many other states.

Majority of farmers of Union Territory of J&K have small and marginal size of land holding which generate less income particularly in the hilly areas. Natural farming system is not new and it is being followed in J&K from ancient times. It is the tradition in J&K to add natural farming inputs in the soil which supplement nutrients and improve physical and biological properties of soils. Over the years, the farmers of the hilly Union Territory of Jammu and Kashmir have adopted new agricultural technologies but still J&K is having low crop productivity of almost all the crops. There is need to develop systematic approach and plan for the development in natural farming in Jammu and Kashmir as J&K has immense potential for natural farming. Significant steps have been taken by the government in order to highlight the importance of natural farming in the growth of J&K economy. There is need to make rigorous efforts to promote natural farming in J&K. Soil health deteriorates due to indiscriminate use of chemical fertilizers in the soil. In order to sustain the health of soil, natural farming is the best option. Natural farming is picking up pace in the Union Territory of J&K and there is need of awareness and trainings of farmers for natural farming. KVKs in J&K are promoting the natural farming by upgrading the knowledge and skills of natural farming among the farmers. A project on "Upscaling the Natural Farming through KVKs" has been launched by the ICAR to promote natural farming among the farmers. Farmers are guided on preparation of natural farming formulations such asJeevamrit, Beejamrit, Ghanjeevamrit,Neematra,Agniastra,Brahma stra etc. and use them in their fields for increasing their fields soil fertility and produce the safe and healthy food.

Majority of the area of J&K is rainfed and have dryland type conditions. This rainfed hilly area should be the target to be covered under natural farming in the broader sense due to already low consumption of agro-chemicals. However, within this area potential pockets have been identified to start with natural farming in mission mode. Detailed survey will be conducted for identification of areas suitable for natural farming within the region. Union Territory Jammu and Kashmir is a vast region endowed with multiple climates ranging from sub-tropical to temperate. It is predominately hilly region and has numerous indigenous styles of agriculture. However, the proper documentation of such practices is rare. Documentation of such traditional practices is important and will give an insight into the type of natural systems that would be suitable for the region. KVKs will collect such data in detail from the respective zones of the distt. which will help to expand the area under natural farming. A step wise approach (pilot basis) is recommended to implement the natural farming practices in the selected areas. Appropriate policy framework and package of practices are needed to increase the adoption of natural farming in J&K. Institutional mechanism is also needed to promote the Natural Farming in J&K. The farmers of Union Territory of Jammu & Kashmir can tap the opportunity of growing demand of natural farming products. Keeping the importance of organic products in view there is need to shift from chemical to natural farming.

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Pragati Portal: A Game Changer in Accelerating India's Dedicated Freight Corridor Project

■ R K JAIN

Dedicated Freight Corridor (DFC) Project is one of the most ambitious rail infrastructure initiatives undertaken since Independence. Designed to provide a high-capacity, technology-enabled rail corridor for freight transportation, the DFC aims to help Indian Railways regain its freight market share by offering faster, safer, more reliable and cost-effective logistics solutions. The project is also expected to catalyse the development of multimodal logistics parks, thereby reducing logistics costs and improving efficiency across the supply chain.

With an estimated cost of over Rs.1.2 lakh crore and a total length of 2843 km, the DFC has two major arms:

Eastern Dedicated Freight Corridor (EDFC):
1337 kmStretching from Sahnewal (Ludhiana) in Punjab to Sonnagar in Bihar, the corridor passes through Punjab, Haryana, Uttar Pradesh and Bihar

Western Dedicated Freight Corridor (WDFC):
1506 km Stretching from Dadri in Uttar Pradesh to Jawaharlal Nehru Port Trust (JNPT) near Mumbai, it traverses Haryana, Rajasthan, Gujarat, Maharashtra and Uttar Pradesh.

Together, the DFC alignment passes through 7 states and 56 districts, cutting across forest areas, wildlife sanctuaries, mangrove stretches and creek zones - making project execution inherently complex.

Challenges That Threatened Timely Completion

Although the project was initiated in 2008, progress was hampered for several years due to multiple bottlenecks:

▸ Acquisition of about 11,000 hectares of land, including removal of structures and encroachments.
▸ Obtaining statutory clearances for forest land, wildlife sanctuaries, mangroves, tree cutting, creek crossings, etc.
▸ Elimination of over 900 level crossings through construction of Road Over Bridges (ROBs) and Road Under Bridges (RUBs), each requiring joint GAD approvals and land acquisition for approaches.
▸ Shifting of high-tension electric lines, gas and oil pipelines.
▸ Approvals from Defence authorities, NHAI, state highways, irrigation departments for canal crossings, and permissions for earth borrowing.
▸ Post-COVID financial stress on contractors, leading to poor cash flows.

The absence of encumbrance-free land severely impacted construction schedules and exposed the project to potential claims.

Pragati Portal - The Turning Point
The launch of the Pragati Portal by the Prime Minister's Office (PMO) proved to be a watershed moment for the DFC Project.

Through the portal, unresolved issues were uploaded with detailed documentation by DFC officials. What made Pragati truly powerful was the visibility and accountability it created: concerned ministries, state governments and authorities knew that progress was being monitored at the highest level, including by the Hon'ble Prime Minister himself.

Issues that had remained pending for years despite relentless follow-ups were resolved within weeks - sometimes even days. In cases where immediate compliance was not feasible, authorities committed to firm target dates, which were then rigorously adhered to.

A New Culture of Governance and Accountability

The Pragati Portal emerged as a highly effective platform for:
▸ Real-time project monitoring
▸ Escalation of issues across multiple tiers simultaneously
▸ Inter-ministerial and inter-state coordination through a single window

Within DFC, a similar internal monitoring framework was institutionalised. Weekly reviews of major contracts, intensive site visits and continuous tracking of committed milestones became the norm. Since all timelines placed on the portal were on record, it also instilled a sense of responsibility within the project team to honour its commitments.

Tangible Impact on Project Execution

The faster resolution of complex issues significantly boosted construction progress and safeguarded the organisation from potential claims arising out of delays in providing encumbrance-free land. More importantly, Pragati transformed the overall governance culture by embedding transparency, responsiveness and accountability into day-to-day project management.

Conclusion

The Pragati Portal stands today as a live example of effective digital governance in action. For a mega project like the Dedicated Freight Corridor - cutting across multiple states, departments and regulatory jurisdictions - Pragati proved to be not just a monitoring tool, but a catalyst for change.

By ensuring faster decision-making, reducing inter-departmental friction, and enforcing accountability at every level, Pragati has played a decisive role in steering the DFC Project towards successful and timely completion, while setting a benchmark for future infrastructure programmes in India.

(The author is Former MD, DFCCIL)

Can AI Shape India's Next Leap in Human Development?

■ DR. RAHUL KUNDAL

As Artificial Intelligence (AI) reshapes industries and social systems, India stands at a critical juncture. Recognised as a future AI powerhouse and lauded for its human development progress, the country now faces anessential question: Will AI serve as an engine of inclusive growth, or will it widen the gaps we've struggled to narrow?

The Human Development Report (HDR)2025 highlights the urgency of this dilemma.It calls for a revived interest on human agency and inclusion, urging policymakers to balance technological progress withfair planning. For India, which has made notable strides in health, education, and poverty reduction, this is more than an academic question. It's about how we build a future where rather than replacing human potential, AI strengthens it.

India ranks 130th out of 193 countries on the Human Development Index (HDI), an improvement from 133rd the previous year. Life expectancy has risen from 58.6 years in 1990 to 72 today. Average years of schooling and per capita income have also grown significantly. According to NITI Aayog, over 248 million people exited multidimensional poverty between 2013-14 and 2022-23. These gains reflect decades of economic expansion and social investments-from Ayushman Bharat to Samagra Shiksha Abhiyan.But in a world shaped by automation, digital exclusion, and rising inequality, such progress remains fragile.

On the technology front, India is gaining momentum. The Stanford AI Index 2025 ranks India 4th globally for AI development, which is remarkable for a lower-middle-income country. For the first time, 20% of India's AI researchers are staying in-country, a sign of growing domestic capacity. AI is already transforming sectors-from predictive crop advisory services in regional languages to AI-enabled diagnostics in healthcare. If scaled equitably, such technologies could become game-changers for India's development story.

That said, progress is not evenly distributed. India's AI ambition clashes with the reality of stark digital divides, between urban and rural, rich and poor, male and female. Reliable internet access and basic digital literacy are far from universal. The same HDR notes that India's HDI value drops by 30.7%, when adjusted for inequality, which is among the steepest declines in Asia. Female labour force participation and political representation remain dismally low. Unless built inclusively, AI may end up serving the few, not the many.

The threat of job displacement looms especially large in India's vast informal sector, which employs over 90% of the workforce. AI may create new kinds of employment, but it will also render some traditional roles obsolete, often the very jobs that keep vulnerable communities afloat. Layered onto this is a host of ethical dilemmas, including algorithmic bias, opaque decision-making, and data privacy violations. Operating in a regulatory vacuum, we risk building systems that replicate and reinforce existing inequalities, only at machine speed.

There is an urgent need to place people at the centre of AI policy. India needs an AI strategy that prioritises ethics, fairness, and the well-being of its people, ensuring that technology serves development, not the other way around.This means designing systems that are transparent, just, and accountable. Digital access must become a basic right, as it has in Finland and Estonia. Investing in equitable digital infrastructurebeyond urban tech hubsis non-negotiable. Public-private partnerships can play a key role, but they must be guided by public interest, not profit alone.

Upskilling the workforce is also urgent. From the codebase to the clinic, everyone needs to learn how to work with AI, without losing sight of what makes us human. The National Education Policy 2020 and the Skill India Mission must evolve to meet this moment. At the same time, we need aregulatory frameworkwith real power to enforce accountability. Privacy laws, algorithmic assessments, and ethical AI guidelines must move from discussion papers to binding regulations. Still under development, the Digital India Act could be a watershed, if it remains anchored in democratic values.

AI offers India a powerful lever for development, but it is no silver bullet. If handed over entirely to the market and allowed to run unchecked, it could deepen structural divides and outsource exclusion to machines. But when harnessed intentionally, it can unlock breakthroughs.

AI's developmental promise becomes meaningful when it is embedded in public systems and aligned with people's everyday needs. Telangana's use of AI-powered crop forecasting supports small farmers by offering timely, localised advice that improves decision-making. In Odisha, AI-supported early warning systems have strengthened disaster preparedness and helped reduce loss of life during cyclones and floods. Karnataka has begun using AI tools in government hospitals to assist with early disease detection, particularly in districts with limited specialist care. Kerala's experiments with AI-based learning platforms in public schools aim to narrow learning gaps, while states such as Andhra Pradesh and Rajasthan are using data analytics to improve welfare delivery and reduce administrative delays. Taken together, these experiences suggest that AI can strengthen health, education, and human security when it is treated as a public good rather than a tool that benefits only a few.

India stands at a decisive moment. The question is no longer whether to embrace AI, but whether we will shape itor be shaped by it. The real danger is not that machines will outsmart us, but that we may trade away our values in pursuit of efficiency. As AI ethicist Timnit Gebru warns, "The problem is not the technology itself, but the values of those who design and deploy it."

India's AI journey must be grounded in justice, not just innovation. To build a Viksit Bharat, India must balance speed with inclusion and choose the harder path of equitable integration, where AI isn't used tobypass inclusion, but becomes a tool to deepen it.Why does this matter?Because in the age of intelligent machines, what counts most is not how smart our tools are, but how fair our societies remain.

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