

Views of Nitin Jairam Gadkari

“India has set a record of 38 km of road construction per day”

Infrastructure growth is imperative for the holistic development of any country. The road sector has always been a high priority area for the Indian government. At a recent conference on “Road Development in India” organised by Indian Infrastructure, Nitin Jairam Gadkari, Union Minister of Road Transport and Highways, shared his perspective on the vision for road development in the country, the scope for technology innovation to fast-track construction and the need to identify alternative sources of raw materials for road construction. Excerpts...

The biggest challenge faced by the construction industry in the development of infrastructure, particularly roads, is the high cost of construction and the cartelisation by steel and cement players. It is essential to reduce the cost of construction, particularly by reducing the use of cement and steel in the construction of roads and other infrastructure. However, along with utilising innovative methods to reduce costs, it is essential to ensure that the quality of construction is not compromised but is rather improved. Industry players should look towards the use of waste material, such as plastic and rubber, in road construction. In bitumen roads, the addition of 10 per cent plastic and rubber can help reduce costs without compromising the quality of the road built. Considering the issues of air pollution, noise pollution, water pollution, etc. faced in India, it is essential to segregate waste material from metal, plastic and organic waste, and then use it for construction.

The use of aggregates can also be done in road construction. This will not only provide an alternative material for construction, but also enable water conservation, which is imperative for the country. The contractors can also work on innovative methods of using waste such as iron slag and other materials. Another environment protecting method is to make bitumen from biomass. The technology for this has been proven successful. The government is working on formulating a policy to enable the adoption of the same.

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interest and betterment of the country, it is essential to reduce the dependency on diesel and petrol as forms of fuel for operating machinery. At present, the cost of importing crude oil stands at Rs 8 trillion. In the coming four to five years, it is expected that this cost will go up to as high as Rs 20 trillion-Rs 22 trillion. It is an issue in terms of not only the economy but also the environment, as the use of these fuels causes pollution. In order to reduce the dependency on oil, the use of ethanol, biofuels, electric vehicles, etc. is being promoted in the country. With the current pace of innovations, it is expected that green hydrogen will become the fuel of the future.

Another essential innovation that is enabling the switch from conventional fuels to greener options is the introduction of flexible engines that can operate on 100 per cent ethanol. It is expected that companies such as Toyota, Suzuki and Hyundai will soon launch cars with flex engines in the country, which will enable the use of ethanol, thereby making it cost effective and environment friendly. The market is ready to support industry players in bringing more and more innovations to the table, which will help reduce the cost of road construction and at the same time, maintain the quality of constructed roads.

Another problem that is observed in road construction is the poor quality of material used by some contractors. While some contractors use the best quality of material, others rely on poor quality material to reduce costs. The quality of bitumen roads, in particular, varies from contractor to contractor. The ministry is



planning on formulating a policy that would determine a rating system for the contractor and firms that prepare detailed project reports (DPRs). In this way, it will be easier to ensure that the work is allocated to the best firms in the country. It has been observed that the cost of construction, designing and alignment suggested in many DPRs is not up to the mark.

The future mantra for far-sighted and environmentally sustainable infrastructure should be “conversion of waste to wealth”. By deploying the right technologies, one can convert waste to wealth. This initiative would require not only a proper vision but also the right leadership and direction. At present, the use of waste material in road construction is the ultimate priority and agenda for the ministry. Additionally, the conversion of waste to wealth and conservation of water in road construction are essential for the restoration of the environment and ecology. Another key agenda for successful development is the use of knowledge and innovation. Innovation, entrepreneurship, science, technology, research skills, and learnings from successful practices can play a significant role in boosting India’s infrastructure. The conversion of knowledge into wealth is the future. It is essential that industry players, government institutes and research centres focus on the creation of alternative and competitive con-

struction material that can help reduce the cost of construction and at the same time ensure that quality is not compromised.

It is essential to accept successful global practices in road construction and incorporate them in the Indian scenario. One such example is the use of steel fibre in elevated roads. In Malaysia, precast beams of steel fibre are fabricated and used in between piers during the construction of elevated roads. By implementing this innovation, the strength of the material is retained and, at the same time, the span between two piers can be increased to 120 metres. It is also essential to note that the rate of steel fibre is lower than that of steel, thereby enabling cost reduction as well.

Back in 2014, the hybrid annuity model (HAM) was the need of the hour. The road ministry at the time had a total of 406 stalled projects worth about Rs 3,850 billion. With the launch of the HAM model in road construction, many of the projects got cleared and the con-

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tractors received much relief in terms of finances, land acquisition and forest clearances. In addition to this, India has set a world record in road construction in the recent past as well. Some of the key achievements in this regard are the construction of a four-lane 2.5 km road in a 24-hour time-frame and the construction of a 26-km single-lane bitumen road in 22 hours. Further, India has set a record of 38 km of road construction per day.

At present, road development worth Rs 600 billion is being implemented in and around the National Capital Region. With the economic model being followed now, the country can invest Rs 5 trillion-Rs 6 trillion in road development each year. With a strong political will, appropriate vision, quality consciousness, transparency and a corruption-free system, the development of roads in the country is bound to thrive. Going forward, India is focusing on developing mass rapid transport systems operated on electricity, and the construction of an electric highway from Delhi to Jaipur. The country, at this point in time, needs an innovative approach, good designs and landscaping. With international standards and parameters as benchmarks, it is essential that India’s infrastructure is developed in a manner that is both profitable and environmentally sound. ▀