

India Gabion Market Assessment, By Type [Gabion Basket, Gabion Mattress, Others], By Application [Protect Channel and Riverbed, Road and Rail Protection, Landscaping], By Sector [Road Infrastructure, Rail Infrastructure, Defense Infrastructure, Urban Infrastructure, Others], By Region, Opportunities, and Forecast, FY2018-FY2032F

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Report description:

India gabion market is projected to witness a CAGR of 11.18% during the forecast period FY2025-FY2032, growing from USD 16.23 million in FY2024 to USD 37.89 million in FY2032. India gabion market is expected to witness significant growth with the rising level of urbanization and infrastructural development.

Gabions, which are wire mesh containers filled with natural materials, are gaining popularity for their efficiency in erosion control, slope stabilization, and aesthetic landscaping. The demand for these structures is highest in regions undergoing rapid construction activities, such as urban centers and modernizing rural areas. Government initiatives for improving infrastructure resilience, especially in flood-prone areas, fuel the adoption of gabion solutions. India is positioned as a prominent region in the Asia-Pacific due to its high infrastructure investment and growing interest in sustainable construction practices. Advanced technologies are making gabion structures more efficient and durable coupled with increasing environmental awareness leading developers to consider eco-friendly alternatives such as gabion instead of conventional materials propelling the market growth. Key market players are engaged in product innovation and strategic partnerships to capture emerging opportunities. In this competitive space, established firms compete against new entrants to fulfill a wide variety of requirements in civil engineering and landscaping. Overall, the Indian gabion market will surely flourish with trends for resilient, and sustainable infrastructure solutions filtering dusty winds to bypass.

For instance, in January 2024, Indian architecture practice, Earthscape Studio designed a farmhouse that is wrapped by a gabion wall to filter daylight and airflow to the interior of the mountain ranges in Anaikatti, Coimbatore and Tamilnadu, India.

Landslides in India Bolster the Demand for Gabions

Landslides have significantly increased the demand for gabions in the Indian market, especially in landslide-prone areas such as the Himalayas and the Western Ghats. Climate change has enhanced weather conditions, and landslides have become more frequent, which requires effective mitigation measures. Gabion structures are highly flexible and permeable and are increasingly used as retaining walls to stabilize slopes and prevent soil erosion. They absorb and diffuse water flow, thus preventing the risk of landslides by maintaining soil integrity. Projects such as those undertaken by Maccaferri in Uttarakhand have demonstrated the effectiveness of gabions in protecting infrastructure along vulnerable roads. Their cost-effectiveness and ease of installation further enhance their appeal as a practical solution for landslide-prone areas, ensuring safety and sustainability in civil engineering practices.

For instance, in June 2023, Maccaferri Environmental Solutions Pvt. Ltd's gabion retaining walls were constructed to provide slope stability against environmental effects such as landslides, slope protection, and soil erosion. The State Road Construction Department decided to resolve the traffic flow and safety concerns at Ranchi-Patratu, Dam Road at Jharkhand. Road widening measures were proposed to resolve the concern, resulting in slope instability and landslides. To address the problem, gabion retaining walls were selected amongst the available alternatives considering their flexibility and permeability. The Jharkhand Accelerated Road Development Company executed the project in PPP mode and a gabion wall as a retaining structure was constructed by Montecarlo. Maccaferri's flexible gabion wall was installed up to the height of 12m. MacTex N - non-woven geotextile was installed at the backside of the gabion for separation and filtration purposes. The structure was designed by Maccaferri and approved by Assystem Stup Consultants.

Road Construction Drives the India Gabion Market Growth

Road construction drives the market for gabions, which are in high demand due to their efficiency in stabilizing slopes and preventing soil erosion. Gabion baskets are used in large quantities in infrastructure projects, such as highways and rural roads, where they offer essential support to embankments and retaining walls. They are adaptable to various geotechnical conditions, making them suitable for challenging terrains commonly encountered in road construction. The increased emphasis on sustainability only adds more to their appeal, since the gabions can be filled locally, thus being as minimally damaging to the environment as possible. As urbanization expands and infrastructure development spreads across India, it is natural to see the trend of increasing dependence on gabion solutions for road construction. They will continue to play an important role in modern engineering projects.

For instance, in December 2024, a tender was issued for the construction of the gabion/retaining wall at Parshuram Ghat along with the rehabilitation and upgradation of NH-66 (Old NH-17) from 161.6 Km to 205.400 Km (Kashedi - Parshuram Ghat section) to four lanes in the State of Maharashtra.

Gabion Baskets Dominate India Gabion Market

Gabion baskets have a significant market share because of their versatility and eco-friendliness. The segment has gained dominance as it is widely used for erosion control, retaining walls, and landscaping applications. Because of their adaptability to the needs of construction, they are often favored in the development of infrastructure. The upsurge for sustainable construction practices has further fueled demand, as filled gabion baskets are usually made up of local materials that save transport costs and render minimal ecological impact. Additionally, further innovation in manufacturing technology improves their strength and performance, thereby making them more applicable to varied applications.

For instance, in September 2024, the Indian Army joined the state government in plugging the breach into Budameru Rivulet. The team is planning to employ a robust two-layer strategy using Gabion baskets, each measuring 5x2x2 meters. A Gabion is a type of wired basket filled with various rocks or soil that helps prevent erosion or retain a slope. They are commonly used in stream banks or areas with steep slopes. These baskets will be placed one atop the other and filled with stones to fortify the Budameru breach. Southern India Acquires the Highest Market Demand

Southern India accounts for the most significant share in the gabion market, influenced by strong infrastructure development and rapid urbanization. Tamil Nadu and Karnataka are in the lead; they use a lot of gabions for road building, erosion control, and flood management projects. The region also emphasizes sustainable construction practices, thus increasing the demand for gabions, as it is an environmentally friendly solution and can be merged with natural backgrounds. Another boost to the adoption of gabion structures is government initiatives to improve connectivity in rural areas and better disaster management. The widely acceptable

application of gabions across retaining walls and in landscaping practices by construction firms in South India also increases their usage. This is expected to continue and even gain momentum as regional infrastructures extend.

For instance, in October 2024, the Water Resources Department began constructing a gabion-grade wall at a vulnerable stretch of the Kollidam bund at Anbil and plans to build a similar structure at Kariyamanickam near Tiruchi to strengthen the bund. The Kollidam serves as an important flood carrier in the State.

Future Market Scenario (FY2025 - FY2032F)

-[]The growing emphasis on eco-friendly construction practices drives the gabion market, as these structures provide effective solutions for erosion control in urban and rural developments.

-[]Innovations such as smart gabions equipped with monitoring sensors are set to revolutionize industry, enhancing functionality and attracting investments in new infrastructure projects.

- Rapid urbanization in emerging economies is expected to increase the demand for gabions, particularly in road construction and landscape architecture, as cities seek resilient solutions to environmental challenges.

-[]Strategic alliances between manufacturers, government bodies, and urban planners are likely to expand the market reach,

facilitating the integration of gabions into large-scale infrastructure projects and public-private partnerships.

Key Players Landscape and Outlook

The competitive landscape of the India gabions market is characterized by a mix of established players and emerging companies, all striving to capitalize on the growing demand driven by infrastructure development and environmental sustainability. Key companies are recognized for their innovative product offerings in gabion boxes. The market is witnessing significant investments in research and development to enhance product performance and sustainability. Government initiatives, such as the Bharatmala Pariyojana, further stimulate competition by creating opportunities for gabion applications in large-scale projects. As construction activities expand across various sectors, companies are focusing on new product launches, strategic partnerships and technological advancements to strengthen their market position and meet the evolving needs of clients.

For instance, in September 2024, Maccaferri Environmental Solutions Pvt. Ltd. proposed a composite solution of soil nailing with Gabion fascia at the bottom and reinforced soil system with TerraMesh System (TMS) fascia and Gabion wall as a suitable solution for stabilization of soil. Slope stabilization was successfully executed for a stretch length of 130m in Perungalathur. Perungalathur is a suburb located in the southern part of Chennai, known for its proximity to key industrial and IT hubs in the city. Shriram Properties & Infrastructure Private Limited wanted to develop an IT park in Phase II of the SEZ in Perungalathur and a topographic study revealed a requirement of cutting off the ground on the northeast side of the proposed site.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work.

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