

■ ANUBHA MISHRA

The defining resource race of the 20th century was fought over oil. It powered industries, moved armies, transformed transportation and gave nations enormous geopolitical influence. In the 21st century, another group of resources is assuming a comparable strategic importance: critical minerals. Lithium, cobalt, nickel, graphite, rare earth elements, copper and other minerals are becoming the foundations of clean energy, advanced manufacturing, defence technologies, electronics and digital infrastructure.

Countries that secure reliable access to these resources will possess economic advantage and strategic leverage. The contest for critical minerals is therefore rapidly becoming one of the central geopolitical and economic stories of our time.

Unlike oil, critical minerals are not consumed primarily as fuels. Their importance lies in their physical and chemical properties. Lithium and graphite are essential to batteries; rare earth elements are indispensable to high-performance magnets used in electric vehicles, wind turbines and precision defence systems; cobalt and nickel contribute to several battery chemistries; copper is fundamental to electricity networks, motors, data centres and renewable infrastructure.

Gallium, germanium and other specialised minerals are vital to semiconductors and advanced electronics. As countries electrify transport, expand renewable energy and build digital infrastructure, demand for these materials is expected to rise sharply. The energy transition is therefore creating a new dependence: reducing fossil-fuel use requires greater access to minerals.

Their strategic significance is determined not only by geological availability but also by where they are mined, processed, refined and manufactured into usable components. A country may possess mineral deposits and still remain vulnerable if it lacks refining capacity or depends on another country for technology and processing.

This is precisely where the current global competition becomes complicated. Mining is only the first stage of the supply chain. Processing, separation, refining, component manufacturing and recycling can create equally important chokepoints. The country controlling these stages can exercise influence far beyond the value of the raw ore itself.

China's position illustrates this reality. Over the past several decades, China has invested heavily in mining, processing, refining and manufacturing capacity across several critical mineral supply chains. Its dominance in rare earth processing and its major role in battery materials have given it considerable strategic weight. This demonstrates how industrial policy, infrastructure, technology and long-term investment can turn mineral resources into geopolitical power. Recent export restrictions on selected critical materials have also reminded the world that supply chains can become a geopolitical weapon.

For India, the critical-minerals question is especially important. India's ambitions for electric mobility, renewable energy, semiconductor manufacturing, defence modernisation, telecommunications and advanced industry will require dependable supplies of minerals across the decades immediately

Critical Minerals: The new oil of the 21st century

India cannot afford to replace one strategic dependence with another. A future in which India reduces its oil import vulnerability but becomes heavily dependent on imported lithium, cobalt, rare earths or processed battery materials would represent only a partial transformation. Energy security in the coming decades will therefore have to be understood as mineral security as well. India has begun responding to this challenge by identifying a list of critical minerals, encouraging exploration, opening selected mineral resources to commercial mining and seeking overseas supplies. The establishment of a national critical minerals mission also reflects a broader recognition that mineral security requires coordinated action rather than isolated mining projects. Yet policy must go beyond extraction.

India needs investment across the entire value chain, including exploration technologies, processing and refining, advanced materials, battery manufacturing, permanent magnets, recycling and research. The objective should be to create an ecosystem in which minerals extracted domestically or obtained abroad can be converted into high-value industrial products within India. International partnerships will be equally important. No country possesses all the minerals necessary for its technological and energy ambitions, and even resource-rich nations often lack some processing capabilities. India must therefore diversify its sources through partnerships with mineral-rich countries in Africa, Latin America, Australia and elsewhere, while strengthening cooperation with trusted partners in the Indo-Pacific and beyond. Such diversification is not merely commercial. It is a hedge against geopolitical shocks, trade disruptions and the weaponisation of supply chains. India's diplomatic engagement must increasingly include mineral diplomacy alongside energy, defence and technology diplomacy.

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energy, defence and technology diplomacy.

At the same time, critical-mineral security cannot become an excuse for environmentally destructive extraction. Mining can impose serious costs on landscapes, forests, water systems and local communities. Some mineral-rich regions are already experiencing tensions over land, ecological degradation and resource governance.

A sustainable mineral strategy must therefore combine economic ambition with environmental responsibility, transparent regulation and meaningful community participation. Recycling will become particularly important. The minerals contained in batteries, electronics, electric motors and other products should be treated as an urban resource rather than discarded waste. Developing a circular economy can reduce pressure on new mines, improve supply security and create new industries.

The geopolitical implications extend beyond India. The competition for critical minerals is reshaping alliances and industrial strategies across the world. The United States, European Union, Japan, Australia and other economies are seeking to diversify supply chains, develop domestic processing and reduce excessive dependence on concentrated sources.

New industrial policies and partnerships are emerging around batteries, semiconductors, rare earths and clean technologies. This competition could produce more resilient supply chains, but it could also create rival blocs and protectionist barriers. The world must therefore avoid replacing an interconnected but vulnerable mineral economy with a fragmented system in which countries compete for resources at the expense of cooperation.

There is a deeper lesson in the rise of critical minerals. Natural resources have always shaped power, but technological change determines which resources become strategic. Oil be-

came indispensable because industrial civilisation was built around combustion engines and petroleum-based systems. Today's technologies are creating new mineral dependencies. Tomorrow's breakthroughs may change the list again. This means mineral strategy cannot be static. Governments must continuously monitor technological developments, identify emerging vulnerabilities and invest in alternatives. Research into new battery chemistries, material efficiency, substitution and recycling is therefore as important as finding new mines.

For India, this is an opportunity as much as a challenge. The country has a large domestic market, a growing manufacturing base, scientific institutions and an expanding renewable-energy sector. If India can build capabilities across exploration, refining, materials science, manufacturing and recycling, it can move from being a consumer of the energy transition to becoming one of its producers. The objective should not simply be to secure tonnes of minerals, but to secure value, technology, jobs and strategic autonomy.

The oil age taught the world that resource dependence can influence foreign policy, national security and economic sovereignty. The critical-minerals age is likely to teach a similar lesson in a different form. Whoever controls the supply chains of the technologies that power the future will possess significant influence over that future.

India therefore needs a long-term mineral strategy rooted in diversification, domestic capacity, technological innovation, international partnerships and sustainability. Critical minerals are not literally the new oil, but they may play a comparable role in defining the balance of power. The race has already begun, and India's preparedness will determine whether it merely secures access to the resources of the new century or helps shape the industrial order that emerges from them/ORGANISER.ORG

# Fragile Five to Fastest-Growing Major Economy: Incredible India's Transformation in last 12 Years

■ DR VINUSHA REDDY

Imagine there is a ball of clay. A person got the opportunity to mould the clay initially and gave it a shape. A second person was handed over the partly shaped clay mound and had to give it a better form. The first person was definitely in a better position, while the second person clearly had more challenges.

Twelve years, in a period of 79 years, is a small proportion, but these 12 years made a huge difference.

Congress had the opportunity to rule the nation for more than 70% of the time, including the most valuable period of the initial decades. When Modi became Prime Minister in 2014, the situation of the Indian economy was challenging. In 2013, India was widely described as one of the “Fragile Five” emerging economies, along with Brazil, Indonesia, South Africa and Turkey.

India was facing slow growth, high inflation, a large current-account deficit, fiscal pressures and significant dependence on foreign capital. Growth had fallen to around 4.5%, inflation remained close to double digits and investment had weakened.

The Congress-led UPA government did not inherit a weak economy in 2004. It inherited an economy that had just entered a strong growth phase, with GDP growth of around 8.5% in 2003-04, high foreign-exchange reserves and a current-account surplus. However, by 2014, the UPA government handed over an economy facing significant macroeconomic vulnerabilities to the subsequent NDA government.

India transformed incredibly in 12 years, becoming one of the fastest-growing major economies.

India has risen from around the 10th-largest economy in 2014 to the 5th-largest economy today, with nominal GDP crossing \$4 trillion.

The IMF has recognised India's strong economic performance and highlighted the role of sound macroeconomic policies and structural reforms. The Japan Credit Rating Agency has upgraded India's sovereign long-term foreign- and local-currency issuer rating from BBB+ to A-, reflecting stronger growth prospects, macroeconomic stability and an improving financial system.

How was this transformation possible?

Because of the major reforms taken by the Modi lead NDA government in the last 12 years.

MAJOR MEASURES TAKEN SINCE 2014

1. Jan Dhan + Aadhaar + Mobile = JAM Trinity

Launched in 2014, this was one of the most consequential reforms, bringing more than 57 crore previously unbanked people into the formal financial system.

The JAM architecture enabled direct bank transfers, digital payments, reduced leakages and targeted welfare delivery.

2. UPI and Digital Public Infrastructure

India did not merely digitise government services, but built large-scale public digital infrastructure.

The IMF has specifically highlighted India's digital public infrastructure as an important foundation for innovation and financial inclusion.

UPI has become a global-scale digital payments platform. In August 2026, there were 24.51 billion UPI transactions worth ₹29.82 lakh crore.

This is not merely a digital-payment revolution. It has reduced transaction costs, increased financial inclusion and enabled millions of individuals and businesses to participate in the formal digital economy.

3. GST

A major reform that created a national common market, reduced tax fragmentation, improved compliance, widened the tax base and made the movement of goods easier across the country.

GST was introduced in 2017. Today, monthly collections are around ₹2 lakh crore, demonstrating the enormous expansion of India's formal tax base.

GST has become one of the important pillars of India's formalising economy.

4. Insolvency and Bankruptcy Code (IBC)

One of the major problems inherited by the Modi government was the twin-balance-sheet problem – over-indebted companies and stressed public-sector banks.

IBC created a time-bound insolvency framework and improved India's ability to address its long-standing exit problem.

The health of India's financial sector has improved significantly following the stress episodes of the previous decade.

5. Infrastructure Push

A major change was the shift towards large-scale public capital expenditure.

Roads, highways, railways, airports, freight corridors, metro systems and logistics infrastructure became major investment priorities.

This infrastructure push not only improves connectivity but also reduces logistics costs, increases productive capacity and helps crowd in private investment.

6. Make in India + FDI Liberalisation

The government attempted to make India a more attractive manufacturing and investment destination by liberalising FDI rules, simplifying business regulations, introducing single-window systems and removing obsolete regulations.

Around 40,000 compliances have been removed or simplified since 2014.

7. Production Linked Incentive (PLI)

The PLI scheme shifted the focus towards actual production and scale in strategically important sectors such as electronics, mobile phones, pharmaceuticals, automobiles, batteries, telecom, textiles, drones and solar PV.

Electronics production increased from approximately ₹1.9 lakh crore in 2014-15 to ₹11.3 lakh crore in 2024-25.

Mobile-phone exports have risen from negligible levels in 2014 to around ₹2 lakh crore.

India is now the world's second-largest mobile-phone manufacturing country.

8. Atmanirbhar Bharat

The Modi government turned the COVID-19 crisis into an opportunity to build greater domestic capability and self-reliance.

It combined domestic manufacturing, PLI, infrastructure, logistics and strategic sectors.

The objective was not isolation from the world economy, but greater domestic capacity and resilience within global supply chains.

9. Public Sector Bank Recapitalisation

The government injected substantial capital into stressed public-sector banks while simultaneously pursuing consolidation and banking reforms.

Together with IBC, recognition of stressed assets and improved banking practices, these measures helped strengthen the banking system.

Today, India's financial and corporate sectors are considerably more resilient, with non-performing loans at multi-year lows.

10. Fiscal Consolidation, Capital Expenditure and Inflation Targeting

India adopted a flexible inflation-targeting framework with the RBI. This was one of the landmark structural reforms of the last decade.

Another major change was the increasing emphasis on capital expenditure rather than simply increasing revenue expenditure.

Building infrastructure increased productive capacity and generated the foundation for future growth.

The IMF has recognised India's prudent fiscal, monetary and financial-sector policies.

The Modi era has therefore implemented a broad package of structural, financial, digital and infrastructure reforms that have materially changed India's economic architecture and strengthened its capacity for sustained growth.

THE TRANSFORMATION IN NUMBERS

GST was introduced in 2017. Today, monthly GST collections stand at around ₹2 lakh crore.

UPI transactions now stand at over 24.51 billion in a month. In August 2026, 2451 crore UPI transactions worth ₹29.82 lakh crore took place.

India is now the world's second-largest mobile-phone manufacturing country.

Electronics production increased to ₹11.3 lakh crore in 2024-25 from ₹1.9 lakh crore in 2014-15. Mobile-phone exports have risen to around ₹2 lakh crore.

India is now the third-largest pharmaceutical producer in the world by volume and supplies medicines to more than 190 countries. Pharma exports touched \$30.47 billion in 2024-25.

India is now the world's third-largest automobile market. More than 3.3 crore vehicles were produced in 2025 and automobile exports exceeded 63 lakh vehicles.

India is also the world's largest two-wheeler manufacturing base, supporting millions of jobs across the automobile ecosystem.

DEFENCE MANUFACTURING – A DRAMATIC TRANSFORMATION

Defence manufacturing is one of the most dramatic transformations.

Defence exports have risen from just ₹686 crore in 2013-14 to ₹38,424 crore in 2025-26 – an extraordinary increase.

Defence production reached approximately ₹1.8 lakh crore in 2025-26.

Earlier, India was among the world's largest defence importers. Now India is building a domestic defence industrial base and increasingly becoming a defence exporter.

FOREIGN-EXCHANGE RESERVES

India's external position has also undergone a dramatic transformation.

Foreign-exchange reserves have reached a record \$740.80 billion as of the week ending August 28, 2026.

These reserves provide India with a substantial buffer against external shocks and global financial volatility.

FASTEST-GROWING MAJOR ECONOMY

Today, India remains one of the fastest-growing major economies.

The first-quarter GDP growth rate for FY2026-27 was 7.8%.

India is among the nations with the world's largest foreign-exchange reserves, with reserves now exceeding \$740 billion.

FROM FRAGILE FIVE TO TOP FIVE

This journey from Fragile Five to Top Five happened despite unprecedented crises such as the COVID-19 pandemic, the Russia-Ukraine war, major energy and oil shocks, geopolitical tensions and disruptions in global trade and supply chains.

While several nations struggled due to these crises, the Modi government took pragmatic decisions aimed at strengthening domestic demand, infrastructure, manufacturing, financial stability and external resilience.

The transformation of India over the last 12 years is therefore not merely about a change in its ranking.

It is about the transformation of the economic foundation itself.

From financial exclusion to JAM.

From cash-based transactions to UPI.

From a fragmented indirect-tax system to GST.

From the twin-balance-sheet crisis to a stronger banking system.

From dependence on imported mobile phones to becoming the world's second-largest mobile-phone manufacturing country.

From being one of the world's largest defence importers to becoming an increasingly important defence exporter.

From vulnerability to stronger foreign-exchange reserves.

From the Fragile Five to the Top Five.

Twelve years may be a small period in the history of a 79-year-old nation.

But these 12 years have demonstrated how structural reforms, infrastructure investment, digital public infrastructure, manufacturing incentives and macroeconomic stability can fundamentally change the trajectory of an economy.

The journey is far from over. But the direction has unmistakably changed/ORGANISER.ORG