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PCS Special:	01 June 2026
06J6	Air Marshal Ashutosh Dixit to be next Vice-Chief of Air Staff एयर मार्शल आशुतोष दीक्षित होंगे अगले वाइस चीफ ऑफ एयर स्टाफ

Air Marshal Ashutosh Dixit to be next Vice-Chief of Air Staff

PCS

The Hindu Bureau
NEW DELHI

Air Marshal Ashutosh Dixit, a distinguished fighter pilot and test pilot, has been appointed the next Vice-Chief of the Air Staff (VCAS) and will assume office on July 1. He succeeds Air Marshal Nagesh Kapoor.

Currently serving as the Chief of Integrated Defence Staff (CISC), Air Marshal Dixit has played a pivotal role in enhancing jointness among the armed forces and advancing efforts towards the creation of integrated theatre commands.

His tenure has focused on improving coordination and operational synergy between the Army, Navy and Air Force.

An accomplished officer with extensive operational



Air Marshal Ashutosh Dixit

and leadership experience, Air Marshal Dixit has also been closely associated with the Indian Air Force's modernisation drive.

During various assignments at the Air headquarters, he contributed significantly to the promotion of indigenous fighter aircraft programmes and capability enhancement initiatives.

Commissioned into the fighter stream of the Indian Air Force on December 6, 1986, Air Marshal Dixit is an alumnus of the National Defence Academy, Khadakwasla, the Defence Services Staff College, Bangladesh, and the National Defence College, New Delhi.

Flying instructor

A qualified flying instructor and an experimental test pilot, he has accumulated more than 3,300 flying hours on over 20 types of aircraft, including the Mirage-2000, MiG-21 and Jaguar fighter jets.

During his distinguished career, he commanded a premier fighter training base under the Southern Air Command, which earned recognition as the best base in the command during his tenure.

06J6. Air Marshal Ashutosh Dixit to be next Vice-Chief of Air Staff

एयर मार्शल आशुतोष दीक्षित होंगे अगले वाइस चीफ ऑफ एयर स्टाफ

- **Air Marshal Ashutosh Dixit**, a distinguished fighter pilot and test pilot, has been appointed the next **Vice-Chief of the Air Staff (VCAS)** and will assume office on **July 1**.

एयर मार्शल आशुतोष दीक्षित, एक प्रतिष्ठित फाइटर पायलट और टेस्ट पायलट, को अगला वाइस चीफ ऑफ एयर स्टाफ (VCAS) नियुक्त किया गया है और वे 1 जुलाई को पदभार ग्रहण करेंगे।

- He succeeds **Air Marshal Nagesh Kapoor**.

वे एयर मार्शल नागेश कपूर का स्थान लेंगे।

- Currently serving as the **Chief of Integrated Defence Staff (CISC)**, Air Marshal Dixit has played a pivotal role in enhancing jointness among the armed forces and advancing efforts towards the creation of **integrated theatre commands**.

वर्तमान में चीफ ऑफ इंटीग्रेटेड डिफेंस स्टाफ (CISC) के रूप में कार्यरत एयर मार्शल दीक्षित ने सशस्त्र बलों के बीच समन्वय बढ़ाने और इंटीग्रेटेड थिएटर कमांड्स के निर्माण की दिशा में प्रयासों को आगे बढ़ाने में महत्वपूर्ण भूमिका निभाई है।

- His tenure has focused on improving coordination and operational synergy between the **Army, Navy and Air Force**.

उनका कार्यकाल थल सेना, नौसेना और वायु सेना के बीच समन्वय और परिचालन सहयोग को बेहतर बनाने पर केंद्रित रहा है।

- An accomplished officer with extensive operational and leadership experience, Air Marshal Dixit has also been closely associated with the **Indian Air Force's modernisation drive**.

व्यापक परिचालन और नेतृत्व अनुभव वाले एक उत्कृष्ट अधिकारी के रूप में एयर मार्शल दीक्षित भारतीय वायु सेना के आधुनिकीकरण अभियान से भी निकटता से जुड़े रहे हैं।

- During various assignments at the Air headquarters, he contributed significantly to the promotion of **indigenous fighter aircraft programmes** and capability enhancement initiatives.
वायु मुख्यालय में विभिन्न नियुक्तियों के दौरान उन्होंने स्वदेशी लड़ाकू विमान कार्यक्रमों और क्षमता वृद्धि पहलों को बढ़ावा देने में महत्वपूर्ण योगदान दिया।
- Commissioned into the fighter stream of the **Indian Air Force** on **December 6, 1986**, Air Marshal Dixit is an alumnus of the **National Defence Academy, Khadakwasla**, the **Defence Services Staff College, Bangladesh**, and the **National Defence College, New Delhi**.
6 दिसंबर, 1986 को भारतीय वायु सेना की फाइटर स्ट्रीम में कमीशन प्राप्त करने वाले एयर मार्शल दीक्षित राष्ट्रीय रक्षा अकादमी, खडकवासला, डिफेंस सर्विसेज स्टाफ कॉलेज, बांग्लादेश, और राष्ट्रीय रक्षा कॉलेज, नई दिल्ली के पूर्व छात्र हैं।

Flying instructor फ्लाईंग इंस्ट्रक्टर

- A qualified flying instructor and an experimental test pilot, he has accumulated more than **3,300 flying hours** on over **20 types of aircraft**, including the **Mirage-2000, MiG-21 and Jaguar** fighter jets.
एक योग्य फ्लाईंग इंस्ट्रक्टर और प्रायोगिक टेस्ट पायलट के रूप में उन्होंने 20 से अधिक प्रकार के विमानों पर 3,300 से अधिक उड़ान घंटे पूरे किए हैं, जिनमें मिराज-2000, मिग-21 और जगुआर लड़ाकू विमान शामिल हैं।
- During his distinguished career, he commanded a premier fighter training base under the **Southern Air Command**, which earned recognition as the best base in the command during his tenure.
अपने विशिष्ट करियर के दौरान उन्होंने **सदर्न एयर कमांड** के अंतर्गत एक प्रमुख फाइटर प्रशिक्षण बेस का नेतृत्व किया, जिसे उनके कार्यकाल में कमांड का सर्वश्रेष्ठ बेस माना गया।

GS Paper 1: Geography		01 June 2026
TOPICS COVERED		
06J6.	Five Azerbaijanis killed in Azov Sea drone attack: Baku अज़ोव सागर ड्रोन हमले में पाँच अज़रबैजानी नागरिकों की मौत: बाकु	



Five Azerbaijanis killed in Azov Sea drone attack: Baku

GS I: Geography
 Agence France-Presse
 BAKU

Five Azerbaijanis were killed and three wounded in a drone attack on Friday on two foreign cargo ships in the Sea of Azov, Azerbaijan's Foreign Ministry said.

Russia said Ukraine carried out the attack.

The commander of Ukraine's unmanned systems forces said Kyiv had struck "loitering vessels" transporting illegal cargo in the area, without commenting on the statements by Baku and Moscow or the reports

of crew killed.

Citing an official Russian communication to Baku, Azerbaijan's Foreign Ministry said 25 of its citizens were among the crews of the two vessels, which it said were not owned by Azerbaijani companies.

Russian Foreign Ministry spokesperson, Maria Zakharova, said the vessels, the *Natra* and *Tsirikon*, were attacked by Ukrainian drones early Friday while sailing from Turkey to the port of Rostov-on-Don under the flags of Belize and Palau respectively.

06J6. Five Azerbaijanis killed in Azov Sea drone attack: Baku

अज़ोव सागर ड्रोन हमले में पाँच अज़रबैजानी नागरिकों की मौत: बाकू

• Five Azerbaijanis were killed and three wounded in a drone attack on Friday on two foreign cargo ships in the **Sea of Azov**, Azerbaijan's Foreign Ministry said.

अज़रबैजान के विदेश मंत्रालय ने कहा कि शुक्रवार को अज़ोव सागर में दो विदेशी मालवाहक जहाजों पर हुए ड्रोन हमले में पाँच अज़रबैजानी नागरिकों की मौत हो गई और तीन घायल हो गए।

• Russia said Ukraine carried out the attack. रूस ने कहा कि यह हमला यूक्रेन ने किया।

• The commander of Ukraine's unmanned systems forces said Kyiv had struck "loitering vessels" transporting illegal cargo in the area, without commenting on the statements by Baku and Moscow or the reports of crew killed.

यूक्रेन की मानव रहित प्रणाली बलों के कमांडर ने कहा कि कीव ने क्षेत्र में अवैध माल ले जा रहे "भटकते हुए जहाजों (Loitering Vessels)"

को निशाना बनाया, लेकिन उन्होंने बाकू और मास्को के बयानों या चालक दल के मारे जाने की खबरों पर कोई टिप्पणी नहीं की।

GS Paper II: International Relations		06 June 2026
TOPICS COVERED		
06J6	Pressure to limit India-Russia ties will hurt global stability, says Putin भारत-रूस संबंधों को सीमित करने का दबाव वैश्विक स्थिरता को नुकसान पहुँचाएगा, पुतिन ने कहा	
06J6	Leaders gather for summit on the EU's enlargement into the Western Balkans पश्चिमी बाल्कन में यूरोपीय संघ के विस्तार पर शिखर सम्मेलन के लिए नेता एकत्र हुए	



Pressure to limit India-Russia ties will hurt global stability, says Putin

Russian President calls India a reliable partner; says a 'large economy' like India will prioritise national interests; New Delhi's relations with U.S. will not cause friction, he says; points out that it is 'not a good idea' to interfere in 'delicate' India-China ties

GS II: IR

Press Trust of India
ST. PETERSBURG

Western pressure on Prime Minister Narendra Modi to scale back India's engagement with Russia will harm global stability, Russian President Vladimir Putin said late on Thursday at a press conference.

"Everyone has understood that putting pressure on Prime Minister Narendra Modi (and India) that has the largest population in the world, is detrimental for international relations and for bilateral relations. It doesn't matter where this pressure comes from," he said.

Calling India a "reliable" strategic partner, Mr. Putin said India's growth has not "come out of the blue" but was an outcome of the hard work done under Mr. Modi's leadership.

The remarks came against the backdrop of Western capitals expressing unease over India-Russia relations and the oil trade amid the Ukraine war.

The U.S., for instance, has been asking India to stop importing Russian crude oil and had slapped punitive tariffs.



Vladimir Putin had met Narendra Modi during a visit to New Delhi for a bilateral summit in December 2025. R.V. MOORTHY

But Mr. Putin said New Delhi will prioritise its national interests and added that India's engagement with the U.S. does not affect its strategic ties with Russia.

"I don't think this is a case. We are glad that India is developing its relations with all the countries, it's a great country, a large economy, the largest democracy, it is only natural that it develops its economy in accordance with its inter-

est with those countries that it deems necessary," Mr. Putin said when asked whether India's alignment with Washington creates structural friction for Russia.

No interference

Last September, in the wake of U.S. President Donald Trump's tariff war, a photo of Mr. Modi, Mr. Putin and Chinese President Xi Jinping from the SCO Summit in Tianjin grabbed

Russian President says he does not believe Pak. is under the control of China

the global spotlight. Mr. Putin, who is set to visit India in September for the BRICS summit, said Moscow will not interfere in the "delicate" bilateral relations between India and China.

The Russian President, who called Mr. Xi his "old friend", said, "This is a delicate, multi-faceted relationship between India and China, and interfering into them is not a good idea. Of course, we interact with both our friends... President Xi and Prime Minister Modi are both trying to resolve all the issues of mutual interest, including the border issue."

Highlighting Moscow's strategic equilibrium in Asia, President Putin characterised Russia's ties with India and China as having evolved organically. He stressed that Moscow's growing synergy with New Delhi does not come at Beijing's expense, just as Russia's deep alliance with China does not compromise its bond with India.

"Russia has established these relations (with India and China). It was happening naturally. Relations between Russia and India do not disturb China, our relations with China do not disturb India," he said.

Mr. Putin also touched upon the ties between India and Pakistan. "We are well aware of the intricacies of the issues concerning the border between India and Pakistan," he said, adding that he does not believe Pakistan was under the control of China.

Su-57 on offer

The President also offered Russia's fifth-generation stealth aircraft Su-57 to India and suggested that the combat jet could be jointly built in India.

"As for the Su-57, we offered our friends from India to jointly develop this machine, a fifth-generation aircraft. I think it's the best to date. But our Indian friends said, 'well, let's see'," he said.

"In principle, this could have been our (Russia-India) product. We made it independently. And we are ready to work with India. To work and develop. There will be no restrictions whatsoever," he said.

06J6. Pressure to limit India-Russia ties will hurt global stability, says Putin

भारत-रूस संबंधों को सीमित करने का दबाव वैश्विक स्थिरता को नुकसान पहुँचाएगा, पुतिन ने कहा

Su-57 on offer

Su-57 की पेशकश

- The President also offered Russia's **fifth-generation stealth aircraft Su-57** to India and suggested that the combat jet could be jointly built in India.
राष्ट्रपति ने भारत को रूस के पाँचवीं पीढ़ी के स्टील्थ लड़ाकू विमान Su-57 की पेशकश भी की और सुझाव दिया कि इस लड़ाकू विमान का संयुक्त निर्माण भारत में किया जा सकता है।
- उन्होंने कहा, "इस पर किसी प्रकार का कोई प्रतिबंध नहीं होगा।"



Leaders gather for summit on the EU's enlargement into the Western Balkans

The European Union signals its commitment to expand into the Western Balkans to counter security and economic threats posed by Russia, China; Montenegro considered a front-runner among region's other candidate nations; top EU diplomats seek ways to accelerate the membership process

GS II: IR
Associated Press
MONTENEGRO

Leaders from across the European Union and the Balkans gathered in Montenegro on Friday to discuss expanding the bloc to include countries in the region, seen as a key area in countering security and economic threats posed by Russia and China.

The EU-Western Balkans summit, being held in the Adriatic Sea coastal town of Tivat, brings together EU leaders including President Emmanuel Macron of France and German Chancellor Friedrich Merz, European Commission President Ursula von der Leyen as well as the heads of candidate countries in the Balkans.

High on the agenda will be Montenegro's EU accession. The bloc has already formed a working group to draft an accession treaty for the country, a signal that membership is within reach.

Security was heavy across Montenegro after the National Security Agency said it had foiled a plot to disrupt the summit and had turned away 87 Serbian nationals because they posed "a risk for internal and national security."

Adding members to the bloc for more single market economic benefits and stronger security capabilities has gained increased urgency in recent years as



Balkan bonhomie: Heads of state pose for the family photo at the EU-Western Balkans Summit in Tivat, Montenegro, with a focus on the integration of the six Western Balkan nations into the EU. AFP

the continent has faced a series of challenges, such as lopsided trade with China, migration pressures, the war in Ukraine and increasing hybrid threats from Russia.

Reforms and rapport
The EU has signalled its commitment to expanding into the Western Balkans, where it has urged candidate countries such as Montenegro to carry out reforms like cutting corruption and shoring up democratic institutions – steps viewed as benefiting both the candidate nations and the EU as a whole.

"Enlargement means that we can win economically, become stronger politically, and provide more security to our citizens,"

said European Parliament President Roberta Metsola.

In a post on X, Mr. Merz said the bloc wants the Western Balkan countries to join the EU "as quickly as possible."

"The fact that we haven't admitted any new members in 13 years also shows shortcomings of the EU," he wrote. "We want to overcome those today."

As wars rage in Ukraine, Iran and West Asia, and Europe's security has come under question with the United States viewed as less committed to its NATO allies, EU countries have pushed to boost their military capabilities to ward off future threats.

During a tour of countries in the Western Balkans this week, European

Council President Antonio Costa, who is hosting the summit, has emphasised how serious the bloc is about enlarging.

Speaking in Serbia on Thursday after meeting with Serbian President Aleksandar Vucic, Mr. Costa said the EU would look for new ways to speed up the membership process for the Western Balkan candidate countries.

In times of "global geopolitical uncertainty and economic instability," Mr. Costa said, enlarging the EU is "not just an opportunity. It is a geostrategic necessity for Europe."

'28 by 28'
Montenegro, a small, mountainous country that was once a part of Yugoslavia

and which this week marked the 20th anniversary of its independence from a union with neighbouring Serbia, is considered a front-runner ahead of the region's other candidate countries of Albania, Bosnia-Herzegovina, Serbia, Kosovo and North Macedonia.

After joining NATO in 2017, the country of 623,000 people is now set on fulfilling an ambitious agenda of becoming the 28th member of the EU in 2028. The motto "28 by 28" has even been inscribed on one of the planes of Montenegro's national airline.

All 27 EU members must agree before each chapter can be opened, and then again for it to be closed. Ukraine and Moldova are also among about 10 countries aspiring to join the bloc, while Iceland will hold a referendum in August on whether to apply.

Serbian leader Vucic said he had high hopes for the summit and accession paths for Balkan countries. "We will see a lot of progress of Western Balkan countries in the future. Of course, we need to do a lot of reforms," he said. "We are on our EU path."

Ms. Von der Leyen too called for quickening the accession process. "Enlargement is merits-based, but merits-based does not mean slow. We have to make the process faster and more credible."

Faruk Bašić, a researcher at the Brussels Institute for Geopolitics, said the summit will likely result in a rapid movement for Montenegro to join the bloc in 2028. It will also likely see new safeguards to ensure member nations don't break EU norms.

The summit will be the first to bring together EU leaders since the stunning defeat in April of Viktor Orbán, Hungary's former Russia-friendly Prime Minister who, during his 16-year rule, flouted the EU's standards on democracy and the rule of law and forged close ties with other autocrats.

Mr. Orbán's successor, Hungarian Prime Minister Péter Magyar, did not attend the summit.

With the painful experience of Mr. Orbán's democratic backsliding and historic use of the veto in the European Council, the EU is devising new ways to use financial penalties or restricted access to the single market to pressure incoming nations to carry out reforms and adapt to the bloc's standards, Mr. Bašić said.

"The EU is trying to find a way to admit a country that isn't fully ready to be admitted without losing the ability to hold it accountable after the fact," he said, pointing to Ukraine's accession bid as well as nations in the Western Balkans like Serbia and Kosovo.

06J6. Leaders gather for summit on the EU's enlargement into the Western Balkans

पश्चिमी बाल्कन में यूरोपीय संघ के विस्तार पर शिखर सम्मेलन के लिए नेता एकत्र हुए

- **Montenegro** is considered a front-runner among the region's other candidate nations.

मोंटेनेग्रो को क्षेत्र के अन्य उम्मीदवार देशों में सबसे आगे माना जा रहा है।

- The **EU-Western Balkans summit**, being held in the Adriatic Sea coastal town of **Tivat**, brings together EU leaders including President **Emmanuel Macron** of France and German Chancellor **Friedrich Merz**.

एड्रियाटिक सागर के तटीय शहर तिवत में आयोजित EU-पश्चिमी बाल्कन शिखर सम्मेलन में फ्रांस के

राष्ट्रपति **इमैनुएल मैक्रों** और जर्मनी के चांसलर **फ्रेडरिक मर्ज़** सहित यूरोपीय नेता शामिल हुए।

- "Enlargement means that we can win economically, become stronger politically, and provide more security to our citizens," said **European Parliament President Roberta Metsola**.

यूरोपीय संसद की अध्यक्ष **रोबर्टा मेट्सोला** ने कहा, "विस्तार का अर्थ है कि हम आर्थिक रूप से लाभान्वित होंगे, राजनीतिक रूप से मजबूत बनेंगे और अपने नागरिकों को अधिक सुरक्षा प्रदान करेंगे।"

- During a tour of countries in the Western Balkans this week, **European Council President Antonio Costa**, who is hosting the summit, emphasised how serious the bloc is about enlarging.



इस सप्ताह पश्चिमी बाल्कन देशों के दौरे के दौरान सम्मेलन के मेज़बान यूरोपीय परिषद के अध्यक्ष एंटोनियो कोस्टा ने विस्तार को लेकर यूरोपीय संघ की गंभीरता पर जोर दिया।

- Speaking in **Serbia** on Thursday after meeting with **Serbian President Aleksandar Vucic**, Mr. Costa said the EU would look for new ways to speed up the membership process.

गुरुवार को सर्बिया में राष्ट्रपति अलेक्ज़ेंडर वुचिच से मुलाकात के बाद कोस्टा ने कहा कि यूरोपीय संघ सदस्यता प्रक्रिया को तेज करने के नए तरीके खोजेगा।

‘28 by 28’

‘28 बाय 28’

- Montenegro**, a small mountainous country that was once part of **Yugoslavia**, this week marked the **20th anniversary** of its independence from a union with neighbouring **Serbia**.
मोंटेनेग्रो, जो कभी यूगोस्लाविया का हिस्सा था, ने इस सप्ताह पड़ोसी सर्बिया के साथ अपने संघ से स्वतंत्रता की 20वीं वर्षगांठ मनाई।
- The country is considered a front-runner ahead of other candidate countries including **Albania, Bosnia-Herzegovina, Serbia, Kosovo and North Macedonia**.
इसे अल्बानिया, बोस्निया-हर्जगोविना, सर्बिया, कोसोवो और उत्तर मैसेडोनिया जैसे अन्य उम्मीदवार देशों से आगे माना जाता है।
- All 27 EU members** must agree before each chapter can be opened, and then again for it to be closed.
प्रत्येक अध्याय खोलने और बंद करने से पहले यूरोपीय संघ के सभी 27 सदस्य देशों की सहमति आवश्यक होती है।
- Ukraine and Moldova** are also among about **10 countries** aspiring to join the bloc.
यूक्रेन और मोल्दोवा भी संघ में शामिल होने की इच्छा रखने वाले लगभग 10 देशों में शामिल हैं।
- He pointed to **Ukraine's accession bid** as well as nations in the **Western Balkans** like **Serbia and Kosovo**.
उन्होंने यूक्रेन की सदस्यता बोली तथा सर्बिया और कोसोवो जैसे पश्चिमी बाल्कन देशों का उदाहरण दिया।

GS Paper III: Economy		06 June 2026
TOPICS COVERED		
06J6	Growing cracks in the granite trade ग्रेनाइट व्यापार में बढ़ती दरारें	



Stone under strain: A worker oversees a granite block being cut at a processing unit in Khammam, where many factories are operating below capacity amid an industry downturn. NAGARA GOPAL

Growing cracks in the granite trade

Telangana's once-thriving granite industry is showing signs of stress as export markets shrink and input costs soar. In Karimnagar and Khammam districts, quarry owners, factory operators and migrant workers are all feeling the impact of a prolonged downturn, report **P. Sridhar and P. Laxma Reddy**

SS II, Economy

For years, Rajendra Mohanty believed granite would guarantee him a steady livelihood. Today, cooking over a firewood stove outside his room on a factory campus in Kamanpur near Karimnagar, the 42-year-old migrant worker from Odisha is unsure what lies ahead. A slowdown triggered by geopolitical tensions in West Asia, rising fuel costs and weakening export demand has begun to ripple through Telangana's granite industry, affecting everyone from quarry owners and factory operators to truck drivers and migrant labourers. Karimnagar, often referred to as the 'city of granites', has long been a key driver of industrial activity in north Telangana. Home to around 250 quarries and over 290 granite cutting and polishing units, the district built its reputation on strong international demand for its signature Tan Brown variety. Today, however, the industry is struggling with supply-chain disruptions, escalating transportation costs and a slump in demand from key markets such as China and the Middle East.

According to official sources, only around 25% of the licensed quarries are currently fully functional. "We faced hard times during the COVID-induced lockdown in 2020 and are now experiencing a crisis-like situation," says Mohanty, who has worked in Kamanpur for the past 12 years after migrating from Balasore in Odisha.

Rising fuel prices have pushed up transportation costs while demand in international markets has slowed," he adds, pointing to stacks of unsold granite slabs.

The crisis has seeped into everyday life. Mohanty says workers have switched to the *chulha* (firewood stove) due to LPG shortages and rising prices. Of the 30 migrant workers employed at the factory where he is employed, 13 have already returned to their native States since the latest downturn gripped the industry, he explains.

Factory owners are grappling with rising production costs due to the increase in prices of imported raw materials, even as demand for granite blocks and polished slabs weakens. Across Telangana's granite belt spanning Karimnagar, Warangal and Khammam districts, many units have scaled down production and even reduced manpower, leaving thousands of workers facing an uncertain future.

Telangana is one of India's leading granite-producing States, with Karimnagar renowned for globally recognised varieties such as Tan Brown, Coffee Brown, Maple Red, Red Rose and Blue Brown while Khammam and Warangal are known for premium black granite deposits, including the sought-after Jet Black variety. The wide range of commercially valuable granite found across the State has supported a vast network of quarries, processing units and export-oriented industries, with processed granite shipped to markets including China, Japan, Taiwan, the UAE, USA and Europe.

Karimnagar's granite industry is heavily dependent on overseas markets. The district's signature Tan Brown granite, once buoyed by strong international demand, is now facing demand volatility amid the fallout of the West Asia conflict.

According to industry figures, Karimnagar ex-

While 170 units have completely shut down and 200 are running in a single shift, only around 100 are functioning at full capacity. Lack of availability of the raw material is the main cause behind the decline of business.

PATIBANDLA YUGANDHAR, President, Khammam Granite Factory Owners Association

ported 56,730 cubic metres of granite blocks between April 1 and May 31, 2020, compared to a little over 3.35 lakh cubic metres during the whole of 2023-26. Demand for Tan Brown granite peaked in the late 2000s, especially around the Beijing Olympics, and it remains popular among buyers in China because of its affordability, availability and durability. Industry stakeholders, however, say current market conditions have impacted exports.

An industry in retreat

For decades, the deep black granite quarried from Khammam's rocky landscape symbolised prosperity. Renowned for its uniform colour, durability and premium finish, Khammam Black Granite found its way into luxury homes, commercial complexes, hotels and monuments across India and overseas markets. The industry once generated an annual business volume of nearly ₹1,000 crore and provided direct and indirect employment to around one lakh people. Today, however, it is struggling for survival.

Across the industrial belts of Khanapuram Haveli, Mudigonda, Arempula, Pallegudem, Gopalapuram and Nelakondapalli, where granite processing units once buzzed with activity, silence has replaced the hum of cutting and polishing machines. Industry representatives say the downturn began around 2018-19 and deepened during the pandemic, driven by a combination of policy changes, rising costs, shrinking quarry activity and weakening international demand.

According to Khammam Granite Factory Owners Association president Patibandla Yugandhar, only a fraction of the industry remains fully operational. "While 170 units have completely shut down and 200 are running in a single shift, only around 100 are functioning at full capacity," he says, referring to the nearly 470 slab units located within a 20-km radius of Khammam city. The shortage of raw granite blocks remains the biggest challenge. "Non-availability of the raw material is the main cause be-

hind the decline of business," Yugandhar adds. Industry estimates suggest that around 3,000 workers have already lost their jobs due to unit closures and downsizing.

Entrepreneurs also point to changes in quarry lease allotment policies. The earlier system, Yugandhar says, encouraged exploration by allowing prospectors to identify deposits and obtain leases through a phased process: "But now open auction is in implementation for the sanction of leases. This is hurting prospective miners."

Industry leaders contend that auction-based allotments and stricter eligibility norms have discouraged exploration and reduced the number of operational quarries. The district, which once had more than 200 quarries, now has fewer than 100 active operations. Government officials, however, maintain that lease allotments are governed by prescribed regulations and environmental safeguards.

For many entrepreneurs, the granite business has become financially unsustainable. Nallamothu Venkat Babu, who shut down his polishing unit two years ago, says the shortage of raw material forced him to exit the industry. "Since I am an agriculturist, I am now focussing on commercial crops," he adds.

The impact extends beyond unit owners. A polishing unit equipped with four cutters can employ around 10 semi-skilled and unskilled workers. Unit closures have sharply reduced employment opportunities.

We can use the waste blocks of granite, slurry and earth for different by-products. But the government is collecting taxes on the waste.

K. VENKAT REDDY, Owner of a granite quarry

ness. "Our next generation is not showing interest to take up the reins from us due to losses mainly caused by the non-availability of raw material in sufficient quantities," he rues.

Industry participants say financial distress is becoming widespread. Praneeth Reddy, treasurer of the association, points to rising diesel prices triggered by West Asia tensions as a major challenge. "Since quarrying, transportation and processing depend heavily on fuel, higher diesel costs have increased operational expenses for both quarry owners and polishing units, further eroding already thin margins," he explains.

The crisis has also affected thousands of workers, particularly migrants who form the backbone of the polishing industry. According to Yugandhar, most workers in polishing units come from West Bengal, Rajasthan, Uttar Pradesh, Bi-

har, Odisha and Jharkhand while quarry labour is largely local.

The cost of decline

Workers in quarries and polishing units generally earn between ₹15,000 and ₹25,000 a month, but shrinking operations have reduced employment opportunities. "A fellow villager returned home due to non-availability of work," says Sandip Mandal, a 21-year-old polishing machine operator from a village near Bishnupur in West Bengal.

Industry veterans say the sector is caught between rising input costs and weakening demand. While the price of raw granite has increased over the past 15 years, demand in some export markets has softened. At the same time, unit owners continue to bear fixed expenses regardless of production levels. "Whether you run the factory or not, the owner must pay the minimum power bill and prescribed fees," says senior industry leader Narendar. Some entrepreneurs argue that intermediaries and brokers often earn more than manufacturers, further squeezing profit margins.

Industry representatives believe one avenue for revival lies in better utilisation of granite waste. Quarrying generates large quantities of rejected blocks, slurry and earth, much of which is discarded despite its potential to be converted into value-added products.

Venkat Reddy advocates greater investment in research and development. "We can use the waste blocks of granite, slurry and earth for different by-products. But the government is collecting taxes on the waste," he says.

Experts say granite waste can be processed into manufactured sand and other construction materials. One enterprise in Khanapuram Haveli has already demonstrated its commercial potential by producing artefacts, premium tiles, sanitaryware and bath fittings from discarded granite blocks. Despite the industry's troubles, Khammam Black Granite continues to enjoy demand in domestic markets, particularly north India. However, that demand has also spawned regulatory challenges. Recently, authorities uncovered an alleged tax-evasion network involving the transportation of black granite through fake firms and fabricated e-way bills. Investigations are continuing.

China demand dries up

Telangana Small Scale Granite Industries Association president Rayala Nagaswara Rao says the sector has suffered huge losses following the disruption of exports to China since the COVID-19 pandemic. He notes that nearly 70% of quarries in the erstwhile Karimnagar district have shut down due to lack of demand from China.

Rao says applicants are now required to pay around ₹25 lakh per hectare to secure quarry leases. Black granite has a recovery rate of only about 10%, compared with more than 50% for coloured varieties such as Tan Brown, he adds.

According to him, Khammam district has around 700 slab and tile units, of which nearly 200 have closed. Welcoming the release of ₹20 crore towards pending subsidies and the revival of the old measurement method, he urges the government to liberalise lease rules and provide further support to the sector.

Government officials acknowledge the industry's difficulties. Assistant Director of Mines and Geology, Khammam, R. Sainath says polishing units are under severe stress due to sluggish market conditions, rising production costs and inadequate availability of granite blocks. He estimates that around 130 polishing units in the district have shut down, but notes that the government has refrained from increasing royalty and seigniorage charges in an effort to support the industry. For Amit, a polishing worker from Betul in Madhya Pradesh employed at a granite factory near Bavpet in Karimnagar, rising fuel prices and reduced production have taken a direct toll on household finances. "Earlier, I used to send ₹15,000 to my family. Now, I hardly send ₹10,000 back home," he says, adding that even firewood has become costlier amid LPG shortages that have forced many workers to return to the traditional *chulha*.

"We pray that the geopolitical tensions ease so that supply chains are restored and our factory runs at full capacity," he says.

The crisis reflects the export-dependent nature of Karimnagar's granite industry. Raw granite blocks are largely shipped to China while polished slabs are exported to markets in the Middle East through Kakinada port in Andhra Pradesh. Industry stakeholders say bottlenecks in shipping routes and cargo delays linked to the West Asia conflict have led to increased freight costs and disrupted exports.

J. Praneeth Rao, president of the Karimnagar District Granite Industries Association, says rising shipping charges, a stronger US dollar and higher prices of imported cutting and polishing tools have forced many units to scale down operations. "The increase in transport charges due to fuel price hikes is taking a toll on our business, compelling us to operate only a single shift," he says. Road transport costs have risen from around ₹2,800-₹2,900 per tonne to ₹3,300-₹3,600 per tonne while unit owners continue to struggle with bank loan repayments and electricity charges. Praneeth Rao says the industry directly and indirectly supports 30,000 to 40,000 families and argues that the 18% GST on granite places it at a disadvantage compared to tiles, which attract 5% GST.

Assistant Director of Mines and Geology, Karimnagar, S. Venkat Reddy says inflated ocean freight costs arising from the West Asia conflict have adversely affected granite exports from the district. A quarry owner from Bavpet, requesting anonymity, says the price of taper bits and other imported inputs used in drilling operations had increased three-fold, pushing up production costs by 10-15%. He also calls for improved rail-based logistics between Karimnagar and Kakinada port to reduce transportation costs.

Industry representatives have urged the government to encourage the use of locally produced Tan Brown granite in public infrastructure projects to support the sector's revival.



A worker pointing to a black granite quarry at Pindiprolu village in Khammam district. NAGARA GOPAL

06J6. Growing cracks in the granite trade

ग्रेनाइट व्यापार में बढ़ती दरारें

- **Telangana's** once-thriving granite industry is showing signs of stress as export markets shrink and input costs soar.
तेलंगाना का कभी फलता-फूलता ग्रेनाइट उद्योग अब दबाव के संकेत दिखा रहा है क्योंकि निर्यात बाजार सिकुड़ रहे हैं और उत्पादन लागत तेजी से बढ़ रही है।
- In **Karimnagar** and **Khammam** districts, quarry owners, factory operators and migrant workers are all feeling the impact of a prolonged downturn, report P. Sridhar and P. Laxma Reddy.
करीमनगर और खम्मम जिलों में खदान मालिक, फैक्ट्री संचालक और प्रवासी मजदूर सभी लंबे समय से जारी मंदी का प्रभाव महसूस कर रहे हैं।
- Karimnagar is renowned for globally recognised varieties such as **Tan Brown, Coffee Brown, Maple Red, Red Rose and Blue Brown**.
करीमनगर टैन ब्राउन, कॉफी ब्राउन, मेपल रेड, रेड रोज और ब्लू ब्राउन जैसी विश्व प्रसिद्ध किस्मों के लिए जाना जाता है।
- **Khammam** and **Warangal** are known for premium black granite deposits, including the sought-after **Jet Black** variety.
खम्मम और वारंगल प्रीमियम ब्लैक ग्रेनाइट भंडारों के लिए प्रसिद्ध हैं, जिनमें लोकप्रिय जेट ब्लैक किस्म शामिल है।
- Processed granite is shipped to markets including **China, Japan, Taiwan, UAE, USA and Europe**.
प्रसंस्कृत ग्रेनाइट चीन, जापान, ताइवान, यूएई, अमेरिका और यूरोप जैसे बाजारों में भेजा जाता है।

GS Paper III: Science and Technology		06 June 2026
TOPICS COVERED		
06J6	On a slow charging mode धीमी चार्जिंग मोड पर	
06J6	'Two leaks found on International Space Station, no threat to crew' 'अंतरराष्ट्रीय अंतरिक्ष स्टेशन पर दो रिसाव पाए गए, चालक दल को कोई खतरा नहीं'	



On a slow charging mode

While Bengaluru leads the transition towards electric mobility, vehicle owners say inadequate infrastructure, long charging times, and high purchase cost pose challenges for wider adoption. **Darshan Devatah B.P.** and **Mini Tejaswi** take an overview of the EV scenario on World Environment Day.



Current scenario: Electric vehicles being charged at a station in Bengaluru on Thursday. India's overall EV market penetration is expected to reach approximately 10% in FY 2026-27. ALLEN EGNOSHE J.

Buying an electric car has been a great decision for my daily commute in Bengaluru. It is comfortable to drive, and has reduced my fuel expenses. But whenever I travel to my hometown Mangaluru, I have to stop after around 220 km, and spend nearly an hour charging before continuing the journey, says Ramya Kumari, an IT professional from Bellandur. "While EVs are excellent for city driving, long-distance travel requires careful planning around charging stations, which can be frustrating."

Her experience mirrors that of thousands of electric vehicle (EV) owners across Karnataka, where the shift towards cleaner mobility is accelerating, but infrastructure continues to lag behind demand.

Prime Minister Narendra Modi recently urged citizens to reduce dependence on petrol and diesel, citing the need to conserve foreign exchange and strengthen India's energy security amid global uncertainties in fuel markets. Electric vehicles have emerged as a key pillar in India's strategy to reduce oil imports and lower emissions.

India's overall EV market penetration is expected to reach approximately 10% in FY 2026-27, led by robust two-wheeler sales from major manufacturers and growing four-wheeler adoption. While national public charging infrastructure has grown to over 29,000 units, deployment remains urban-centric with a high EV-to-charger ratio (235:1). Karnataka spearheads this deployment, housing 28% of the nation's chargers, though 75% of these are deployed in Bengaluru, say industry observers.

Indeed, for Bengaluru residents, EVs have become increasingly attractive due to soaring fuel prices, rising environmental awareness and government incentives. Yet, once drivers venture beyond the city limits, concerns over charging infrastructure often overshadow the benefits, like in the case of Ramya.

Says Ramya, "Whenever I drive to Mangaluru, I usually stop around Sakleshpur, where a limited number of charging points are available. During weekends or holiday periods, there can be queues. Even though the number of charging stations is increasing, it is still nowhere near sufficient for the growing number of EV users. The biggest challenge is range anxiety, constantly worrying about whether the next charging station will be available and operational before the battery runs low."

The Bengaluru-Mangaluru route, one of Karnataka's busiest inter-city corridors, illustrates the challenge. Drivers often have to plan journeys around available charging points rather than choosing the most convenient route or schedule.

Charging duration
Apart from the availability of charging stations, charging duration remains a major concern. Unlike conventional fuel vehicles that can be refuelled within minutes, EVs require significantly more time. Depending on battery size and charging capacity, a standard home charger can take anywhere between six and 12 hours to fully charge a vehicle. Fast chargers can reduce charging times to between 30 minutes and one hour for a substantial battery refill, but such facilities remain limited, especially outside cities.

For apartment dwellers in Bengaluru, even home charging is not always straightforward. Praveen S., a resident of J.P. Nagar who owns an electric vehicle, said that access to charging infrastructure within residential complexes remains a challenge.

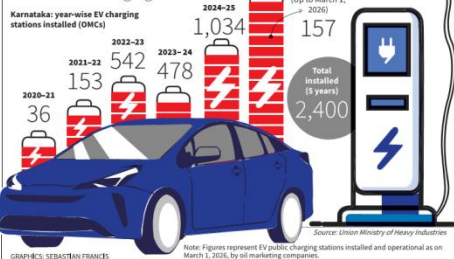
"Many people assume that EV owners can

The biggest challenge is range anxiety, constantly worrying about whether the next charging station will be available and operational before the battery runs low.
RAMYA KUMARI
IT professional

Key concerns among EV users

- Limited charging stations outside major cities
- Long journeys require careful route planning around charging points
- Range anxiety during long-distance travel
- Concerns over battery degradation and replacement costs
- Charging takes 30 minutes to 3 hours at fast chargers; 6-12 hours at home
- Higher upfront purchase cost compared to petrol/diesel vehicles
- Lack of charging facilities in many apartment complexes

Karnataka's charging network



SOURCE: SEBASTIAN FRANCIS

Note: Figures represent EV public charging stations installed and operational as on March 1, 2026, by oil marketing companies.

simply charge their vehicles at home. In reality, several apartment complexes where OMCs are long before electric vehicles became common. Residents do not have dedicated parking slots or access to electrical connections required for installing personal chargers. Getting approvals from apartment associations can be time-consuming. Unless residential infrastructure evolves alongside EV adoption, many urban residents will continue facing practical difficulties," he said.

On-road price
Another hurdle for many contemplating to buy EVs is the higher upfront cost of purchasing an electric vehicle. While operating costs are generally lower than those of petrol and diesel vehicles, the initial investment remains substantial.

Sukesh Hegde, a resident of Yelahanka, spent months researching electric vehicles before ultimately deciding to purchase a diesel car. "Everyone talks about the benefits of EVs, and I agree they make sense in many situations, especially two-wheelers are good. But when I compared prices, I realised that a good electric SUV costs significantly more than a comparable fuel-powered vehicle. For many middle-class families, that difference matters," he said.

Hegde also pointed to uncertainty about battery life. "Lithium-ion batteries degrade over time, and replacing them can be expensive. I was concerned about what the vehicle would be worth after several years and whether battery replacement costs would offset the savings from lower running expenses."

Infrastructure growth

According to data available on the VAHAN dashboard, Karnataka registered more than 54,000 electric vehicles between January and March 2026. At the same time, the State has emerged as the second-largest hub for public EV charging stations installed by oil marketing companies (OMCs) in the country.

Data accessed by *The Hindu* shows that 2,039 EV public charging stations installed by OMCs are currently operational across the State. Karnataka had only 36 charging stations in 2020-21. The number increased to 153 in 2022-23 before rising sharply to 542 in 2023-24 amid growing EV adoption.

Although installations dipped slightly to 478 stations in 2024-25, the overall growth trajectory remained positive. The biggest expansion occurred in 2024-25, when 1,034 charging stations were added in a single year.

In the previous financial year up to March 1, 2026, another 157 charging stations have been installed. This has taken the total installations over five years to approximately 2,400 stations, of which 2,039 are operational.

OMCs comprising Indian Oil (IOCL), Bharat Petroleum (BPCL), and Hindustan Petroleum (HPCL) have already installed close to 30,000 charging sites across their fuel retail networks and fast-charging infrastructure on highways in India. BPCL has set up EV fast-charging corridors along busy routes like Bengaluru-Tirupati. Indian Oil in partnership with Sun Mobility deployed battery swapping stations to offer quick charging to commercial fleets and three-wheelers.

IOCL is planning 608 EV charging stations across all 31 districts in Karnataka, of which 304 stations have already been onboarded. Siddharth Agarwal, executive director and State head, Karnataka State Office, Indian Oil, said all of these are fast DC chargers, enabling efficient and convenient charging. "We are planning 240 KW charging stations, which will cater to the heavy vehicles segment. Feasibility studies are being conducted and rollout is expected in the current financial year." Currently, 124 chargers are already integrated with Indian Oil's e-Charge platform.

The remaining chargers are under various stages of onboarding.

HPCL's flagship brand HPeCharge, leveraging its extensive fuel retail network, has built one of the most expansive public EV charging infrastructures in the country, including Karnataka, according to the oil PSU.

Private players

EV vehicle manufacturers and infrastructure developers say Karnataka has made important strides in this segment.

Karnataka is one of the strongest examples of EV adoption, according to Raveet S. Phokela, chief business officer at Ather Energy of Hero MotoCorp. The State was already seeing some of the highest electric two-wheeler penetration levels in the country, with EVs accounting for 13.1% of new two-wheeler registrations in FY26, supported by a strong ecosystem of startups, suppliers, manufacturers and charge point operators. More importantly, consumer behaviour has evolved, he observed, adding that concerns around range, battery life, and charging accessibility are reducing as products become more reliable and the supporting ecosystem matures.

Phokela said his company has invested extensively in battery technology, safety systems, and validation for Indian conditions. On charging accessibility, Ather claims to have over 6,000 LECS-powered fast-charging points across India, including more than 500 in Karnataka. Bengaluru alone has over 200 fast-charging points, with charging stations typically located within 2 kilometres of one another.

Chetan Maini, co-founder and chairperson of SUN Mobility, said Karnataka, in particular, is among the States most prepared for EV transition, having been an early mover in EV policy and ecosystem development.

Investment flow

Karnataka has attracted over ₹25,000 crore in EV-related investment across manufacturing, batteries, charging infrastructure, and R&D, while also building one of the country's largest charging networks with more than 5,000 charging stations. Over the years, SUN Mobility has established a network of more than 1,700 battery swapping stations across 23 cities, supporting over 35,000 vehicles and enabling more than 60 million battery swaps, claimed the company. The company also collaborates with Indian Oil Corporation, Bescom and the Indian Railways.

A spokesperson of Tata Power, an integrated power company, said Bengaluru's technology-driven ecosystem and sustainability focused businesses have played an important role in accelerating this shift. Tata Power's E2 Charge energised over 5,500 public charging points in over 700 cities across the country, including 320 in Karnataka.

Karnataka government officials, meanwhile, say substantial investments are already underway. A senior official from the Transport Department in Bengaluru said that both the Centre and State governments are actively working to strengthen their charging infrastructure.

Another official pointed to major Central government initiatives aimed at accelerating deployment. "Under the FAME-II scheme, ₹92.5 crore has been sanctioned for EV charging infrastructure across the country. Of this, ₹895.48 crore has already been released, while ₹655.43 crore has been utilised. In addition, ₹2,000 crore has been earmarked under the PM E-2026 scheme specifically for expanding charging infrastructure nationwide."

He added that the focus is shifting from merely increasing number of charging stations to improving reliability and accessibility. "We are encouraging deployment of fast-charging networks, supporting private sector participation and working with oil marketing companies and urban local bodies," the official said.

Ecosystem at a critical stage

Despite this progress, experts argue that infrastructure growth has not kept pace with the rapid increase in vehicle registration. Traffic and mobility expert M.N. Sreethar says, "Karnataka may have emerged as one of India's very fast growing areas of electric mobility, but the next phase of growth will depend on user confidence. The challenge is no longer convincing consumers to buy EVs. It is ensuring they can use them conveniently across the State. A driver should never have to worry about finding a charging station within a reasonable distance."

Sreethar feels that charging technology and grid integration also require attention. "The government should encourage ultra-fast charging corridors along major highways connecting Bengaluru, Mysuru, Mangaluru, Hubballi-Dharwad, Kalaburgi and Belagavi. Apartment charging regulations need to be simplified, and incentives should be provided to housing societies that install common charging facilities," he added. According to him, consumers need reliable information about battery life, operating costs and charging options.

Legal, regulatory issues

Drawing attention to another off-ignored but key factor, Sonam Chandrasekar, managing partner, KS Legal & Associates, emphasised the importance of the legal and regulatory ecosystem in accelerating EV transition. While policies such as FAME, the Production Linked Incentive (PLI) Scheme, State-level EV policies, and renewable energy initiatives have created momentum, implementation remains fragmented.

Land acquisition for charging stations, power connectivity approvals, environmental clearances, battery waste management obligations under the Battery Waste Management Rules, 2022, and compliance with electricity and urban development regulations continue to present practical challenges.

The next phase of India's EV journey would require greater regulatory harmonisation between the Central and State governments, municipal authorities, electricity distribution companies, and private sector participants.

"The EV transition is often viewed as a technological revolution, but it is equally a legal and regulatory transformation. Technology can create the vehicle, but laws, contracts, compliance frameworks, financing structures, and investor protections create the ecosystem within which that vehicle can operate at scale," Chandrasekar said.

06J6.On a slow charging mode

धीमी चार्जिंग मोड पर

- While national public charging infrastructure has grown to over **29,000 units**, deployment remains urban-centric with a high **EV-to-charger ratio (235:1)**.



हालाँकि राष्ट्रीय सार्वजनिक चार्जिंग अवसंरचना बढ़कर 29,000 से अधिक इकाइयों तक पहुँच गई है, फिर भी इसकी तैनाती मुख्यतः शहरी क्षेत्रों में केंद्रित है और ईवी-टू-चार्जर अनुपात (235:1) बहुत अधिक है।

Charging duration

चार्जिंग अवधि

- Depending on battery size and charging capacity, a standard home charger can take anywhere between **six and 12 hours** to fully charge a vehicle.
बैटरी के आकार और चार्जिंग क्षमता के अनुसार, एक सामान्य घरेलू चार्जर किसी वाहन को पूरी तरह चार्ज करने में 6 से 12 घंटे तक ले सकता है।
- Fast chargers can reduce charging times to between **30 minutes and one hour** for a substantial battery refill, but such facilities remain limited, especially outside cities.
फास्ट चार्जर चार्जिंग समय को 30 मिनट से 1 घंटे तक कम कर सकते हैं, लेकिन ऐसी सुविधाएँ विशेषकर शहरों के बाहर सीमित हैं।

On-road price

ऑन-रोड कीमत

- Another hurdle for many contemplating to buy EVs is the **higher upfront cost of purchasing an electric vehicle**.
ईवी खरीदने पर विचार करने वालों के लिए एक और बड़ी बाधा इसकी शुरुआती अधिक कीमत है।
- Land acquisition for charging stations, power connectivity approvals, environmental clearances, battery waste management obligations under the **Battery Waste Management Rules, 2022**, and compliance with electricity and urban development regulations continue to present practical challenges.
चार्जिंग स्टेशनों के लिए भूमि अधिग्रहण, बिजली कनेक्शन की स्वीकृति, पर्यावरणीय मंजूरी, बैटरी अपशिष्ट प्रबंधन नियम, 2022 के तहत दायित्व तथा बिजली एवं शहरी विकास नियमों का अनुपालन अभी भी व्यावहारिक चुनौतियाँ प्रस्तुत करते हैं।
- "Technology can create the vehicle, but laws, contracts, compliance frameworks, financing structures, and investor protections create the ecosystem within which that vehicle can operate at scale," Chandwani said.
चंदवानी ने कहा, "तकनीक वाहन बना सकती है, लेकिन कानून, अनुबंध, अनुपालन ढाँचे, वित्तीय संरचनाएँ और निवेशकों की सुरक्षा वह पारिस्थितिकी तंत्र तैयार करती हैं, जिसमें वह वाहन बड़े पैमाने पर संचालित हो सकता है।"

'Two leaks found on International Space Station, no threat to crew'



CS III: S&T
Russian state space agency Roscosmos said on Friday that its experts had detected two leaks aboard the International Space Station (ISS) but that there was no immediate threat to the crew. The first leak was fixed with a hermetic compound while preparations are under way to seal the second leak, it said. REUTERS

06J6. 'Two leaks found on International Space Station, no threat to crew'

'अंतरराष्ट्रीय अंतरिक्ष स्टेशन पर दो रिसाव पाए गए, चालक दल को कोई खतरा नहीं'

- Russian state space agency Roscosmos said on Friday that its experts had detected **two leaks** aboard the **International Space Station (ISS)** but that there was no immediate threat to the crew.

रूसी सरकारी अंतरिक्ष एजेंसी रोस्कोस्मोस ने शुक्रवार को कहा कि उसके विशेषज्ञों ने अंतरराष्ट्रीय अंतरिक्ष स्टेशन (ISS) पर दो रिसाव का पता लगाया है, लेकिन चालक दल के लिए कोई तत्काल खतरा नहीं है।

GS Paper III: Environment	06 June 2026
TOPICS COVERED	

PELICAN

- **Pelicans** at Amber Cheruvu in Hyderabad on Friday.
- The Hyderabad Disaster Response and Asset Protection Agency's efforts to restore the lake appears to be working.
- HYDRA has removed sludge and installed fences to curb pollution and protect biodiversity.
- **Pelicans** are large water birds belonging to the family **Pelecanidae**.
- They are famous for their **long bills and large throat pouches**, which they use to catch fish.
- **Pelicans are found on every continent except Antarctica.**
- They **usually inhabit coastal regions, lakes, rivers, estuaries, lagoons, and wetlands.**

Restoring habitat



GS III: Environment
Pelicans at Amber Cheruvu in Hyderabad on Friday. The Hyderabad Disaster Response and Asset Protection Agency's efforts to restore the lake appear to be working. HYDRAA has removed sludge and installed fences to curb pollution and protect biodiversity. NAGARA GOPAL

Scientific Classification

- Kingdom: Animalia
- Phylum: Chordata
- Class: Aves (Birds)
- Order: Pelecaniformes
- Family: Pelecanidae
- Genus: Pelecanus

Key Physical Features

Large Throat Pouch

- The most distinctive feature of pelicans is the expandable pouch beneath their beak.
- The pouch is used primarily for catching fish rather than storing food.

Large Wingspan

- Pelicans are among the largest flying birds.
- Some species have a wingspan exceeding **3 metres**.

Excellent Swimmers

- Their webbed feet help them swim efficiently.

In India

Pelicans are commonly seen in:

- Andhra Pradesh
- Tamil Nadu
- Karnataka
- Kerala
- Odisha
- Gujarat