

Sand deposits in farm fields put Khammam farmers in quandary

Khammam: Farmers who lost crops following recent rains and flash floods are facing another problem in the form of sand deposits in their agriculture fields.

A large extent of agricultural lands on the banks of Munneru, Akeru and Palair streams in the district have been damaged due to huge quantities of sand deposited in the fields. Sand deposits have been causing problems to farmers on two counts, firstly they lost standing crops and secondly the soil structure has been altered. Agriculture fields where once crops like paddy, cotton and chilli stood, now looking like mounds of sand. Many farmers are worried that it might take them two or three years to recover from the loss. Speaking to Telangana Today, CPM's Telangana Rythu Sangham leader Bhukya Veerabharam explained that a farmer has to spend approximately Rs 2 lakh to clear sand deposits in the farm fields and restore the land to its original form by filling the fields with black soil.

But the Central team that recently toured flood affected areas reportedly told the farmers that there is no provision to compensate the loss caused by sand deposits. As many as 2700 acres of land has been affected by sand deposits across the district, he said. Farmers are in dire straits as they could not find any means to pay the debts they took to invest in farming, to pay for fees for their children's education and arrange money to marry off girls in their families. Farmers are yet to receive compensation of Rs 10, 000 per acre announced by the State government. The



State and Central governments should immediately provide proper compensation and provide assistance to remove sand deposits, Veerabharam demanded. A farmer Avireni Veerabhadram of Kasna Tanda

said he cultivated paddy and chilli each in two acres of land and cotton in one acre by investing around Rs 6 six lakh. Sand has been accumulated in four acres of land fully damaging the crops, he lamented. Similarly, farmers Gaddam

Narayana and Vuribandi Chandraiah said that they lost crops in Akeru floods including irrigation pump sets. The Central team visited the fields 20 days ago but the promised assistance is yet to be provided, they complained.

Farmers up in arms against Vijaya Dairy in Adilabad

Adilabad: Farmers are up in arms against Vijaya Telangana dairy accusing it of delaying payment of bills relating to milk sold to the State-owned dairy for two months. Officials said that 3,116 farmers contribute nearly 8,000 litres of milk to Vijaya Telangana dairy in several parts of erstwhile Adilabad district every day. The dairy has nine procurement centres such as Nirmal district headquarters, Kaddampeddur, Degaon in Bhainsa, Adilabad, Echoda, Bhela, Utnoor, Asifabad and Luxettipet in Mancherial district to gather the milk from the farmers. The cost of the milk is usually credited with bank accounts for every fortnight. However, the bills were not cleared for two months due to dearth of funds, causing inconvenience to farmers. The farmers had on Monday dumped milk on the road in protest of delay in paying the bills by the dairy in Adilabad town for the first time in recent times.

"Vijaya Dairy owes me Rs.21,000 for buying milk for two months. I am unable to

buy fodder and meet other expenses," Gajananan, a farmer from Gudihathnoor mandal said. Bandevar Ashok, another farmer of this mandal said that they were reeling under financial crisis due to the delay in payments of the bills by the dairy.

Farmers regretted that they were losing credibility of banks for skipping EMIs of their loans availed by depending on income from the dairy sector. They stated that their smalltime dairies were being declared as non-performing assets and requested officials to take steps to sanction the bills at the earliest. When asked, Telangana Vijaya dairy deputy director K Madhusudan Rao told 'Telangana Today' that bills worth Rs.3 crore were pending. Efforts were being made to clear the bills in a day or two, he said. Meanwhile, the dairy farmers are facing a severe shortage of fodder supplied by the government at subsidized prices. They are forced to buy the fodder in the market at exorbitant rates. Consequently, they are unable to make profits in the dairy sector. It is learnt that a fodder manufactur-



ing unit, established by the previous government in Gadwal is dysfunctional for the last six months. Production of the fodder

was stalled, affecting the farmers. The farmers urged the government to take steps to repair the unit and ensure uninterrupted supply of the fodder.

Getting to the root of Bengaluru's tree-falls

Seventy-six-year-old Bhadraiah takes time off from his stall in Jayanagar III Block, where piping hot bajjis are made, when asked about a grand banyan tree on the road where his shop and house are located. "I've seen this tree ever since I moved here 50 years ago. Even the Bruhat Bengaluru Mahanagara Palike (BBMP) won't take it down, nor will the residents here allow it, because it's a sacred tree and it's dear to all of us," he says. In east Bengaluru, at BEML Gate on the ever-busy Suranjan Road, another tree has no such luck. Its roots stand exposed, almost unnaturally manicured, as work goes on beside it on the construction of an enclosure for the Kempegowda statue that was installed here. Bengaluru, once known as the Garden City of India, in its transition to becoming the IT capital, has seen a rapid loss of green cover. As extreme weather conditions are becoming increasingly frequent, and with experts also flagging the urban heat island phenomenon, the need to pay more attention to the ecology of the city has become more apparent than ever.

Ecologists say Bengaluru's tree diversity is much larger compared to other big cities. Harini Nagendra, Director of the School of Climate Change and Sustainability at Azim Premji University (APU), said the city has a large palette of over 50 species that have historically been used for greening in different areas.

"In most other large cities across the world, a handful of species predominate, reducing biodiversity and also making the species prone to diseases that can sweep through quite quickly, damaging old trees. Partly because of the city's colonial heritage, and partly because of an older Indian tradition of planting a variety of keystone species like peepal and banyan, Bengaluru has always drawn on a large variety of trees," she said.

Offering an example, she said one species — the ash tree — makes up close to 20% of all trees in Chicago, but this tree has been subjected to attack by the emerald ash borer, a beetle from Asia that spreads quickly, and now threatens the survival of hundreds of thousands of ash trees in Chicago and many other midwestern US cities. "Increasing tree biodiversity helps make urban tree populations more resistant to such diseases, and Bengaluru has an advantage here. Some of this is, unfortunately, changing. For instance, in sacred spaces — temples, churches, mosques and cemeteries — we find trees of high species diversity, as well as on roadsides. But in gardens and parks, we find a few species predominate. Similarly, plant diversity is very low in landscaped gardens but high in informal settlements, especially the diversity of native plants, which many of these households grow to use in cooking and as herbal medicines," said Harini. Ganesan Rengaiyan, Senior Fellow, SM Sehgal Foundation Centre for Biodiversity and Conservation, Ashoka Trust for Research in Ecology and the Environment (ATREE), added that Bengaluru has a deeply rooted identity with plants, especially trees, historically because many administrators associated with the city valued the natural assets as indispensable and their contributions to the welfare of the humanity.

"The history can be traced back to

administrators such as Kempe Gowda, followed by Hyder Ali and Tipu Sultan. The monarchs also include the Raja of Mysore. Under British management and Tipu Sultan, the city's greenery got a connection with countries such as Australia, Africa, and Central and South American regions. These personalities introduced a lot many plants at Lalbagh garden because they appreciated the value of plants as natural assets," he explained. He added that with its salubrious climate, Bengaluru was considered by Britishers as a transit camp for plants, and they introduced many temperate vegetables and fruits in addition to various tree species. The Tabebuias, Jacarandas, and Spathodeas become the iconic plants of Bengaluru as the city's earlier "naked" landscape was made colourful, he added. "An indigenous community called Thigala who had a green thumb for the plants brought by Mughals and Europeans also played an important role as horticulturists and the 'garden city' tag," he said.

Experts say that many development projects in Bengaluru could have been better planned so that several trees need not have been cut.

"City planners come up with the developmental work plan on purely engineering-based considerations — as if the trees do not exist — and then come to the tree authorities with a binary request — to approve or decline permissions to cut trees. Then environmentalists, who bat for the trees, are accused of being anti-development. But there is another way. What if the alignment of the metro, road widening and other projects were made on the basis of plans that also showed the locations of the trees — so that other ways of planning these projects could be considered?" said Harini. She mentioned the example of parts of Sarjapur Road, where during road-widening work a decade ago, trees on either side of the road were retained as medians in the new, wider road. Similarly, for the metro projects, minor changes in the location of the commercial complexes could save several large trees, but this was not considered in the initial design, she added.

As if this is not enough, of late, trees have come under the scanner for causing fatalities apart from damages to infrastructure. Every year, especially during the monsoon season, we come across instances of tree-falls in Bengaluru, sometimes resulting in fatalities. This August, a 49-year-old auto driver succumbed to severe head injuries when a tree fell on his autorickshaw in Vijayanagar. BBMP Forest Cell officials confirmed that weakened roots caused the tree-fall. What's ailing our trees?

Why tree falls Ganesan says depending on the species, trees are either short-lived or long-lived. While fatalities and damages by trees are not new, incidences of damages caused to trees have increased in the recent past, he pointed out. "First, we plant inappropriate species at inappropriate locations and naturally, the life of the trees gets further curtailed. When gusty winds, especially during the summer rains, pass through the narrow lanes and roads lined with tall buildings, the 'funneling' effect of the wind breaks the branches or uproots the trees," he says.

Cementing and asphaltting the surface on the base of the tree, pruning the branches leading to an imbalance of the



tree trunk, high frequency of passing vehicles on the roads, damage to the bark by nailing, girdling the branches and trunk with ropes, wires and banners, burning litter around the tree trunk could all be the other reasons killing the trees. "The new phenomenon of using trees as poles to hold cables should be taken seriously as part of tree management," he explained. Harini added that the choice of species also has a lot to do with this. Some species, like the Gulmohar and Singapore Cherry, have weak roots and are prone to falling after a few years; others, like the rain tree and neem, tend to be deep-rooted and more stable, with a longer life span, she said. This August alone, a total of 53 trees had been uprooted, and 92 tree branches had fallen in the city.

BBMP officials agree that lifespan, as well as damage to the roots of the trees for various projects, injures the trees and weakens them. B.L.G. Swamy, DCF, BBMP, also spoke of another problem that has emerged with high rises. "Trees with linear heights are increasingly having to compete with high rises for sunlight. This makes them crown heavy, thereby prone to damage." Ganesan explained this further, saying branches and leaves are specifically arranged in a tree to capture the maximum amount of light and vary from the temporal and spatial availability of light. "In search of light, the branches keep growing or fail to grow, leading to the ultimate death of the tree or the tree looking unnatural," he said. While there are approximately 20 lakh trees in BBMP areas, Swamy said the first tree census, which began this January, is expected to be completed in three months and give a clearer picture. "We are also discussing the possibility of ascribing a size for avenue trees to avert danger in the future," he added. Harini said we need a multi-pronged strategy to protect existing green cover, spatially link green patches in the city to improve biodiversity, and conduct extensive tree plantation to combat the losses of tens of lakhs of trees in the past couple of decades. First, we need

to identify and protect all heritage trees, especially those that are old and large, which are an important part of the city's heritage and cannot be easily replaced by planting young saplings. These heritage trees should be monitored for their health, and any new or ongoing infrastructure projects should factor in their location from the start to minimize damage to them, using approaches such as redesign and realignment wherever possible, in consultation with civil society and tree experts. Second, we need to link patches of green spaces such as wooded roads, small pocket parks, and the large botanical gardens and other wooded spaces like IISc, Bangalore Palace, GKVK, etc — by lanting smaller sections of trees and working with private land owners to increase connectivity between these green patches — so that endangered wildlife like the slender loris and mobile species like birds and butterflies can easily move from one location to the other, instead of getting trapped within increasingly shrinking green spaces as is currently the case," she said. Plant wisely She also stressed the need for a well-planned tree planting policy — planting aggressively but wisely and staying away from planting trees like Eucalyptus or Acacia auriculiformis on lake beds, but instead planting a diversity of trees that provide flower, fruit and shade in home gardens, corporate, residential and educational campuses, government and military-owned areas, streets, gardens and manicured lawns. APU has published a free "Tree planting guide for houses and apartments in Bengaluru", which, apart from a list of trees, also guides citizens on root barriers and treating trees and plants affected by pests and diseases. Trees for Bengaluru homes and apartments 1. Avocado (*Persea americana*) 2. Chikoo (*Manilkara zapota*) 3. Coral jasmine (*Nyctanthes arbor-tristis*) 4. Crape jasmine (*Tabernaemontana divaricata*) 5. Curry leaf (*Bergera koenigii*) 6. Custard apple (*Annona squamosa*) 7. Drumstick (*Moringa oleifera*) 8. Frangipani (*Plumeria obtusa*)

BJP Using Kangana Ranaut to Reignite Contentious Farm Laws Debate: Bajwa

Chandigarh (JAG MOHAN THAKEN), September 24: Leader of the Opposition in Punjab, Partap Singh Bajwa, on Tuesday sharply criticized the BJP-led Union Government for employing Bollywood actor and Mandi MP, Kangana Ranaut, as a mouthpiece to advocate the restoration of the contentious farm legislations. In a scathing attack, Bajwa asserted that the BJP is using Ranaut as a proxy to further its anti-farmer agenda, calling for immediate clarification from the government, a release of the congress states so.

"If the BJP government at the Centre does not stand behind the statements made by its Mandi MP, it must take decisive action against her. Kangana Ranaut has persistently targeted the farming community, while the BJP remains a silent spectator. This is no coincidence—it's a carefully scripted strategy. The BJP is launching a veiled assault on the farmers through her rhetoric," Bajwa remarked.

Taking direct aim at Ranaut, Bajwa rebuked the actor-turned-politician for her lack of understanding of the three repealed farm laws. He accused the BJP of "shoot-ing its gun from her shoulder" to propagate

an agenda that has already caused deep anguish among the farmers of India. "Kangana is a motormouth, and the BJP has given her a free hand to spout nonsense. Instead of reviving the debate on the discredited farm laws, Kangana should reconsider her political ambitions and focus on reviving her dwindling career in Bollywood," Bajwa retorted. Bajwa further lambasted the BJP government for failing to deliver on its promises made after repealing the farm laws in November 2021. He reminded the public that Prime Minister Narendra Modi, at the time of repealing the laws, had pledged to legislate the Minimum Support Price (MSP). A committee was established in July 2022 to work on this issue, but nearly three years have passed with no tangible results. "Farmers are still waiting for the legalisation of MSP, which has led to continuous protests at Shambhu and Khanauri borders since February," he noted. As paddy harvesting begins in various parts of Punjab, Bajwa directed his criticism towards both the Aam Aadmi Party-led state government and the BJP-led Union government for their failure to manage storage capacities. He accused



them of inefficiency in clearing the previous years' stock from storage facilities, thus jeopardizing the upcoming procurement season, which is slated to begin on October 1. "Both the state and central govern-

ments have failed the farmers once again by not freeing up storage space in time for the new paddy stock. This mismanagement adds to the long list of grievances that farmers are already struggling with," Bajwa concluded.

Managing BP, diabetes, and obesity can cut dementia risk by 60pc: Experts

New Delhi: Blood pressure, diabetes, and obesity are preventable risk factors that can help reduce the chances or reverse the odds of dementia by 60 per cent, said experts on World Alzheimer's Day on Saturday. World Alzheimer's Day is commemorated every year on September 21 to raise awareness about the stigma associated with dementia and Alzheimer's disease and to increase public understanding of these disorders.

The theme this year is "Time to act on dementia, Time to act on Alzheimer's". Alzheimer's disease, a debilitating, cognitive, and neurological disorder, gradually erodes a person's memory, language skills, thinking skills, and ability to perform even the simplest tasks. It primarily affects individuals over the age of 65 and is the leading cause of dementia in older adults. It is one of the most common causes of dementia or memory loss. The incidence of Alzheimer's disease in India is growing steadily while it may not be alarming. The disease is affecting the elderly more, but it is also showing signs of increase in the younger population. "The time to act on dementia is to work on the preventable risk factors of dementia. And if we work on the preventable risk factors of dementia, we can reduce or reverse dementia by 60 per cent," Dr Manjari Tripathi, head of the neurology department, at AIIMS, told

"Controlling blood pressure, diabetes, not smoking or drinking alcohol, and reducing body weight or obesity levels. There should also be no insomnia. Take treat-

ment for insomnia and obstructive sleep apnoea, because sleep, if impaired, can impair memory," Tripathi said. In addition, leading an unhealthy lifestyle which is sedentary, with no exercise; or not learning any new skill in old age, being passive, just sitting on the chair, or staying more on the couch may also harm cognitive functions. Research, published in Alzheimer's and Dementia, revealed that 7.4 per cent of people aged 60 and older live with dementia in India, amounting to roughly 8.8 million individuals. The study was done using nationally representative data collected in India from 2017 to 2020. Strikingly, dementia prevalence was found to be higher among females (9 per cent) compared to males (5.8 per cent), particularly in rural areas. The research highlights that the number of Indians with dementia could rise to 16.9 million by 2036 if current trends continue. "Women have a much higher lifetime risk of developing Alzheimer's than men. This could be due to a mix of biological, genetic, and lifestyle factors," Dr Arindam Ghosh, Consultant - Neurologist, Narayana Health, Kolkata, told IANS. "In India, where women's life expectancy is longer, we see a notable gender disparity in Alzheimer's cases," Ghosh added. The experts stressed the need for boosting awareness about the condition which can help in early diagnosis. Tripathi explained that Alzheimer's has three stages — early, middle, and late. Therapy is begun in the early stage to prevent the disease from progressing at a fast rate. "It is essential that all people are brought in early when the early



World Alzheimer's Day is observed annually on September 21 to raise awareness about the stigma surrounding dementia and Alzheimer's disease, as well as to enhance public understanding of these conditions. This year's theme is "Time to Act on Dementia, Time to Act on Alzheimer's."

symptoms start, after which tests can be done to make the diagnosis," the neurologist said.

Early symptoms include memory loss that disrupts daily life, poor judgement, losing track of dates or knowing the current location, repeating questions, or forgetting recently learned information. "The diagnosis is made carefully by taking clinical history from the caregiver, and other neuropsychological tests, like MRI brain, blood tests like Vitamin B12, thyroid, Vitamin D. There are also biomarker tests, after which we do a PET brain test, and then diagnosis

can be achieved," Tripathi told IANS. The expert suggested people start actively making a healthy lifestyle, with proper diet and aerobic exercises, especially after the age of 35. Besides a healthy lifestyle, she suggested people indulge in cognitive tasks like puzzles, sudoku, art, music, pet therapy, learning a new dance, learning a new language, and learning new skills — basically to have a purpose in life. "If you can act on all these then we can prevent dementia. That is why it is time to act on dementia. All these actions need to start by the age of 35 gradually," Tripathi said.

The forgotten Paigah tombs of Hyd

Hidden in the heart of Hyderabad's old city, tucked among the narrow lanes of Santoshnagar, lies a forgotten architectural marvel: Maqbara Shams al-Umra, also known as the Paigah tombs. This 200-year-old necropolis, located just three kilometres south of Charminar, has long been neglected. However, there's hope on the horizon as restoration efforts are now underway, offering a chance to revive this historical site. The ongoing project to revive the necropolis of one of the most powerful noble families of Hyderabad has been taken up by the Department of Heritage Telangana and the Aga Khan Trust for Culture (AKTC). The conservation of six of the 14 monuments is supported by the US Ambassadors Fund for Cultural Preservation.

The architecture The magnificent stone and lime mortar structures are a reflection of the aesthetic tastes of the Paigah family, who displayed their wealth and grandeur even in death. The tombs have a variety of trellises (jaalis or screens), ornamented pillars, roundels on the facades, carved wooden doors and panels, and pineapple motifs, a symbol of hospitality, notes Dr J Kedareswari in his book *The Paigah Tombs*. "With the stucco work and geometrical patterns, they create a harmony that is consistent with the Islamic belief that all creation is harmoniously interrelated. Islamic art depicted in the Paigah tombs explores geometric systems that depend upon the regular division of the circle," she says.

A board outside the tombs reads: the complex is a unique ensemble with no comparative site anywhere in the world, boasting of the incredible craftsmanship employed by the Hyderabad craftsmen. Prof. Salma Ahmed Farooqui, Director, H K Sherwani Centre for Deccan Studies at the Maulana Azad National Urdu University (MANUU) says that in history, whether it is a noble or a king, they always wanted to leave their imprints behind. "The best imprints you leave behind for posterity is through architecture. Architecture is something they indulged in, the more the grandeur meant that everyone remembered them for a long long time till the structure perishes," she says, adding that today the Paigah tombs could be the only thing visible but their significance needs to be seen in totality. "We should not see Paigahs only in relation to the tombs. They played a much larger role of importance in Nizam's Hyderabad, which needs to be reconstructed. They were a very important component of nobility."

Who were the Paigahs?

The Paigahs were a noble family of Hyderabad, only second to the Nizams. Their wealth, power and influence continued from the inception of the Asaf Jahi rule of the Nizams in 1724 till the princely state's accession into the Indian Union in 1948. "They were known for their loyalty to the Nizams and were related to the ruling family through matrimony," says Sibghat Ullah Khan, architectural designer and co-founder of the Deccan Archive, a non-profit entity documenting the heritage of Hyderabad. One of their most famous palaces is now the iconic Taj Falaknuma Palace. Originally built on a hilltop by Nawab Sir Viqar-ul-Umra who was the prime minister of Hyderabad state, the palace was

eventually gifted to the sixth Nizam, Nawab Mir Mahboob Ali Khan, after he expressed admiration for its grandeur. Prof Farooqui says that the Paigahs were given extensive tracts of land, sometimes bigger than that available with Jagirdars, where they maintained their private army that would assist the Nizams in times of any incursions or adversities. "In these estates, which comprised thousands of villages, the Paigahs got the revenue and judicial powers and started participating in education, health, public works, revenue settlements etc. But their primary responsibility was undoubtedly to maintain private forces for the Nizam," she adds.

At the tomb complex in Phisalbanda, the first tomb on the left is that of Abul Fateh Khan or Nawab Taig Jung Bahadur. He was the family patriarch who was first bestowed the honorary title of 'Paigah' by the first Nizam. The word 'Paigah' means a 'footstool' because they were the military commanders of the Nizam and staunch loyalists of the house of Asaf Jahs. A striking feature of the tombs is the ostrich egg that hangs above the grave of Fakruddin Khan, Abul Fateh Khan's son and the first to marry into the Nizam's family, which cemented their relationship further. The Nizam was dependent on the Paigahs and the latter had repeatedly demonstrated their loyalty. "In Hyderabad, it was common for the Nawabs to hold Ostrich races at their palaces. An Ostrich egg was considered exotic. This is the reason why it was hung above the grave of Fakruddin Khan and it is the last surviving one," says Sibghat. A pineapple is another important motif that is extensively used at the tombs complex. It was introduced to the Deccan by the Portuguese and thereafter symbolised royalty. "These are not great buildings but just pure works of art. Restoring Paigah tombs is like restoring a painting," says Ratish Nanda, conservation architect and CEO of the AKTC. According to him, the ongoing project is similar to an art conservation project with time-taking and painstaking work of craftsmanship. Paigah Tombs A striking feature of the tombs is the ostrich egg that hangs above the grave of Fakruddin Khan. (Photo: Rahul V Pisharody/Indian Express) Nanda notes that the tombs are adorned with intricate stucco work and even the jaalis are made of lime mortar, which is unique to these monuments. The complex has open-to-sky enclosures that boast incredible carving work on lime mortar, wood and marble surfaces. It was only during the restoration that many new facts emerged. "For instance, we now know that all the minarets are made of terracotta. They have an iron core, covered in terracotta to give the shape and then plastered in lime mortar and had copper finials on top. Four or five materials are used in minarets alone," Nanda says, adding that it took them a lot of time to figure out how the jaali was made. "These are made of terracotta tiles. It is almost like creating a house of cards by stacking terracotta tiles on top of each other. And then they are covered in lime plaster. Such jaalis are not seen anywhere in the country." The Paigahs adopted various styles of architecture to include them in their buildings and structures. "It is because the Paigah patriarchs would travel across the world and adopt elements that inspire them. Besides Mughalai and Rajputana influence,



later tombs had Moroccan and Spanish elements. Because of the wealth they had, they could employ the best of craftsmen for the job," says Sibghat. One of the finest examples of their international exposure could be seen in the Spanish mosque in Begumpet, which was also an estate of

Paigahs. The building campus that housed the US consulate general in Hyderabad for over a decade, before they moved to their new campus in the IT corridor, is another example of a Paigah palace. Asman Garh Palace in Malakpet is one of the few remaining Paigah palaces that still stand in Hyderabad.

Weight loss surgery cuts kidney failure risk by 44% in diabetics: Study

New Delhi: In people with Type 2 diabetes, obesity, and chronic kidney disease, bariatric or weight loss surgery can significantly protect kidney function and reduce the risk of kidney failure, finds a study. The study, published in the journal *Annals of Surgery*, showed that bariatric surgery was associated with a 60 per cent lower risk of progression of kidney disease and a 44 per cent lower risk of developing kidney failure or death in comparison to the non-surgical group.

Chronic kidney disease (CKD), which can lead to renal failure is a major cause of morbidity and mortality in patients with diabetes and obesity. About 40 per cent of people with diabetes develop CKD in their lifetime. Lead author Ali Aminian, director of Cleveland Clinic's Bariatric and Metabolic Institute, said that bariatric surgery can change the trajectory of the disease in obese and diabetes patients with established chronic kidney disease.

The team included 425 adult patients (between the ages of 18 and 75) with diabetes, obesity, and stage 3 or 4 chronic kidney disease. Of these, 183 underwent weight loss surgery while 242 were treated with GLP-1 receptor agonist medications. While the most common GLP-1 medications were liraglutide and exenatide, about 20 per cent of patients in the nonsurgical group also received newer GLP-1 medications such as semaglutide (Ozempic) or tirzepatide (Mounjaro) at some point. Researchers found that bariatric surgery could protect kidney function and reduce the risk of kidney failure or death in patients better than GLP-1 drugs. People in the surgery group had more weight loss and better control of their diabetes. They even showed better con-



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control of diabetes, high blood pressure, and high cholesterol. Aminian said bariatric surgery remains underutilised "despite its kidney-protective benefits", stressing the need for more research to establish this.

The history behind Hamas' role in Gaza

While the men were away in battle, enemy soldiers passed through a village, raping the women left behind. Shellshocked, they gathered in the village square to comfort each other when they noticed one woman was missing. They found her lying under the body of a soldier. The soldier mounted her and tried to rape her but instead, she strangled him to death. The village women were initially overjoyed that she was safe but soon their sentiments soured. The raped women now worried that their husbands would judge them for not similarly fighting for their honour. The surviving woman became a symbol of their shame and they swiftly conspired to kill her. "That woman, the survivor, is Gaza," writes Baconi. Like her, Gaza has refused to submit to Israeli occupation while other Palestinian and Arab states have succumbed, and "remains the only proud bit of Palestine that refuses to yield." Hamas was born from the Muslim Brotherhood, a Islamist organisation that took root in Egypt during the 1920s. Initially focused on pan-Arab nationalism, under Sheikh Ahmed Yassin, a quadriplegic cleric from Cairo, the Hamas movement performed charitable work in the West Bank and Gaza following Israel's occupation of the territories after the 1967 war. At the time, the Palestinian Liberation Organization (PLO), led by Yasser Arafat, was emerging as a political contender in the occupied territories. To counterbalance their influence, the Israeli government funded Yassin and promoted his rise. According to Loren Lybarger, a professor of Religious Studies at Ohio University, in the mid-1980s, Hamas emerged as an alternative to the PLO, a movement centred on the predominance of Islamic law, and focused solely on the liberation of Palestine.

In 1987, Yassin established Hamas as the Brotherhood's political arm in Gaza, coinciding with the outbreak of the first Intifada or Palestinian uprising. A year later, Hamas published a 36-point charter calling for the murder of Jews and the destruction of Israel. That charter was subsequently amended in 2017, when references to killing Jews was removed. While Hamas had largely been a socio-political organisation prior to the first Intifada, the uprising was a turning point. Lybarger says it "forced the hand" of Hamas leadership, who believed that they would lose legitimacy amongst younger generations if the group did not get involved. In 1989, Hamas carried out its first attack against Israel. Yassin was arrested and his followers were deported to Lebanon. If supporting Yassin was Israel's first mistake, this was its second. Hamas members trained under Hezbollah, an Iranian backed terrorist organisation, in Lebanon, and when they were recalled to Israel amidst mounting international pressure, they returned with knowledge of advanced warfare techniques. In February 1994, a US-born Israeli physician named Baruch Goldstein gunned down 29 Muslims at a mosque in Hebron. For the PLO, it conveyed a need for peace. For Hamas, it was a call to arms. Less than two months later, it would launch its first suicide bombing on Israeli soil a tactic that would become synonymous with the group for decades to come. As a political entity, Hamas gained traction when the PLO engaged in peace talks with Israel. Concessions made by the PLO were deemed contradictory to the Palestinian cause, particularly during

the Oslo Accords when it agreed to cede 78 per cent of the contested territory to Israel. In 1997, the United States designated Hamas as a terrorist organisation. The group was responsible for over 60 per cent of the violent acts committed during the second Intifada from 2000 to 2005. During elections held later that year, Hamas won a decisive victory, forming a government in Gaza. What happened next, is a source of considerable controversy.

The PLO, and in particular, Fatah, the largest faction in the PLO, attempted to curb Hamas' influence in Gaza. Lybarger refers to their actions as being deeply undemocratic, while Nomi Bar-Yaacov, an international peace negotiator, and associate fellow at Chatham House, describes Hamas' response as a coup. Regardless of semantics, Fatah was driven out of Gaza, Israeli troops withdrew, and Hamas became the sole representative of the people. Faced with Israeli and Egyptian blockades that prevented movement in and out of Gaza, the people were dependent on Hamas for basic necessities, giving the group significant leverage. There have been no elections since 2006. Hamas' leadership structure is three-fold. There is the Shura Council, a consultative group made up of elected Hamas members from Gaza, the West Bank, the diaspora and Israeli prisoners. The Shura Council elects the Politburo, which is responsible for decision making and has historically operated in exile. Finally, there is the military wing or Ezzedeen Al-Qassam Brigades (EQB) which carries out offensive manoeuvres. Israel has consistently assassinated top Hamas officials, leaving the higher echelons of leadership in a constant state of flux. Israeli forces killed Yassin in 2004 and political chief Ismail Haniyeh in July 2024. Until this year, when Yahya Sinwar was named the next Hamas' political chief, the office was run outside the country. However, many speculate that the actual decision making happens on the ground. Mousa Abu Marzouk, a senior Hamas leader based in Doha, told the New Yorker in 2023 that Hamas' October 7 massacre came as a surprise to him, stating, "we were surprised by the date but not by the actions." While Marzouk was aware of the possibility of an attack, the details were hidden from everyone but Sinwar and EQB commander Mohammed Deif. According to an interview in the Foreign Policy Magazine by former Israeli National Security advisor Eran Lehrman, "with all due respect to the fat cats in Qatar, these are the guys who are calling the shots."

Deif and Sinwar were both born in Khan Younis refugee camp in Southern Gaza and are designated as global terrorists by the United States. Described as the 'cat with nine lives,' Deif has become a cult hero for escaping more than seven assassination attempts. Despite being one of the most influential Hamas leaders, only three photos exist of Deif, of which, only one from 30 years ago, shows his face. Sinwar too has a reputation that precedes him. According to Bar-Yaacov, he is the most extreme Hamas chief by far. Journalist and author of Hamas, Paola Caridi says that since Sinwar was released from jail in 2011 as part of a prisoner swap with Israel (one Israeli prisoner for 1,026 Palestinians), the group has veered sharply to the right. "When Sinwar arrived, the transformation



was immediate," Caridi told indianexpress.com. Lybarger points out that there are several other influential groups within the movement that have been more politically pragmatic and open to the possibility of peace with Israel, but that the Sinwar faction has always favoured armed struggle. That being said, according to King's College Political Scientist Jerome Gunning, Hamas employs a somewhat democratic process of electing its leadership. In Hamas in Politics, he writes that while the group's ability to perpetuate violence increases their legitimacy, only a "handful" of its leaders and officials come from militant or clerical backgrounds. The vast majority, he notes, "gained political capital through their involvement in the community or in professions such as engineering."

Although not a part of its leadership team, Hamas also depends on key allies such as Iran, its proxy groups, Qatar and Turkey. Both Qatar and Turkey bolster Hamas' weak standing on the international stage by harbouring senior leadership and providing funding. Meanwhile, Hamas is one component of Iran's 'Axis of Resistance', an informal network of anti-Israel partners that includes Lebanon's Hezbollah, Yemen's Houthis, and various militias in Iraq and Syria. While it is unclear how much coordination there is among them, they have all launched attacks on Israel in the ongoing war, including Iran's first ever attack in April 2024. According to Ali Alfoneh, a political scientist at the Arab Gulf States Institute of Washington, "In Iran's defence doctrine, Hezbollah is a deterrent against Israeli bombardment of Iran's nuclear infrastructure." Should Israel target Hezbollah's missile arsenal, Iran will have no choice but to intervene. As of now though, it operates through its proxies, providing "arms, money, intelligence and logistical support to any group willing to fight Iran's wars." Palestinian opinions of Hamas are mixed. Before October 7, the group had been unpopular in the Gaza Strip and West Bank but after the attack, polling by the Palestinian Center for Policy and Survey Research suggests that support for Hamas rose four percentage points in Gaza and nearly quadrupled in the West Bank. Hamas' domestic support is contingent on three factors – its social policies,

Israeli occupation, and the weaknesses of the PLO. In Hamas and Civil Society in Gaza, Harvard University researcher Sara Roy writes, "The strength of Hamas increasingly lay in the work of Islamic social institutions whose services directly and indirectly, reached tens if not hundreds of thousands of Palestinians, helping them to survive." In the book Hamas, Northwestern University Professor and Hamas analyst, Khaled Hroub writes that while the topic is rarely explored, the social services provided by Hamas is "one of the most important sources of influence" that the group has on the public.

Secondly, as Caridi argues, you cannot consider the social dynamics of Hamas without factoring in Israeli occupation of the West Bank and Gaza. Hroub states that Hamas was radicalised by the Israeli colonial project in Palestine and that the people will "support whichever movement holds the banner of resistance against that occupation and promises to defend the Palestinian right of freedom and self-determination." Since the establishment of Israel in 1948, millions of Palestinians have been displaced. Those who remain, live under brutal military occupation, blockaded in Gaza, and confined to ghettos in the West Bank. As Baconi writes, after the blockade of Gaza in 2007, for Palestinians, the terms "Jew, Israeli and F-16 (fighter planes) had become synonymous." Hamas flourished because of these grievances but even if it hadn't been Hamas, it would have been something else. Despite owning 94 per cent of the land before the UN Partition Plan of 1947, Palestinians now administer roughly 12 per cent of it. Despite owning 94 per cent of the land before the UN Partition Plan of 1947, Palestinians now administer roughly 12 per cent of it.

The appeal of Hamas is also linked to the failures of Fatah and the PLO. From 1960 to the late 1980s, the PLO embraced armed struggle as the principal strategy to liberate Palestine. However, during the peace talks of the 1990s, the group changed its tactics, choosing to work with Israel rather than against it. The resulting Oslo Accords was seen as a betrayal of the cause, with the late scholar Edward Said describing it as "an instrument of Palestinian surrender, a Palestinian Versailles."

From Taiwan to Lebanon via Hungary: The trail of exploding pagers

On Sunday (September 15, 2024), Benjamin Netanyahu, the Israeli Prime Minister, told his security Cabinet that he would do whatever necessary to make sure that the 70,000 Israelis displaced from the northern border villages by the fighting with Hezbollah, return home. Two days later, on Tuesday (September 17, 2024), in the late afternoon, hundreds of pagers, a low-tech messaging device, started exploding simultaneously across Lebanon and parts of Syria. At least 12 people were killed and over 2,800 were injured. A day later, on Wednesday (September 18, 2024), walkie-talkies and other electronic devices exploded in Lebanon, leaving 20 more dead and at least 450 others injured. The explosions mostly hit Hezbollah, the Shia militia group backed by Iran which has been using pagers and walkie-talkies for communication among its ranks. Hezbollah immediately blamed Israel for the attack. Iran accused Israel of mass murder in Lebanon. Several others raised questions about weaponising civilian communication devices. Lebanon's health officials said there were at least two children among the dead and that they can't say with certainty how many of the victims were civilians and how many of them were Hezbollah members. Israel has neither confirmed nor denied its role in the explosions — its standard response when it comes to controversial overseas operations. But if Israel is really behind the attack, the question is how they pulled an attack of this scale off.

Initially there were different theories pointing to different possibilities, including cyber warfare and supply-side penetration to tamper with the devices. Most of the pagers that exploded were AR924s that carried the brand name of Gold Apollo, a Taiwan-based company founded in 1995. After Tuesday's (September 17, 2024) explosions, Gold Apollo issued a statement, saying it was not involved in the production of the pagers in question. "The product was not ours. It was only that it had our brand on it," Gold Apollo founder and president, Hsu Ching-kuang, told reporters at the company's office in New Taipei on Wednesday (September 18, 2024). In the statement, the company said the AR924 model pagers were manufactured by BAC Consulting KFT, a Hungarian company. "Gold Apollo has established a long-term partnership with BAC Consulting", and it has authorised "BAC to use our brand trademark for product sales in specific regions, but the design and manufacturing of the products are entirely handled by BAC," the short statement said. Gold Apollo did not offer any details about its contract with BAC.

BAC Consulting, based in Budapest, operates in "environmental, political and development projects", according to the company's LinkedIn page, which has 303 followers as of Thursday (September 19, 2024). The page has no reference to the company's involvement in manufacturing of electronic devices. It says BAC works to find "innovative solutions" to tackle challenges of "development, international affairs and environment". Cristiana Rosaria Bársony-Arcidiacono, a 49-year-old PhD

in particle physics, is the CEO of the company.

According to Ms. Bársony-Arcidiacono's LinkedIn profile, she has advocated "environmental and social causes for developing and fragile countries" and has published articles in science journals. She did her PG masters in SOAS, London, and a diploma in politics from the London School of Economics and Political Science. But what does a particle physics PhD with experience in the fields of environmental and developmental consulting have to do with pager manufacturing? "I don't make the pagers. I am just the intermediate. I think you got it wrong," Ms. Bársony-Arcidiacono told U.S. broadcaster NBC on the phone. But she did not say BAC was not involved. And if Gold Apollo is to be believed, the little-known Budapest-based company that claims to be working in the fields of development and environment consulting was designing and manufacturing Taiwanese pagers and selling them to Hezbollah in Lebanon and parts of Syria. And they exploded at a critical juncture of the Hezbollah-Israel war. Both the knowns and unknowns of the explosion saga point to bigger behind-the-scenes players. According to a New York Times report, which cites defence and intelligence



officials, BAC Consulting was a front company of the Israeli intelligence agencies. The report says Israeli intelligence officials set up three shell companies, including BAC, which was formally registered in Hungary in 2022. Hezbollah was wary of using cell phones, fearing Israeli penetration. They turned to pagers for communication, and Israel established a company to make those pagers — with inbuilt PETN (pentaerythritol tetranitrate) explosives,

and a switch to detonate them remotely. The back-to-back explosions have dealt a blow to Hezbollah, whose senior commander Fuad Shukur was assassinated by Israel on July 30 in Beirut. Israel has once again demonstrated its willingness and capability to take great risks in attacking its rivals. But with Hezbollah vowing vengeance, tensions on Israel's northern border are likely to flare up in coming days.

Should children be barred from social media?

The Australian Prime Minister, Anthony Albanese, has announced a plan to set a minimum age to use social media platforms. Should children be barred from social media? Amanda Third and Aparajita Bharti discuss the question with Mandira Moddie. Edited excerpts:

Amanda, could you tell us about the ongoing debate in Australia?

Amanda Third: This policy decision has come out of the blue. It is not a debate that we have been having for a long time. Off the back of the pandemic and the large increases in time spent online by children, along with a recognition that some children are exposed to harm via social media, the debate has heated up. The debate in favour of a ban has largely been driven by parent groups. The government is under pressure to demand that technology platforms step up and assume responsibility for keeping children safe online. However, there is a political dimension to this too: Australia is in the lead up to a federal election (in 2025) and Meta has declared that it will no longer pay money to news agencies in order to distribute news content. So, the government is keen to keep the Murdoch empire happy. The way to do that is to go along with this impetus for a ban. While a ban looks seductive, it may not give parents what they are looking for, which is safer spaces for their children and for technology companies to take responsibility. If children are banned from these spaces, companies will have even less of an imperative to design platforms for them and for young people. We need to put more pressure on tech platforms to deliver better spaces for children and young people.

Aparajita, what are your views on age limits?

Aparajita Bharti: When we talk about enforcing age limits, the devil lies in the details. In India, the Digital Personal Data Protection Act, 2023, says children can access any platform which collects their personal data only after getting verifiable parental consent. How do we implement this? In Australia, when the Prime Minister says there should be a social media ban until the age of 16, how would such a ban be implemented? It is unclear. Bans are hard to enforce in a digital environment. Apart from what Amanda said, children are good at circumventing [barriers]. South Korea's Cinderella Law had banned gaming from midnight to 6:00 a.m. After the law came in, there was identity theft so that children would be able to access the gaming platforms.

Age limits seem to put the burden of compliance on parents. Is that reasonable?

Aparajita Bharti: You are right. This is specifically amplified in India, where digital literacy is quite low, where there are many different languages, and where platforms don't always lend themselves the same way in all these languages. There is also a lot of shared device usage. We conducted a survey of 10,000 children in Tier 2 and Tier 3 cities and in government schools in Delhi and found out that 80% of children helped their parents navigate online platforms. So, to expect parents to guide children on safe online usage is not sensible. Similarly, if you look at the NSSO (National Sample Survey Office) data, only 40% Indians knew how to copy or move files on a computer (2021). This number



may have increased, but if we use ID-based verification, for example, which has been proposed time and again as a means to verify age, it would be hard for people who are less literate to do that. Therefore, we also need to think about what responsibility platforms need to take and what kind of design changes they need to make to ensure the safety of children online.

Amanda, what is the conversation at home?

Amanda Third: Parents feel overwhelmed by the task of managing their children's digital engagements and that is made difficult by the fact that we have a highly inflammatory media environment where only the extreme cases of children experiencing significant harm get reported. It is a very one-sided conversation. It does not include the positives that come out of the digital engagements of children and young people. We have some wonderful organisations here generating high-quality online safety materials. But even so, the availability and distribution of those resources pales in comparison with the panic narrative that parents are exposed to. We need to moderate the media debate and make sure that we give parents good,

Harappan civilisation: enigma remains even after 100 years of exploration

Exactly 100 years ago, on September 20, 1924, The Illustrated London News published an article containing explosive news, which has reverberated down the decades and continues to cast a long shadow in South Asia even a century later. Headlined, First Light on a Long-forgotten Civilisation: New Discoveries of an Unknown Prehistoric Past, the article authored by John Marshall, then-Director General of the Archaeological Survey of India (ASI), announced the discovery of what he called the "civilisation of the Indus Valley".

A century later, this Bronze Age civilisation is called the Harappan civilisation, named after Harappa, now in Pakistan, which was the first site to be discovered in the area. For the past 100 years, the Harappan civilisation has mesmerised and baffled town planners, epigraphists, metallurgists, hydrologists, specialists in ceramics, mathematicians, astronomers, and others. Its enigmas have intrigued them. At the apogee of its prosperity, it was a "technological powerhouse" that excelled in town planning, harvesting water, building reservoirs, stadia, warehouses, underground sullage systems, massive fortification walls and building seafaring boats, fabricating bronze and copper artefacts, and in making beads, exquisite painted pottery, and terracotta products. Its craftsman made seals of steatite and carved them with realistic human and animal motifs and a script within a cramped space of 2 cm by 1.5 cm.

Two ASI archaeologists were instrumental in the discovery, and were credited by Marshall in his article. Daya Ram Sahnî first excavated Harappa in 1921-22, finding seals, painted pottery, and beads. Known as an "industrious, accurate and modest" man, Sahnî later became the ASI's first Indian Director-General. The other key player was Rakhâl Das Banerjî. In 1922, he started excavating Mohenjo-daro, also located in modern-day Pakistan, and found seals, pottery, copper products, and crucibles at that site. In June 1924, Marshall summoned Sahnî and Banerjî to meet him in his office in Shimla with their finds. He was struck by the uncanny similarity in the objects found at Harappa and Mohenjo-daro, although the two sites were 640 km apart. Marshall interpreted the similarities and announced the discovery of the "civilisation of the Indus Valley" in the London newspaper. The Harappan civilisation can be divided into an early phase (3200 BCE to 2600 BCE), the mature period (2600 BCE to 1900 BCE), and the late phase (1900 BCE to 1500 BCE), when it decayed and collapsed. Mohenjo-daro, Harappa, Ganweriwala (all now in Pakistan), Rakhigarhî, and Dholavira (both in India) are the five biggest Harappan sites out of about 2,000 sites in the civilisational area, which is spread over 1.5 million sq.km. in India, Pakistan, and Afghanistan. There are about 1,500 sites in northwestern India, including in Gujarat, Haryana, Jammu and Kashmir, Maharashtra, Rajasthan, and Uttar Pradesh. The village of Daimabad on the banks of the Godavari river in Maharashtra is the southernmost outpost of the Harappan civilisation. There are about 500 sites in Pakistan, and a few

in Afghanistan. The civilisation burgeoned on the banks of the Indus and Saraswati rivers, the latter of which is believed to have dried up circa 1900 BCE. Intersection of streets at Dholavira laid bare during the excavation. The streets cut at right angles for bullock-carts to move about freely. A bullock-cart was used to reconstruct a possible scenario. Intersection of streets at Dholavira laid bare during the excavation. The streets cut at right angles for bullock-carts to move about freely. A bullock-cart was used to reconstruct a possible scenario. | Photo Credit: ASI

According to Indus civilisation scholar Asko Parpola, "its most characteristic features" were: "the fully developed Indus script; finely carved stamp seals with writing and/or an animal or some other iconographic motif...; standardised measures, including cubic weights made of chert carefully cut and polished, employing a combination of binary and decimal systems...; the large-scale use of burnt brick, standardised in size, with the ratio 1:2:4, the most effective for bonding; exquisite lapidary art, featuring highly developed micro-drilling of very long beads made of hard carnelian, decorated with chemically stained motifs." (From Parpola's The Roots of Hinduism, The Early Aryans and the Indus Civilization, 2015, Oxford University Press).

Vasant Shinde, who has excavated several Harappan sites in India, noted that the civilisation's discovery was significant on two counts. First, most historians were



of the opinion, before it was discovered, that settled life in this part of the world first occurred around the sixth century BCE, leaving a gap in South Asian history. Historian Vincent Smith had said India jumped from the Stone Age to the [Buddhist] stupas. "The discovery of the Harappan civilisation filled the so-called gap and pushed back in one stroke the antiquity of the settled life in this part of the world by more than 3,000 years," Dr. Shinde said. Second, the discovery added one more ancient civilisation in Asia, besides the Egyptian and the Mesopotamian, and unravelled the Harappan civilisation's maritime contacts with West Asia from 3000 BCE. Iravatham

Mahadevan, who battled for 50 years to decipher the Indus script, had asserted that the civilisation was both pre-Aryan and non-Aryan. Mehrgarh, in Balochistan, Pakistan, is where it all began around 7000 BCE. "The roots of the Harappan civilisation lie in Mehrgarh, around eight millennium BCE," asserted R.S. Bisht, who excavated Dholavira in Gujarat from 1989-90 to 2004-2005. The book The Wonder that was Harappan Civilisation, brought out by The Hindu, has reproduced Marshall's story, first published in The Illustrated London News. On January 4, 1928, The Hindu had used a full page to publish a summary of his statement on the subject.

Planet Earth set to have an asteroid named 'Mini-Moon' for next one-month

Hyderabad: The planet Earth is all set to have a 'mini-moon' for the next one month! A tiny space rock (asteroid) named as 2024 PT5, which was reported by Asteroid Terrestrial-impact Last Alert System (ATLAS)- an asteroid early warning system funded by NASA in University of Hawaii- will be orbiting our planet till the end of November, before escaping the Earth's gravity.

Labeled as 'mini-moon', the discovery of the small asteroid has triggered lot of excitement, among the community of amateur and professional astronomers, not only in India but across the globe. The near earth object is expected to come within 5, 67, 000 kilometers of Earth during its closest approach. This distance is roughly one and half times the average distance to the moon, according reports suggested.

While the size of the 2024 PT5 is significantly smaller than our moon, the temporary orbiting of the asteroid, which is only 33 feet in width, is a rare event that occurs once in a decade or 20 years.

Interestingly, according to the research lead author and Universidad Complutense de Madrid professor Carlos de la Fuente Marco, the 2024 PT5 originated from Arjuna asteroid belt between Mars and Jupiter, this celestial visitor of-



fers a rare opportunity for scientists to study near-Earth objects up close. The sighting of the small asteroid, according to astronomers, provides an opportunity to capture invaluable data and helps to understand the dynamics of such asteroids that might pose a risk to our planet. The length of the mini-moon events can vary with some lasting for a year or even more to complete a full or multiple revolutions around Earth.

Despite its diminutive size, 2024 PT5 is not visible to the naked eye and requires advanced telescopes for observation, according to reports.

As 2024 PT5 continues its brief sojourn around Earth, amateur astronomers and scientists eagerly await for the possible insights that the small space rock might reveal about the cosmos and near Earth objects.

Marriage, mayhem and murder: Unraveling an arsenic poisoning conspiracy that tore apart a Hyderabad family

On June 3 last year, 33-year-old Sasirekha, draped in a red-and-golden saree, entered her in-laws' home at a gated community in Hafeezpet, a suburban locality of Miyapur in Hyderabad. The Rao family, excited for the wedding of their son M. Purnender, had gathered friends and relatives for a joyous celebration. The groom's doctor-sister, M. Sirisha, had also flown down from the U.K. along with her daughter. Within a week, however, an unease spread through the household and the gleam of Sasirekha's bridal attire was replaced by the gloom of a hospital gown. It started innocuously – the family had fallen mildly sick after savouring home-made popu annam (tempered rice) on June 2, but no one thought much of it. Then, on June 7, after Sasirekha enjoyed her first meal with her new family, her techie husband Mr. Purnender, 39, and mother-in-law Uma Maheshwari, 60, were hit by severe vomiting and diarrhoea. By morning, Sasirekha herself woke up with similar symptoms, and her father-in-law Hanumantha Rao, 66, followed soon after. As their condition worsened, mysterious neurological symptoms emerged – partial paralysis and excruciating burning sensations.

Hospital trips yielded no answers, and Mr. Purnender, who returned to the U.S. to rejoin work on June 22, continued to experience alarming weight loss, shedding 10 kg in less than three weeks. It was only then that a shocking truth surfaced – the family had been victims of a deliberate arsenic poisoning. Ms. Maheshwari, who had been in perfect health until June 3 with no history of co-morbidities, quickly grew pale and weak. Within a month, she succumbed to critical pulmonary edema and acute respiratory failure. But this was only the beginning of the family's ordeal.

"My mother was hospitalised with paraplegia, delirium, and difficulty in breathing and weakness on June 26. Despite the expensive and extensive treatment for suspected Guillain Barre syndrome, a neurological disorder, she passed away on July 5, leaving behind a mystery which had to be cracked to save the rest of the family," shares Ms. Sirisha, 41, an oncologist. At the funeral on July 7, the family suffered through the same cycle of vomiting and illness. This time, Ms. Sirisha sent a water sample to the Institute of Health Systems in Kukatpally, Hyderabad, but the results showed nothing unusual. "Until my mother's final prayers on July 15, we didn't cook or eat at home, and everything seemed fine. But the moment we started eating home-cooked food again, things started worsening," Ms. Sirisha recounts. Though a pattern was emerging, none could pinpoint the cause. The breakthrough came from Rama Tharakanth Vemuri, a neurologist based in Guntur, Andhra Pradesh, who suspected Sasirekha was suffering due to arsenic poisoning. Following his advice, the entire family was tested for heavy metal poisoning and the results blew the lid off a malicious plot driven by grudge and revenge – Sasirekha had been caught in a conspiracy aimed at Ms. Sirisha by her estranged husband, U.K.-based pharmacist Ajith Kumar Mupparapu.

Test results showed Hanumantha Rao's arsenic levels were over 1,000 micrograms per litre – far above the normal limit of 35 mcg/L. Mr. Purnender's levels reached 1,002 mcg/L while Sasirekha's stood at 784 mcg/L. The police are yet to apprehend Mr. Ajith, the key accused, against whom a look-out circular (opened to search for absconding criminals), and a blue notice (used to get further information on a suspect) were issued earlier last year. The arrest is pending as the courts here are yet to issue a non-bailable warrant and red notice (a request for international cooperation to seek the location and arrest, detention, or restriction of movement of a wanted person). Nine other accused have been arrested and produced in court between August 2023 and February 2024. After the final chargesheet was filed on June 12 this year, summons were issued to the 10 accused for the first hearing on September 19. However, the date of hearing has now been adjourned to October 14.

Harassment and vengeance Ms. Sirisha tied the knot with Mr. Ajith at Arya Samaj in Bowenpally, Hyderabad, in June 2018. Both had previously been married. After the wedding, the couple lived in her father's flat along with Ms. Sirisha's seven-year-old daughter from her first marriage. Soon after, however, Mr. Ajith began to harass Ms. Sirisha mentally and physically, often making derogatory remarks about her and her daughter. He later moved to the U.K., and Ms. Sirisha and her daughter followed after he promised to change. However, his abuse worsened there, escalating to physical violence. He even assaulted the daughter, grabbing her by the throat. Ms. Sirisha says Mr. Ajith had also secretly installed cameras in their home to keep an eye on them. "On August 29, 2022, when we both left the house, he chased us in his car. He threatened me, vowing to destroy me and my family if I didn't return to him. I filed a formal complaint against Mr. Ajith with Maidenhead police. They registered a case and reprimanded him," Ms. Sirisha adds.

Despite police intervention, Mr. Ajith's harassment continued, even at her workplace, leading her to file for divorce and obtain a non-molestation order in October 2022. As per the chargesheet filed by Miyapur police here post the arsenic poisoning, their marriage was considered short-term in the U.K. (less than five years), meaning there would be no division of assets between the couple. "Ms. Sirisha sought financial mediation, specifically related to their family home in the U.K. but Mr. Ajith refused to engage in mediation with both the family law mediator on November 29, 2022, and their solicitors. On March 8, 2023, the U.K. police dismissed the case against Mr. Ajith, citing insufficient evidence to meet the threshold for prosecution," read the chargesheet. The U.K. family court issued a conditional divorce, pending financial settlement, says Ms. Sirisha. Devising a toxic plot

A year after Ms. Maheshwari's death, life of the Rao family remains at a standstill. "We were together for nearly 50 years, friends since childhood before we got mar-



ried. My life is incomplete without her," says Hanumantha Rao, his voice heavy with grief, as he clutches his wife's framed photo. Walking through his now-deserted 3BHK flat where the walls are bare, windows have no curtains, and furniture is covered with sheets, he adds: "I will be flying to the U.S. soon for Sasirekha's delivery. She has had a complicated pregnancy." While Hanumantha Rao, Sasirekha, and Mr. Purnender undergo neurological rehabilitation and follow-up for liver and skin cancer, Ms. Sirisha, who filed for divorce in October 2022, lives with the weight of guilt – of being unable to save her mother and feeling responsible for Sasirekha's ordeal. "Even today I question how I, as a doctor, could not identify the issue and save my mother. I also considered leaving my profession. Sasirekha did not deserve any of this. The guilt has been difficult to process," she says, sobbing. Interestingly, arsenic was just one of the many attempts by Mr. Ajith to kill Ms. Sirisha's family members; his main target was always Hanumantha Rao. From his base in Maidenhead, U.K., Mr. Ajith orchestrated five different plots in Hyderabad, spending lakhs of rupees and involving 10 accomplices. For his first attempt, in January 2023, he hired two youth to stage a 'road mishap' to kill Hanumantha Rao. When that failed, Mr. Ajith hired two contract killers through an online portal. On March 28, he paid ₹2,000 to a food delivery agent to deliver arsenic-laced spices to the Rao residence. The delivery agent was also given ₹1,000 to blend in with a company uniform and bag.

"Between July and December 2022,

my parents were in the U.S. with my brother. On January 1, 2023, my father returned to India while my mother came to the U.K. to stay with me and my daughter. Back home, father would order in food as he doesn't know how to cook. That is what possibly kept my father safe for months," Ms. Sirisha says. The poisoned spices remained untouched until Ms. Maheshwari returned from the U.K. on May 20 for Mr. Purnender's engagement. The Central Forensic Science Laboratory in Hyderabad later confirmed that high amounts of arsenic were mixed in the family's salt and chilli powder, leading to poisoning. Sister's hand in sourcing slow poison A rare heavy metal, arsenic is a slow poison, known for its potency and discreteness. For a commoner, it is impossible to procure this toxin in its inorganic form. Mr. Ajith's sister, Mupparapu Surekha, in-charge of the chemistry lab at the Atomic Energy Central School, Secunderabad, made procuring arsenic easy, breaching strict regulations outlined in the Poisons Act of 1919. A Telangana government order, which states that when selling poison, only the licensed person or a representative from a company can do so. "The sale must take place at the same location where the poison is stored. Sellers must keep a record of all poison sales, verify the buyer's identify and maintain detailed records," he says. According to the chargesheet, Surekha (accused no.10) was Mr. Ajith's right arm in the murder plot. On March 6, 2023, she purchased sodium arsenite (arsenic) under her school's name from Premier Trading Company in Abids locality. She then gave the poison to her brother Mr. Ajith during his visit to India just days later, on March 18.