

6 WORLD

● Israeli strikes kill 12 in Gaza as war grinds into new year with no end in sight

● South Korea air crash investigators extract black box data

7 NATION

● Minister Munde's associate Walmik Karad surrenders, sent in 14-day police custody

● Kejriwal writes to RSS chief slamming BJP; 'scared of poll defeat': Sachdeva

Vol .No. XXV

Issue No. 351

RNI-ASSENG/2000/12862

DIPHU, KARBI ANGLONG, THURSDAY, JANUARY 2, 2025

PAGES 8 PRICE ₹ 8

Execution of Biplab Sarma panel's recommendations by April: CM India, Pak exchange list of nuclear installations

'Talks with AASU for implementing Assam Accord's Clause 6 report on'

GUWAHATI, Jan 1: Chief Minister Himanta Biswa Sarma on Wednesday said there were some debatable issues like the cadastral survey of land in 'Char' (riverine) areas and discussions were being held with the All Assam Students' Union (AASU) for implementing the Justice (Retd) Biplab Sarma committee's recommendations on Clause 6 of the Assam Accord to protect the interests of the state's indigenous population.

Most recommendations of the committee will be implemented by the state government by April, the CM said during an interaction with journalists here.

He said the relationship between the different communities has improved considerably over the years and most of the issues would be resolved without any debate.

"There are, however, issues like the cadastral survey in the 'Char' areas and we have to know how the Assamese community reacts to this. The National Register of Citizens (NRC) is debatable with various sections wanting its review. We are holding

discussions with the AASU on this and other issues", he said.

A cadastral survey is a licensed surveyor's official measurement of a property's boundaries, dimensions, and other details. The survey results are used to create cadastral maps, which are a database of official information about land parcels.

"We hope to implement the recommendations meant for the state government during the budget session of the state Assembly", he added.

Referring to recruitment of indigenous people for government jobs, the CM said there is a need for a domicile policy for recruitment in the state as the high court usually quashes cases in favour of the local population by stating that the jobs are for people from the entire country.

The recommendations of the Biplab Sarma committee will apply only to the districts of the Brahmaputra Valley and not in the three districts of Barak Valley along with the Sixth Schedule areas of Dima Hasao, Karbi Anglong and Bodoland Territorial Region (BTR).

The committee's report is divided into three parts -- 40 recommendations for exclusive state implementation, 12 to be jointly implemented by both central and state governments, and 15 exclusively for the Centre.

Sarma had earlier said the state government and AASU will collaborate to implement the 40 recommendations related to land, culture, and linguistics along with the 12 others which are in the shared domain of the state and central governments.

The committee was set up in 2019 following widespread protests against the Citizenship Amendment Act, 2019 and the report was submitted to then chief minister Sarbananda Sonowal in 2020 for handing over to Union home minister Amit Shah.

The Assam Accord was signed in 1985 after a six-year-long violent anti-foreigner movement. It stated, among other clauses, that names of all foreigners coming to Assam on or after March 25, 1971 would be detected and deleted from electoral rolls with steps taken to deport them. (PTI)



NEW DELHI, Jan 1: India and Pakistan on Wednesday exchanged a list of their nuclear installations under a bilateral pact that prohibits the two sides from attacking each other's atomic facilities, in continuation of an over-three-decade practice.

The exchange of the list took place under the provisions of an agreement on the prohibition of attack against nuclear installations and facilities, the Ministry of External Affairs (MEA) said.

It was done simultaneously through diplomatic channels in New Delhi and Islamabad.

"India and Pakistan today exchanged, through diplomatic channels, simultaneously at New Delhi and Islamabad, the list of nuclear installations and facilities covered under the agreement on the prohibition of attack against nuclear installations and facilities," the MEA said.

The exchange of the list came amid frosty ties between the two



countries over the Kashmir issue as well as cross-border terrorism.

The agreement was signed on December 31, 1988 and entered into force on January 27, 1991.

The pact mandates the two countries to inform each other of the nuclear installations and facilities to be covered under the agreement on January 1 of every calendar year.

"This is the 34th consecutive exchange of such lists between the two countries, the first one having taken place on January 1, 1992," the MEA said in a statement. (PTI)

HT BRIEFS

Drugs peddler

GUWAHATI: Special Task Force (STF), Assam has apprehended an alleged drug peddler from Lalganesh area in Guwahati, said an official statement on Wednesday. The drug peddler identified as Jintu Mandal. As per the statement, the arrest was made during a raid at Lokhra road, Lalganesh under Dispur Police Station Jurisdiction. Apart from 37.15 grams of suspected heroin, two mobile phones were also recovered from Mandal. "Kamrup (M) Necessary formalities are being done," the statement concluded.

BSF Guwahati

GUWAHATI: Demonstrating exceptional dedication and service, the Border Security Force (BSF) Guwahati Frontier came to the rescue of a pregnant woman in a life-threatening situation in Kalaicharbari, Dhubri district, the BSF officials informed on Wednesday. Taking to the micro-blogging site X, the BSF Guwahati stated, "Bordermen of 150Bn @BSF_Guwahati Fr responded swiftly to a life threatening delivery emergency in Kalaicharbari (Dhubri)." Personnel from the 150 Battalion of the BSF swiftly responded to the emergency, navigating challenging riverine terrain to ensure the safety of the patient. The incident occurred when Muni Khatun, a resident of the border village, experienced a critical delivery emergency. With limited healthcare facilities available in the remote riverine area, the situation grew dire.

Groundwater report

GUWAHATI: The groundwater in Northeastern states, including Assam, has been deemed of "excellent quality" for irrigation purposes, as highlighted in the Annual Groundwater Quality Report 2024. Union minister of Jal Shakti CR Patil announced on Wednesday. Released on December 31 by the Union minister, the report highlights the significant strides made in groundwater quality monitoring and management across India.

Cong to launch 'Jai Bapu, Jai Bhim, Jai Samvidhan' campaign tomorrow



NEW DELHI, Jan 1: The Congress will launch its 'Jai Bapu, Jai Bhim, Jai Samvidhan Abhiyan' in all blocks, districts and states on January 3. The campaign will culminate in a public rally at Mhow on January 26. The campaign was to be launched on December 27 but was suspended in view of the demise of former prime minister Manmohan Singh on December 26 and the announcement of a seven-day mourning in his honour. The decision to organise the campaign was taken at the last meeting of the Congress Working Committee (CWC) at Belagavi on December 26.

Congress general secretary Jairam Ramesh said the implementation of the CWC resolution of December 26 was suspended for a week as a mark of "deep respect and reverence for Singh. "It will take more time to get used to the fact that he is no longer with us," he said.

"Even so the Jai Bapu, Jai Bhim, Jai Samvidhan Abhiyan will resume in blocks, districts and states, on January 3, 2025 leading up to rally in Dr Ambedkar's 'janmabhoomi' Mhow on January 26, 2025 which is also the 75th anniversary of the Constitution of India coming into effect and the Republic of India being created," Ramesh said.

The CWC, in its resolution, had said the Congress is "fiercely committed" to protecting the Constitution and the ideals of the Indian Independence Movement.

Accordingly, the CWC resolution said, the Congress will launch the Jai Bapu, Jai Bhim, Jai Samvidhan campaign beginning with a rally in Belagavi on December 27 and culminating in a rally at Mhow on January 26.

During this month, it said, rallies and marches will be organised in every block, district and state as well. Given the urgency of the need to preserve, protect and promote the legacy of Mahatma Gandhi as well as that of the Constitution, this movement will extend beyond January 26 as well, it said. (CONTD. ON PAGE-2)

Reflect aspirations of youths, CM to media

GUWAHATI, Jan 1: Chief Minister Himanta Biswa Sarma on Wednesday said print and electronic media must reflect the aspirations of the state's youth to remain relevant in the present age. "Assam is now an aspirational state and the media, too, should be aspirational. It should not remain imprisoned in the decades of '70s, '80s and '90s of the last century and reflect the hopes and thoughts of the new generation", the CM said during an interaction with journalists here.

Society has changed and the new generation are asking new questions and therefore, 'my appeal to the media in Assam is to come out of the prism of the last century, report the changes that are taking place and not dwell on the negatives of the past', he said.

The youth have embraced the social media which is taking over

the print and electronic media as far as viewership is concerned, he added. "There has been a drastic fall in the circulation of Assamese language newspapers and it is a matter of deep concern for me as it provides employment to a large number of people", Sarma said.

Advertisements are coming out of print and electronic media to social media and this is a matter of concern, he added.

Referring to his social media posts, the CM said three of his recent videos on issues related to decline in accidents, the forthcoming 'Advantage Assam' conclave and possible investments in the line of the semiconductor assembly unit at Jagiroad had garnered one crore viewership each. "People, particularly the youth, are moving to social media as they don't get explanations or answers to their questions (CONTD. ON PAGE-2)

BJP takes dig at Kejriwal over promise of ₹ 18,000 to priests

NEW DELHI, Jan 1: The BJP on Wednesday took a swipe at Arvind Kejriwal calling him a "bagula bhagat" (pretentious devotee) over his pre-poll promise of giving a monthly honorarium of ₹ 18,000 to priests of temples and granshis of gurudwaras.

Addressing a press conference at the BJP headquarters, party national spokesperson Sudhanshu Trivedi claimed that Kejriwal-led Aam Aadmi Party (AAP) exemplifies "unreliability" in Indian politics, adding that the people of Delhi have understood its "antics."



He alleged that the AAP, which emerged with the promise of bringing change to the country's politics, has lost its "credibility" as it continues to pursue "the same old

Congress politics."

There was no immediate response from the AAP to the BJP's charge. Asked about Kejriwal's pre-poll promise of providing an honorarium of ₹ 18,000 to priests of temples and granshis of gurudwaras, Trivedi wondered why he is making such an announcement instead of implementing it right away, when his party is still in power in Delhi. "You must have heard about 'bagula bhagat'. There is a 'bhakt' (devotee) and there is a 'bagula bhagat' (pretentious devotee)... (CONTD. ON PAGE-2)

'During the last four years of the project, a record 5.3 crore planting material has been distributed'

1.25 lakh hectares of rubber plantation done under project INROAD

GUWAHATI, Jan 1: Over 1.25 lakh hectares of rubber plantation have been completed in Northeast and West Bengal as part of a project by four leading tyre manufacturers of the country, an industry body said on Wednesday.

As part of the project INROAD (Indian Natural Rubber Operations for Assisted Development), the Automotive Tyre Manufacturers' Association (ATMA) had planned to develop two lakh hectares of rubber plantation in Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Tripura and West Bengal at a cost of Rs 1,100 crore in five years.

"In the first four years of the project, an area of 1,25,272 ha has been covered under new natural rubber (NR) plantations across 94 districts in North East and parts of West Bengal," a senior official of ATMA told PTI.

This represents one of the highest NR plantations ever achieved in



the country in a span of four years, he added.

"During the last four years of the project, a record 5.3 crore planting material has been distributed. The project has reached out to resource deprived populations in the designated states since farmers with land holding of less than one acre are being engaged in the project,"

the senior industry official said.

Once completed, the project is poised to lift the economic and social status of 2.5 lakh beneficiaries of the project, he claimed.

The share of Northeast in India's area under natural rubber plantation before the launch of the INROAD project was 23 per cent.

"Once the objective of develop-

'Proposed dam in China to damage Brahmaputra ecosystem in Assam'

GUWAHATI, Jan 1: The proposed construction of the world's largest dam by China on Brahmaputra in Tibet will damage the ecosystem of the river in Assam, chief minister Himanta Biswa Sarma said on Monday.

During an interaction with journalists here, Sarma said the Centre has communicated to China the dangers posed by the dam in the lower reaches of the river.

"The dam will pose a big problem for us as the riverbed will dry up and the entire river system will become (CONTD. ON PAGE-2)

Hasina's extradition is one of several bilateral issues with India: Touhid

DHAKA, Jan 1: Deposed premier Sheikh Hasina's extradition is one of the several issues with India that Bangladesh would pursue while strong bilateral ties with Washington, Delhi and Beijing are priorities of the interim government, foreign affairs adviser Touhid Hossain said on Wednesday.

Hasina, 77, has been living in India since August 5 when she fled the country following a massive student-led protest that toppled her 16-year regime.

Bangladesh-based International Crimes Tribunal (ICT) has issued arrest warrants for Hasina and several former Cabinet ministers, advisers, and military and civil officials for "crimes against humanity and genocide". "This (Hasina's extradition) is one of the issues, but we have other issues of interest as well. We will pursue them simultaneously," Hossain told reporters while responding to a question.

Hossain said Dhaka's efforts to bring Hasina back from Delhi and to uplift ties with India will proceed in parallel. "I believe both will proceed simultane-

ously". A former diplomat, Hossain, the de facto foreign minister in chief adviser Muhammad Yunus' interim government, said that maintaining strong bilateral ties with the US, India, and China alongside addressing the Rohingya crisis would be key priorities for Bangladesh in 2025.

"Our priorities are to resolve the Rohingya crisis, keep good relations with those three countries, and to advance our economic and diplomatic efforts while ensuring stability," he said. On ties with the US, India and China, Hossain said neither of the countries were at the bottom of priority lists when asked whether there was any particular priority for one country over another.

"We place equal priority on maintaining ties with these three countries as our various interests are deeply aligned with them," he said, adding that these countries also have their own interests in maintaining good relations with Bangladesh. The foreign adviser hoped that Dhaka's relations with these global powers would (CONTD. ON PAGE-2)



What gets measured, gets managed? The case of climate change adaptation

By: Tom Kerr & Dhriti Pathak

As we are witnessing delayed monsoons followed by severe rainfall and subsequent flooding, along with sizzling summers across most parts of the globe with temperatures almost touching 50 degrees Celsius, we are experiencing the accelerating impacts of climate change first hand. This comes against the backdrop of the failure to meet the 1.5 degree Celsius temperature goal set out in the Paris Agreement, with global temperatures projected to exceed 2 degree Celsius above pre-industrial levels by the end of this century. With developing countries grappling with both human and financial resources to deal with these impacts, reports show that the most vulnerable communities in these countries are bearing the brunt of the situation.

Peter Drucker, the management theorist, had once famously quoted, "What gets measured, gets managed", wherein he argued that the ability to track, monitor and/or quantify something tends to make it more likely to attract notice with actions undertaken to improve it. This phenomenon has been observed to be true in several cases, where a shift from an abstract and vague concept to a well-defined and quantifiable target has produced the desired results. Take, for example, the Montreal Protocol of 1987; it developed a robust monitoring mechanism to measure the concentration of ozone depleting substances (ODS) in the atmosphere that led to collective action taken by the global community. Recent reports show that the recovery of the ozone layer is on track, with the UN-backed Scientific Assessment Panel to the Montreal Protocol on Ozone Deplet-

ing Substances quadrennial assessment report confirming the phase out of nearly 99 percent of banned ozone-depleting substances. The key point here is that resolving global issues requires significant amounts of finance, and leveraging finance becomes easier with an absolute target that is well defined and quantifiable as it provides more clarity to investors in terms of the end result of their investments.

The world faces a similar challenge today with regard to finance for climate change. While there are differences between the ozone layer depletion challenge and the climate challenge, the need to be able to measure the progress made, essentially in quantitative terms, is vital for bringing the international community together on this. The issue of climate change is tied to the increasing emission of green-house gases (GHGs) into the atmosphere, thereby leading to substantive warming of the earth's climate. While ODSs such as chlorofluorocarbons (CFCs) found replacements in other gases that do not affect the ozone layer, we are yet to find GHG alternatives that are economical and viable for use with lesser impact on the earth's climate. The major challenge in bringing down the emission of GHGs has been the fact that they are linked to production.

Addressing the issue of climate change necessitates two crucial aspects—one, to work towards the mitigation of the issue by reducing GHG emissions; and two, to reduce the impacts of climate change on economic systems and communities. In terms of undertaking action to contain the impacts of climate change, climate finance constitutes a key element—one which is highly contentious in international negotiations. A re-



port by Climate Policy Initiative (CPI) in 2023, showed that global climate finance approached US\$ 1.3 trillion on annual average in 2021/2022 compared to US\$ 653 billion in 2019/2020. However, significantly more still remains to be done.

Financing adaptation along with mitigation

The contentions among countries in international negotiations with regard to climate finance have primarily been around the concept of 'additionality'. 'Additionality' of climate finance refers to the idea that funds raised for climate change should not be diverted to address other issues, particularly socio-economic ones. The measure of additionality then becomes quite straightforward for activities aligned towards mitigation of climate change as they are measured by one common metric—the reduction in GHG emissions in the atmos-

phere. But in the case of adaptation to climate change, its localised and context specific nature makes it difficult to arrive at a consensus as to what defines adaptation activities. Climate adaptation is a moving target; one that is also not currently well defined. The current financing gap for adaptation, according to the UNEP Adaptation Gap Report, has been estimated to be in the tune of US\$ 194-366 billion per year. The World Bank, at COP28, committed to increase their climate finance to 45 percent of all financing with a 50:50 ratio for adaptation and mitigation. However, it has to be noted that increasing finance for adaptation would require an improved access to grant-based or concessional financing to all developing countries in addition to a significant increase in the financing from non-concessional sources including the private sector.

Scaling up non-concessional sources of financing in this sector could be a boon but has been severely limited so far due to the overlapping nature of adaptation and development. Investors claim that the lack of clarity of the impact of investments or the 'additionality' is a major limitation in this regard. This can then perhaps be addressed with the development of a taxonomy for adaptation action. But, adaptation action, as mentioned previously, is not a one-size-fits-all solution. It comes with dimensions that are affected by aspects such as the availability of local resources, local and traditional knowledge, and local vulnerabilities among other things, thereby making the list endless. For mitigation, there were several approaches too, but the one thing that they all had in common was the 'end' result, which was the reduction in GHG emissions. Similarly, such a

Machiavellian approach, that focuses on the 'ends' of adaptation over its 'means' could be a possible way out. While there is a lack of consensus on the exact definition of adaptation to climate change, or what actions come under its ambit, there is a general understanding of its primary objective—to minimise the impact of climate risks on communities and systems. This means that an agreement on what the outcomes of adaptation can be is possible even at the global level. A focus on measuring the outcomes of adaptation in quantifiable terms can be the game changer that this sector needs.

Result Based Financing (RBF) for climate change essentially implies tying payments to the achievement of pre-agreed upon results. The terminology of RBF is diverse with multiple terms that refer to the same instrument but they all centre on the idea that payments should be linked to results and not to the process of obtaining them. The World Bank defines Result Based Climate Finance (RBCF) as finance that is paid when results are achieved, and occasionally upon meeting interim milestones. As most funds, grants and even a large part of the global capital market are intrinsically linked to the achievement of results; the development of RBF for climate action can pave the way for bringing in private finance. For adaptation, it then goes on to imply that the measurement of results and outcomes in quantifiable terms will enable the mobilisation of result-based financing mechanisms, not just from Multilateral Development Banks and bilateral sources, but also from the global capital markets and the private sector, essentially through blended finance and

the creation of more innovative instruments.

RBF can bring in financing instruments such as bonds that have the potential to leverage the market for financing adaptation by bringing in the private sector. This presents a huge opportunity for any multilateral organisation to lead the work on developing RBF for adaptation. Issues such as spending inefficiencies and the lack of an understanding of what can be used to track progress in a project include some of the roadblocks that have long plagued financing for adaptation. This can be remedied through the use of result-based financing (RBF) mechanisms as payments will be made on the achievement of pre-agreed results or outcomes. The rationale behind this financing framework is to link payments to outputs and outcomes of actions, rather than inputs and processes. RBF can bring in financing instruments such as bonds that have the potential to leverage the market for financing adaptation by bringing in the private sector. This presents a huge opportunity for any multilateral organisation to lead the work on developing RBF for adaptation.

The RBF will help opening up adaptation for the private sector. Besides, once it takes off, the World Bank Group and the World Economic Forum respectively have stated that investing in climate adaptation can lead to returns with a benefit cost ratio of 4:1 and that the adaptation market could be worth US\$2 trillion by 2026. The transparency provided by the RBF presents a massive opportunity to direct private investors towards investing in adaptation to climate change as the end result of their investments is clear. (Courtesy: ORF)

Excessive rainfall in Rajasthan's arid districts has a silver lining — rise in groundwater level

By: Madhav Sharma

2024's unusual rainfall in Rajasthan has proven to be a boon for the state's languishing groundwater levels. Due to the excessive rainfall across the state, the groundwater levels have increased by about six metres in all districts. These figures have been revealed in the Post-Monsoon Assessment Report 2024 from the Rajasthan Groundwater Department.

According to the report, before the monsoon, groundwater was found at an average depth of 28.83 metres across the state. Now, it has improved to 23.01 metres. In other words, groundwater in Rajasthan has risen by 5.82 metres.

This preliminary report currently provides district-level data only. The department has stated that after analysing these figures, data will be provided for different zones. This will indicate how much groundwater has risen in each zone. After this analysis, it will also be possible to determine whether the groundwater levels have increased or decreased in the dark zones.

Extreme rainfall in 27 districts

During this year's monsoon season, 27 out of the 50 districts in Rajasthan experienced abnormally high rainfall. In 15 districts, there was excessive rainfall, while eight districts received average rainfall. No district reported below-average or drought conditions.

Abnormal rainfall in Rajasthan means receiving 60 per cent or more rainfall than the normal average of 417.46 mm. According to the report, all districts, except Churu, saw a rise in groundwater levels. Despite receiving more than the normal rainfall, Churu district experienced a decrease of 0.19 metres in groundwater levels.

The highest increase in groundwater was recorded in Chittorgarh district, where it rose by 14 metres. This was followed by Sawai Madhopur (13.32 metres), Bundi (11.50 metres), Bhilwara (10.89 metres), Dungarpur (9.96 metres), Pratapgarh (9.96 metres), Alwar (9.87 metres), Baran (9 metres), Kota (8.23 metres), and Banswara (6.68 metres). In the state capital Jaipur, the groundwater level improved by 4.70 metres.

Surajbhan Singh, Chief Engineer of the Rajasthan Groundwater Department, told Down to Earth that the department has gathered groundwater data after the monsoon rains. These are preliminary figures, and further analysis is needed. The zonal data will be extracted from this analysis. After this, data regarding groundwater levels in the state's dark zones will also be available, though this will take a few months to complete.

Deluge in desert

This year, the western, desert regions of Rajasthan, including Bikaner, Barmer, Jaisalmer, and Jodhpur, also received abnormal rainfall—60 per cent or more than the usual amount. Jalore district recorded rainfall 20-59 per cent above average. Due to the increased rainfall, the groundwater level in Jaisalmer, which was at 49.79 metres before the monsoon, has decreased by 2.50 metres to 47.29 metres. In Barmer, the groundwater level increased by 1.73 metres, in Bikaner by 0.81 metres, and in Jodhpur by 1.51 metres. In Jalore, which received average rainfall, the

groundwater level rose by 2.31 metres.

Down to Earth analysed the monsoon data released by the Rajasthan Water Resources Department. According to the analysis, the state received 63 per cent more rainfall than average from June 1 to October 1 this year. The highest rainfall in a district during the season was recorded in Karauli, with 1931 mm. On August 11, 2024, Karauli also saw the highest rainfall in a single day during the monsoon season. The groundwater level in Karauli, which was at 32.69 metres before the monsoon, rose by 6.20 metres to 26.49 metres by the end of the season.

Groundwater levels in Rajasthan have been in a worrying state. The state has 299 groundwater blocks, and due to excessive extraction and inadequate recharge, only 38 blocks (around 12 per cent) were deemed safe before the monsoon.

The remaining 88 per cent of the blocks are critical, semi-critical, or overexploited. Groundwater extraction has increased by 114 per cent over the last three decades. In 2023, Rajasthan's groundwater extraction was at 149 per cent, up from 35 per cent in 1984. These figures show the extent of groundwater exploitation in the state. However, department officials are optimistic that this year's increased rainfall could lead to some improvement in the groundwater levels, especially in some of the dark zones.

Larger implications
Rajasthan accounts for 10 per cent of India's land area but has only about one per cent of the country's water resources. According to the 2019 'Reassessment of Average Annual Per Capita Water Availability for 2021 and 2031' report by the Central Water Commission, per capita water availability in India is estimated to be 1486 cubic metres in 2021 and 1367 cubic metres in 2031.

Water availability of less than 1,700 cubic metres is considered a water crisis, and less than 1,000 cubic metres is a water scarcity situation.

Rajasthan is far behind both of these thresholds. According to the 2009 Vyasa Committee report, the state has only 800 cubic metres of water available per person annually.

In Rajasthan, 87 per cent of drinking water comes from groundwater sources, including wells, borewells, and handpumps. In rural areas, these are the primary sources of drinking water. As the groundwater level drops, harmful minerals like salinity, total dissolved solids (TDS), nitrates, fluoride, sodium carbonate, zinc, lead, iron, and arsenic increase in the water, making it unsafe for consumption and harmful to health.

Experts say that 80 per cent of illnesses are caused by poor-quality water. According to a recent response in the Lok Sabha, 95 villages in 12 districts of Rajasthan are affected by dangerous levels of fluoride in drinking water, with approximately four million people suffering from fluorosis, the highest such number in the country.

Improved groundwater levels will ensure that people, especially in rural areas, have access to clean drinking water. This will reduce health-related issues and lower the amount of money spent on healthcare. As a result, families will have more savings and improved prosperity. (Courtesy: Down to Earth)

Impact of plastic waste on Assam's ecosystem

By: Himangshu Ranjan Bhuvan

This has come to be a serious environmental issue with which the world is currently challenged and no exception with Assam. The rapidly growing consumption of plastics, especially single-use plastics, has wreaked havoc with deep effects on regional ecosystems. The richest biodiversity, rivers, and forests, together with several cultures, present challenges no other region would have in countering the massive expansion of plastic waste in this particular region. It is something very deep within the natural and cultural fabric of the region rather than a nuisance of cities. One ill effect of plastic waste in Assam does not even look at urbanization, such as within Guwahati limits, but goes straight to those rural landscapes, river systems, and forests in which plastic waste creates an even problem for the disturbed habitat with the livelihood of the respective local communities.

Assam is also rich in wetlands, national parks, and protected areas. Kaziranga National Park and Manas National Park among the rest, where plastic pollution can easily be seen. Some wild animals are vulnerable to consuming plastic wastes that enter their habitat, one-horned rhinoceros and tigers included. Ingestion of plastic waste causes asphyxiation and injuries to the inner parts. Plastics from bags to bottles decompose very difficultly. Non-biodegradable accumulation leads to an amassment of waste in the critical ecosystems and poses an issue to the biodiversity of the region, further creating more severe implications for its ecological balance.

The Brahmaputra and Assam's many tributaries support the lives of millions. Rivers are, therefore, very important cultural icons, symbolizing sources of water supply, transport routes, and habitats for aquatic species.

In today's world, plastic is becoming evident along the banks and in rivers. Experiments conducted have shown that the tiny granules present in the water are, in fact, nothing but the broken shreds of large plastics, which are termed microplastics. There has been proof of the existence of microplastics in the marine system as they will find themselves in the chain and thus reach human beings as people eat fish, for example, as their food source. This is further compounded by weak waste management infrastructure in most parts of rural Assam where the practice of open dumping or putting plastic waste in the water sources has become commonplace. Even lesser awareness of the harmful effects of plastics exists in Assam, where there have been a few instances of fighting against plastic usage, mainly from the urban sections. The economy of Assam is almost wholly agrarian, relying nearly totally on the natural environment to carry on farming, fishing and other livelihoods. Most villages use plastic bags and wrappers to pack agricultural produce or, worse still, carelessly discard them after use. Plastic can be spread as mulch over crops, but the farmers seldom bother to get them disposed of properly. Such disposal contaminates soil and water. Therefore, it is turning out to be a threat to agriculture in the state. As plastics take years to dissolve, leakage of toxic chemicals is occurring in the environment, again posing a threat to crop yield and soil and water quality. Plastic wastes are scattered all over the Assam tea gardens. This does not only litter the landscape but also litter the quality of the product. It makes a commodity export like



tea hazardous to contamination by plastic wastes.

Plastic pollution is an enormous nuisance both in social and economic terms. In the tourist industry, it is directly associated as thousands are invited to the sanctuaries of Assam's wildlife, tea gardens, and natural scenery. It added increased environmental sensibility of tourists toward Assam which hitherto degraded pristine beauty plastic litter to its degradation. Thus, more visitors visited the protected areas in Assam, and thus, the state had to maintain ecological soundness there also. More health impact of plastic litter to be left unmindful. The burning of plastic wastes in rural areas leads to many emissions of toxic poisons into the air and creates respiratory disorders, amongst various other causes. Continued accumulation of plastic waste coupled with inappropriate and non-existent means to manage the same creates an evil circle for health amongst the people and non-environmental sustainability.

This means that there is a weakness in the infrastructure of waste management at Assam, so the plastic waste disposal problem becomes complex.

One of the numerous cities of the country but with augmented waste in this city, the waste management systems of the state are not appropriately developed. This is Guwahati, the largest city of Assam, which is watching tremendous growth in population with terribly poor infrastructure in terms of waste disposal system. This cannot be borne by local governments since their ability to handle this rise in waste management demands is being overtaken. Landfills get overfilled, and wastes end up on tin rivers and forests through dumping illegally. Places away from cities are the worst affected incidents, which also reflect unorganized collections of waste. For example, in waste, there is highly unorganised disposal, while plastic waste, its collection, is not separated from other wastes. There are very few available recycling plants at a low rate, thus opening to dumping or, worse, natural habitats.

Strict regulation, proper waste management practices, and public awareness can easily con-

trol plastic pollution in Assam. Some of the steps taken by the state government in the last two years include banning single-use plastics in some places, though the challenge persists regarding its implementation. Public education is driven by the ills of plastic waste besides its alternatives like reusable bags. Encouragement of local community and industries goes hand in glove with incentives based on recycling and curbing plastic waste generation.

This is cascaded to the community, down to local people, even rurally-based individuals. This would be engaging a nongovernmental organization and community-based organization to help in sensitizing on how to get rid of garbage.

There needs to be the development of biodegradable plastics and packaging alternatives on a one-time basis so that their usage at large can come down. Since Assam is rich in its natural resources, it can be one of the forerunners to develop such alternatives. A rejuvenation effort for decelerating plastic pollution will be brought forth through a massive coordination of local governments, business circles, and environmental organizations. Assam's cultural heritage also gives an avenue to link environmental sustainability to local practices. Packaging in a natural material like bamboo or leaves can be restitched as a viable substitute to replace plastic. While plastic pollution in Assam is astronomical in proportion, it is not at all an insurmountable one. This kind of harmful plastic waste can be controlled and reduced through focused actions by the government, industries, and communities in Assam. Combating plastic pollution will ensure the protection of rich biodiversity and natural resources along with a cleaner, healthful Assam environment for posterity. If this environment of Assam is to beat back the scourge of plastic, all-in collective responsibility will be required. Only a collective effort has the potential to surpass plastic as an environmental crisis in Assam. A sustainable Assam is fighting plastic pollution against rivers, forests, and wildlife getting preserved by relying on its own hands. (The author can be reached at himangshur1989@gmail.com)

